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The Mascot Model of Human/Companion Animal Interaction: Its Effects on Levels of Loneliness and Depression among Residents of a Nursing Home

Mark E. Reed

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by

Mark E. Reed

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Signatures:

Committee Chairman

Vice President for
Academic Affairs

Members

Date: 12/10/86

Date: 10/24/86

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Abstract

Pet-facilitated therapy has been hailed in recent years as an effective means of bringing about psychosocial benefits for elderly people in institutions. However, empirical investigations are relatively recent and more are needed.

The primary objectives of this dissertation were: 1) to conduct an empirically sound study of the mascot model of pet therapy, focusing specifically on its impact on levels of loneliness and depression among nursing home residents, 2) to identify the relationship between existential well-being and loneliness and depression, and 3) to address the use of pets to meet the social/emotional needs of humans from a framework of biblical theology.

The mascot model of human/companion animal interaction refers to the use of one live-in animal for the benefit of a group of people, generally within an institutional setting. The pet chosen to be the mascot was an adult Springer Spaniel dog.

A quasi-experimental time series design was employed that involved three 6-week data-gathering periods (baseline, treatment, baseline). The Abbreviated Loneliness Scale (ABLS) and the Depression Adjective Check List (DACL) were administered to 48 participants at the end of each 6-week condition. Lastly, a Demographic Questionnaire and the Existential Well-Being subscale of the Spiritual Well-Being Scale were administered.

Repeated measures analysis of variance indicated a significant difference between baseline and treatment scores for both loneliness and depression ($p < .05$). Also the EWB subscale manifested significant negative correlations with the ABLS and DACL.

The implications of this study are: 1) proper pet selection and staff support are essential to the success of any pet therapy project; 2) empirical support is provided for developing mascot model pet therapy programs in nursing homes where residents' depression and loneliness are a major concern; and 3) from a framework of biblical theology, only a human being can meet the

social/emotional needs of another human being to the fullest, but in the absence of satisfying human relationships a pet animal may provide some of a person's companionship needs.

Acknowledgements

As anyone who has undertaken the task of completing a dissertation can attest, it is an emotionally wearing and, ultimately, lonely responsibility. This is especially true for the candidate who attempts to complete the dissertation while living a great distance from his/her program and chairman.

This dissertation was undertaken and completed on a long distance basis. There were many trials encountered and disappointments experienced along the way but my relationship with the Lord Jesus Christ continually sustained, strengthened, and supported me so that I did not quit. Therefore I give heartfelt thanks to God for His Son, Jesus, for His grace and help which were fully evident to me, and for giving me the assurance that as Sovereign Lord He was causing "all things to work together for good" (Romans 8:28).

In addition to God there were many other people who helped make this dissertation a reality and whose efforts deserve to be acknowledged.

A special note of thanks goes to my wife, Kathy, who was extraordinarily patient throughout the long course of my dissertation. In addition to being patient she unselfishly made

numerous sacrifices without becoming frustrated, bitter, or impossible to live with so I could work on and complete the dissertation. She lived Proverbs 31 for me and I am both very aware of it and deeply appreciative.

I extend sincere thanks to my chairman, Dr. Bufford, and committee members Dr. Breshears and Dr. Colwell for their contributions to completing my dissertation. Dr. Bufford's calmness and confident assurances helped quiet my anxious feelings when I felt I couldn't make important deadlines. His knowledge of research design and statistical procedures were also vital contributions. Dr. Breshears added an important contribution by directing my focus to the integrative aspects of the study. Dr. Colwell added an important dimension to the dissertation by challenging my thoughts and expanding my focus on the integrative aspect by specifically addressing my attention to Genesis 2.

I also wish to thank Dr. J. Ross Neder for his willingness to act as a long-distance statistical consultant. Ross did the initial computer analyses for me and was always available and patient when I called him with questions. He also lent much needed moral support and encouragement when I encountered difficulties and trials with the Results chapter.

Finally, I wish to thank Dr. Beck of the University of Pennsylvania, and the administrators, staff, and fourth floor residents of the Immaculate Mary Home in Philadelphia for their

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Dedication

This dissertation is dedicated with love, affection, and deep appreciation to my grandparents: Helen and Thomas Corrigan and Hazel and Ralph Reed.

It is dedicated in memoriam to Grandma and Grandpa Corrigan and Grandpa Reed. Grandpa Corrigan died when I was very young. Grandma Corrigan (Nan) and Grandpa Reed, who helped see me off with pride in my pursuit of the Ph.D., died while I was still completing my coursework without seeing me accomplish my goal. During the course of my doctoral training Grandma Reed had to be admitted to a nursing home, where she still resides.

My grandparents played an important and positive role in my life by loving me, accepting me, and supporting me as only grandparents can do, while indirectly teaching me a great deal about living, working, loving, and growing old. I am proud to have had them as my grandparents and feel especially blessed by their influence on my life.

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CHAPTER I

INTRODUCTION

The thesis of this study is that introducing a well-trained, friendly dog into a nursing home is an effective means of decreasing self-reported levels of loneliness and depression in nursing home residents. In this chapter the thesis is developed at length. The chapter begins with a brief overview which outlines the demographics of the elderly in the United States, underlines the problems of loneliness and depression that face the aged, and introduces the negative impact nursing homes can have on the elderly. The overview also highlights the basis for studying the use of animals as therapeutic agents and defines the purpose and independent variables of the study. The remainder of the chapter extensively develops the topics of loneliness, depression, and pet-facilitated therapy in three separate sections through a comprehensive review of the literature of each topic. The chapter concludes with a clear presentation of the research problem and statement of hypotheses.

The number of elderly people (individuals 65 years old and older) in the United States and, particularly, in our country's nursing homes is rapidly growing both in total numbers and as a percentage of the total population. The latest census figures

indicated that there were 25,544,000 elderly people living in the United States in 1980 (U.S. Bureau of the Census, 1981). This group of elderly persons made up 11.2% of the population. Of that figure 5 percent lived in nursing homes (Siegel, 1980).

Nationally it is currently projected that the present population of those 65 years old and over will have more than doubled by the year 2030. The total will be over fifty million elderly people, or about 17% of the population (Butler, 1980).

If the percentage of elderly people living in nursing homes remains at the current level of 5%, the nursing home population in America will have reached 2,500,000 by the year 2030—a number approximately equal in size to the 1980 population of the entire state of Mississippi and over twice as large as the population of Detroit, Michigan (U.S. Bureau of the Census, 1981).

Elderly people, in general, encounter many problems and hardships. Corson and Corson (1981) see the aged systematically excluded from the mainstream of social, cultural, and economic life in Western societies.

The psychosocial experience of a large number of our elderly citizens is a negative one characterized by loneliness and depression. These two conditions, if they persist, can lead to a perceived lowering of the elderly person's quality of life.

Several surveys have shown that loneliness is a major problem among the elderly, affecting fully one-half of those surveyed

(Shanas, Townsend, Wedderburn, Friis, Milhoj, & Stehouwer, 1968; Townsend, 1973; Maisel, cited in Weiss, 1973; Lopata, 1973). Lynch (1977) notes that the lack of quality companionship and "chronic human loneliness are significant contributors to serious disease" (p. 181).

Other studies, including Busse and Pfeiffer (1977) and Barnes, Busse, and Silverman (1955) indicate that recurrent periods of depression, lasting from a few minutes to a few days, are common in old age and that the depressive periods are both more frequent and more annoying than those experienced earlier in life.

Butler and Lewis (1977) believe that depression is the most common psychiatric complaint among older adults, while Gurland (1976) has noted that the highest rates of depressive symptoms are found in persons above age 65.

According to Levinson (1969) the present is dull for many old people, and the future looks foreboding. He adds that with the loss of relatives, friends, and associates the elderly gradually withdraw from active participation in human affairs. They also often become much less mobile and more dependent on others to help them provide for many of their physical, financial, and social/emotional needs. This is particularly true for many of the elderly who are forced by circumstances to live in nursing homes.

Corson and Corson (1981) have observed the following to be true of many nursing home environments.

> The psychosocial milieu of many custodial geriatric institutions and nursing homes is such as to intensify further personality disintegration, alienation, and an infantile type of dependence. The social structure of any custodial institution tends to perpetuate and exacerbate the very deficiencies that brought the residents there in the first place. Thus a vicious cycle of debilitation, social degradation and dehumanization is established. . . . and the stage is set for loneliness, depression, and psychologic and physical deterioration. (pp. 147 and 149)

There is a great need in nursing homes for the development and testing of humanizing ideas, activities, and programs designed to be therapeutic for the residents in decreasing feelings of loneliness and depression and thus improving their perceived quality of life.

There is some evidence (Corson, Corson, Gwynne, & Arnold, 1977; Friedman, Katcher, Lynch, & Thomas, 1980, Katcher & Friedmann, 1980; McCulloch, 1981; and Salmon, Salmon, Hogarth-Scott, & Lavelle, cited in Cusack & Smith, 1984) that introducing healthy, friendly pet animals to people, including the elderly, for companionship is a therapeutic strategy. It is therapeutic in that it may help those who are ill to recover faster, and it may

supply a need many elderly have for regular, nonthreatening companionship. The companionship of a pet may help alleviate loneliness and depression.

Utilizing a sample of elderly residents in a nursing home, this project will report the results of a study designed to measure to what extent the mascot model of human/companion animal interaction leads to decreased feelings of loneliness and depression.

The mascot model of human/companion animal interaction is defined, for the purposes of this study, as the use of one animal for the benefit and enjoyment of a group of people. The animal, in an institutional setting, may be owned and primarily cared for by the institution, although residents may participate in its care. Where appropriate, and within certain limits, the animal is free to roam the facility to interact with any and all interested residents.

This concludes the overview. The remainder of the chapter provides a comprehensive review of the literature on loneliness, depression, and pet-facilitated therapy, culminating in a clear presentation of the research problem and statement of hypotheses.

Loneliness will now be explored in depth. The review will include sections on definitions of loneliness, types of loneliness, and the prevalence of loneliness. The review will

conclude with sections on loneliness and the elderly, and loneliness and depression.

Loneliness

Definitions of Loneliness

Loneliness is a normal part of the experience of being human. Everyone knows what it feels like but it is not so easily described or defined. Four who have tried to define it are Harry Stack Sullivan, D. M. Gaev, and E. W. Busse and E. Pfeiffer.

Sullivan (1953) defined loneliness as "the exceedingly unpleasant and driving experience connected with inadequate discharge of the need for human intimacy" (p. 262).

In her book, The Psychology of Loneliness, Gaev (1976) wrote that loneliness is "a feeling of sadness and longing we feel when our need for relatedness with some aspect of our world is frustrated" (p. 7).

The definition offered by Busse and Pfeiffer (1977) states that loneliness is "the awareness of an absence of meaningful integration with other persons or groups, a consciousness of being excluded from the system of opportunities and rewards in which other people participate" (p. 163).

Each of these definitions is correct. Their authors view loneliness from slightly different angles or perspectives but say

essentially the same thing. It is possible to summarize the elements of these three definitions into one: loneliness is a very unpleasant emotion of varying intensity usually occurring in response to a relational deficit of some importance to the individual, the context of which can be either personal or social.

Before we proceed to the next section, two terms that are often mistakenly thought to be synonymous should be clarified. The two terms are 'solitude' and 'loneliness.'

Solitude is characterized by a conscious choice to be alone, to withdraw from people and activities in order to experience a quiet period of time. Usually the purpose is for reflection, rest, or recuperation. It is not experienced as painful but as healthy, positive, and in most cases of short duration. The individual is in control of the situation.

Loneliness, as mentioned above, is almost always painful. It is almost never freely chosen by the individual. The individual perceives him/herself as not in control of the situation. Loneliness is not experienced as positive except as it motivates the individual to seek relief. Also, loneliness is indicative of an important relational deficit, which is not necessarily true of solitude.

In this section three scholarly definitions have been presented and synthesized into a fourth summary definition. The

difference between loneliness and solitude has also been clarified, providing a base for our review.

The next section presents the work of two writers who see loneliness as having more than one cause. The result is that the single category, loneliness, is divided into types or kinds of loneliness.

Types of Loneliness

Weiss (1973) and Gaev (1976) have written extensively on loneliness. Both see loneliness as capable of being divided into two major types. Although they differ on the names they give to the two kinds of loneliness, both of their works are important in gaining a better understanding of this painful emotion.

The two main types of loneliness according to Weiss (1973) are (a) loneliness of emotional isolation, and (b) loneliness of social isolation.

Loneliness of emotional isolation is characterized by the absence of close emotional attachment. Its dominant symptoms are feelings of anxiety and emptiness.

The primary characteristic of the loneliness of social isolation is the absence of an engaging social network. According to Weiss, feelings of boredom or aimlessness are the dominant symptoms.

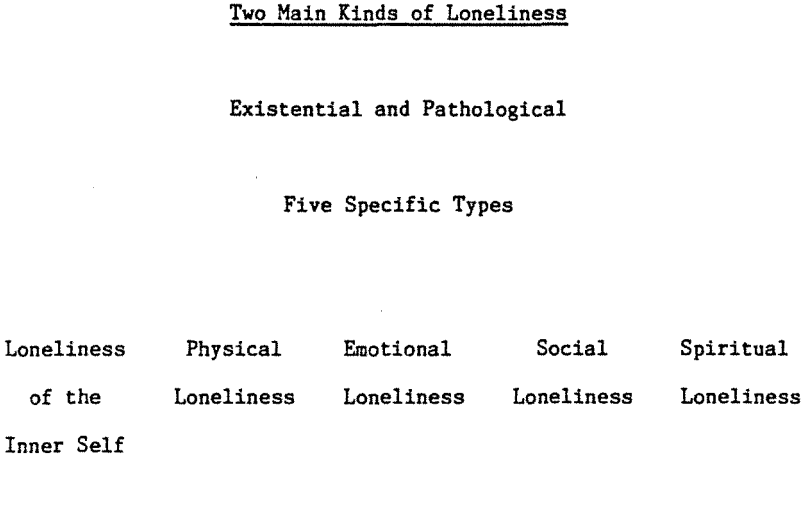
In Gaev's (1976) model there are two overall types and five more specific kinds of loneliness (see Figure 1). The two main kinds of loneliness she describes are existential and pathological loneliness. Her five specific types are (a) loneliness of the inner self, (b) physical loneliness, (c) emotional loneliness, (d) social loneliness, and (e) spiritual loneliness. Figure 1 presents a diagram of Gaev's five kinds of loneliness.

According to Gaev, all loneliness is characterized by feelings of sadness and longing. Individuals experience these sad feelings when their need for relatedness with some aspect of their world is frustrated.

Existential loneliness is that loneliness which is a universal part of human experience for all persons. Gaev lists such experiences as growing up, separations, and loss as examples of loneliness which are common to all people. Gaev calls these experiences of loneliness existential loneliness.

The second main kind of loneliness in her model Gaev calls pathological loneliness. Pathological loneliness is loneliness in which the feeling of sadness and longing becomes chronic. Such a situation can develop when individuals are unable to form close relationships with others they care about. It can also develop, according to Gaev, if individuals are chronically unable to relate in a healthy way to themselves, society, or life as a whole.

FIGURE 1: DIAGRAM OF KINDS OF LONELINESS[1]



[1]Diagram by Dr. Dorothy Meyer Gaev, from The Psychology of Loneliness (Chicago: Adams Press, 1976), p. 8. Reprinted by permission.

Existential and pathological loneliness are the two general categories beneath which Gaev's five specific kinds of loneliness line up. The five specific kinds of loneliness can be a part of either existential or pathological loneliness, depending on the circumstances in which they occur. Definitions and examples of each of the five kinds of loneliness follow.

The first of Gaev's five specific kinds of loneliness she calls loneliness of the inner self. This kind of loneliness is characterized by a feeling of estrangement from one's own real personality. People who are experiencing this type of loneliness often say they feel as though they are out of touch with their real feelings and desires.

Physical loneliness is another kind of loneliness. Gaev defines this type of loneliness as a feeling of frustration and longing people feel when their need for physical closeness, contact, and touch with significant others is frustrated. Individuals who are divorced or widowed after many years of marriage often experience physical loneliness.

Physical loneliness can be a problem at any age. It is probable, however, that the elderly suffer more than any other group from a deprivation of physical contact. The need for warm, affectionate contact with others, according to Gaev, is particularly strong in those older persons living alone or in nursing and old age homes.

The third kind of loneliness is emotional loneliness. Emotional loneliness is the general feeling of sadness and longing people feel when their need for closeness with significant others is frustrated. This incorporates Weiss' (1973) category of loneliness of emotional isolation. An example of emotional loneliness is the kind of marriage in which a couple may live together for many years without ever achieving genuine emotional closeness.

Social loneliness is defined by Gaev as the feeling of sadness and longing people experience when their need to belong or to have a place in their social world is frustrated. This is similar to the loneliness of social isolation spoken of by Weiss (1973). Senior citizens are often vulnerable to social loneliness in our society, particularly after forced retirements. They may feel left out of that social world most vital to their feelings of belongingness. They may begin to feel discarded and worthless pieces in a social order that places high value on youthful productivity.

The final specific kind of loneliness mentioned by Gaev is spiritual loneliness. Spiritual loneliness is the feeling of emptiness and isolation people experience when their need for meaning in life is frustrated. Gaev defines spiritual as that dimension of human personality that seeks meaning, direction, and purpose in life. Gaev believes spiritual loneliness is so

pervasive today that one can find examples in every age and income bracket.

This section has presented two views on kinds of loneliness. Each kind of loneliness also represents a potential cause of loneliness. From this review it is evident that loneliness has more than one cause. We also see that loneliness can and does affect people of all ages and backgrounds—but in particular the elderly. The issue of the prevalence of loneliness is addressed in the following section.

The Prevalence of Loneliness

Only a few research studies of loneliness have been conducted. Overall they produce a fairly consistent picture of the prevalence of loneliness.

Bradburn (1969) and Townsend (1973) conducted surveys and found 26% and 27%, respectively, of their sample reported they had felt very lonely. This appears to indicate that feelings of loneliness are a significant problem for the population as a whole.

Among the elderly, however, loneliness is a major problem affecting fully one-half of those surveyed (Lopata, 1973; Shanas et al. 1968; Townsend, 1973; Maisel, cited in Weiss, 1973).

Shanas et al. (1968) conducted a cross-national survey which examined the relationship between subjectively experienced

loneliness and social isolation among the elderly. They found that 50% of elderly persons living alone reported feeling lonely.

In the Maisel study (cited in Weiss, 1973) 50% of the widowed men and 29% of the widowed women reported severe loneliness in the preceding week. Again, among a sample of widows Lopata (1973) found that 48% of them reported loneliness to be the leading problem in their lives. Another 22% reported that loneliness was an issue for them. Together, the indication is that a total of 70% of that sample of widows struggled with loneliness.

A more precise breakdown of categories is provided by Townsend (1973). He reported the following groups of people said they were very lonely or sometimes lonely: 46% of the widowed, 42% of those living alone, 43% of those who were infirm, and 53% of those who were in their late seventies and eighties.

These studies indicate that loneliness is a common emotional distress experienced by people, particularly the widowed elderly. The elderly as a whole are generally most susceptible to feelings of loneliness. Among many of them it is a seemingly ever-present problem. In the next section the connection between the elderly and loneliness will be explored further.

Loneliness and the Elderly

There is no time in one's life when loneliness ceases to be a threat. One of the risks of aging, however, is an increased

vulnerability to loneliness. The elderly, like those younger than themselves, require the provisions of social relationships, but more than the young they stand in risk of losing relationships to death or to the unpredictability of their own, their friends' or their children's changing circumstances (Weiss, 1973).

A further elaboration on the increased vulnerability to loneliness with increasing age of the elderly is provided by Sheldon (cited in Townsend, 1973). The results of his study indicated that those experiencing loneliness tended to be widowed and single people living alone and who were in their eighties rather than their sixties.

Sheldon concluded that there seemed to be no single cause of severe loneliness among elderly people except for the recent loss of a spouse through death. This confirmed Townsend's (1973) and Busse and Pfeiffer's (1977) results, which suggested that the single social/emotional factor of recent deprivation of the company of a close relative (husband, wife, or child) through death, illness, or migration may be fundamental to loneliness. Thus there is some agreement among researchers that loss (desolation), not isolation, has the closer relationship to loneliness in elderly people (Busse and Pfeiffer, 1977).

The experience of loneliness in senior citizens is often particularly painful because of their advanced age. Ellison (1980) in his book, Loneliness: The Search for Intimacy, writes

with insight about what it is like to be old and lonely. He says loneliness carries with it a desire for things to be different. There is frequently an underlying sense of yearning and searching for a companion who can fill the emptiness and lift one's spirits. Often the lonely feel afraid that things won't change, that a companion won't be found, that others won't find them worthwhile. It is a sad and depressing picture of life that unfortunately is the daily lot of many elderly people. What can be done?

Ellison (1980) notes that pets help ease the pain of loneliness for many people. Pets are important sources of affection and attachment for millions of people. They are companions who rarely reject their caretakers but instead draw out their caring and affection.

Pets can be immensely helpful and important to the elderly. The establishment of a bond between an elderly person and a pet can improve perceived quality of life by alleviating loneliness and depression. At times, Ellison writes, "pets seem almost human, sensing when we're sad or happy" (p. 162). The key to the effectiveness of pets with elderly people in particular is that deep bonds are formed between them that help sustain the individual when other bonds seem to be disintegrating (Ellison, 1980). The use of pets in a therapeutic manner will be reviewed extensively in a later part of this paper.

A lonely senior citizen who is denied the opportunity to care for a pet has been denied a cost-effective and dignified way to decrease daily loneliness and to feel useful and needed in some small way. For many, the alternative is to be left with their daily loneliness unabated except for perhaps family visits on special occasions. Their perceived quality of life remains low. As mentioned above, it is a sad and depressing picture. In fact, depression is almost always associated with feelings of loneliness (Ellison, 1980). In the next section, which concludes this review of loneliness, the relationship between loneliness and depression is presented.

Loneliness and Depression

Depression is the most common feeling associated with loneliness (Ellison, 1980). Of the people Ellison has interviewed in his research, 81% indicated they were sometimes or often depressed when they were lonely. Gaev (1976) finds it impossible to differentiate between feelings of loneliness and mild depression.

The connection between loneliness and depression is also seen in suicide statistics. As of 1979 a conservative estimate of the number of suicides annually in the United States put the figure at between 25,000 and 30,000 (Wekstein, 1979). Ellison (1980) believes it is closer to 50,000 to 70,000 per year. Also, one of

every 200 people affected by severe depression commits suicide (Ellison, 1980).

The triad of loneliness, depression, and suicide is a major problem for the elderly. Busse and Pfeiffer (1977), citing suicide statistics for 1970, state that 31.5% of all those who committed suicide were over 65 years old. They cite further evidence from research studies which indicate that the majority of older persons committing suicide have been depressed. This is not to suggest that loneliness or depression are the sole cause of suicide. Yet the emptiness, purposeless, isolation, and depression common to loneliness may lead many lonely people, particularly the elderly, to attempt to end their lives.

The relationship between loneliness and depression is further strengthened by the common factors they share (Ellison, 1980). In addition to suicide, Ellison sees three more factors common to loneliness and depression.

The first is a failure to meet expectations that the person has for himself or which others have for him. Depressed and lonely people are practically always the individuals with the lowest feelings of self-worth, according to Ellison.

Disruption of attachments is the second common factor given by Ellison. Attachments involve relationships with one's spouse, children, parents, close friends, and even pets. The disruption

of close relationships not only promotes depression but can trigger intense loneliness.

Ellison sees feeling helpless as the third factor common to both loneliness and depression. He observes that most depressions are set off by some external, unpredicted event over which the individual has little or no control. It seems reasonable, then, to postulate with Ellison that the greater the sense of helplessness people have over the creation or loss of close relationships, the more lonely they are likely to be.

Schulz (1976) found that elderly people in a nursing home who were able to control, and thus predict, when their visitors would come, as well as how long they would stay, were much less lonely than those who had no control but the same number and length of visits. He concluded that "to the extent that aged individuals are able to maintain a predictable and controllable environment, they should experience relatively less physical and psychological deterioration with increasing age" (p. 572). Unfortunately, many elderly persons believe they can do little to change their lonely condition.

Turnstall in his 1967 book, Old and Alone, discovered that 90% of the elderly people surveyed felt they were more lonely than they had been when younger. He also found that 50% felt nothing could be done to change their loneliness. In relation to the aforementioned common factor of feeling helpless, loneliness is

less likely to be passive and depressive if individuals see themselves as the cause of their loneliness due to some factor which they can control. An example of such a factor is lack of effort.

A quotation from the work of Dr. Kenneth G. Nunnelly, Associate Professor of Psychology and counseling psychologist at Ball State University in Indiana, will bring this section to a close. Dr. Nunnelly's observations summarize the relationship between loneliness and depression.

> I feel that loneliness plays a major role in the depression I have seen. I have found loneliness is one of the major causes of depression, and that loneliness often accompanies a depression even when it is not the cause. . . Whether or not the depression is accompanied by feelings of loneliness depends on whether or not the individual feels shut off from others with whom he would like to be in touch. (cited in Gaev, 1976, p. 90)

This section has examined the relationship between loneliness and depression. Depression is often found to be associated with feelings of loneliness. Furthermore, it has been shown that loneliness and depression share common factors.

This concludes the review of loneliness. The review has included sections on definitions of loneliness, types of loneliness, and the prevalence of loneliness. In addition, the

relation between loneliness and the elderly, and loneliness and depression, was also examined. Depression itself will now be reviewed.

The review of the literature on depression will begin with a section on definitions of depression, to be followed by sections on theories of depression and the prevalence of depression. The review will conclude with a section on depression and the elderly in which the foci will be the experience of depression and the nursing home experience for the elderly.

Depression

Definitions of Depression

Any attempt to define depression is difficult because the term is applied to a wide variety of concepts in both professional and lay usage (Gurland, 1980). For example, among psychologists and other mental health professionals depression often refers to a serious clinical disorder, whereas used by laymen it ordinarily refers to a normal variation in mood labeled dejection, despair, or despondency (Campbell, 1981). According to Gurland (1980) it can also refer to a persistent state which he calls "demoralization."

As a clinical disorder perhaps the best and most concise definition is that provided by Campbell (1981). He writes:

> depression refers to a clinical syndrome consisting of lowering of mood-tone (feelings of painful dejection), difficulty in thinking, and psychomotor retardation. The general retardation, however, may be masked by anxiety, obsessive thinking, and agitation in certain depressions. (p. 164)

Additional symptoms traditionally associated with a diagnosis of depression include loss of appetite and significant weight loss, early morning awakening, and constipation (Gaitz, 1983). Other symptoms that may be present, according to Gaitz, include pervasive pessimism, loss of interest, feelings of sadness and guilt, and self-accusations, as well as crying spells, suicide attempts, or a serious preoccupation with death.

Depression as a clinical disorder can take any one of several forms. The delineating criteria are found in the third edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (1980). The range of clinical referents includes specific disorders such as a major depressive episode or bipolar disorder which have a characteristic course, treatment, and assumed etiology.

Depression can also refer to a syndrome or pattern of symptoms associated with a disturbance in mood or simply to a symptom of abnormal mood. The distinction between these conditions often requires skilled differential diagnosis.

In this section, following Gurland's (1980) lead, the primary concern is not the varieties of depression but with depression as a "final common pathway." In this context it may be helpful to present Gurland's distinction between two concepts in particular: the syndrome of depression, and demoralization.

Gurland develops the distinction between depression and demoralization in his 1980 article, "The assessment of the mental health status of older adults." According to Gurland, generally:

> the depression syndrome when fully developed consists of pervasively negative changes in mood, self-image and evaluation of the personal past and future; somatic symptoms and changes in physiological behavior patterns; and distortions of perception and thinking consistent with a depressive viewpoint. (p. 682)

This is, essentially, the manifestation of a clinical disorder. As such it requires, as Gurland points out, careful clinical appraisal to determine the need for treatment. As we will see in a later section, genetic, biochemical, and neurophysiological models have been usefully applied to understanding the etiology and treatment of conditions giving rise to the depressive syndrome.

Demoralization, on the other hand, is qualitatively different. Though painfully real to many people it is not a

clinical disorder in terms of being included in the DSM-III. In Gurland's words, demoralization refers to:

> attitudes of alienation, dissatisfaction or despair bearing upon the person's membership of a low status group, location in a deprived situation, or loss of health and power; the concept includes a lack of well-being, but does not characteristically include somatic or biological symptoms nor perceptual or thinking disorders. (p. 682)

Whereas depression is often treated with drugs, reflecting a primarily medical approach to treatment, quite the opposite is often true in situations of normal mood variation and, less obviously, in the approach to understanding and alleviating demoralization. Carp (1975) has found that socio-ecological models and approaches are more useful in cases of demoralization. An example of a socio-ecological approach used by Carp is improving the housing of the elderly poor.

One final piece of evidence for a clear distinction between depression as a clinical disorder and depression as a symptomatic mood state in demoralization is provided by Gurland (1976). He showed that the age specific distribution of the clinical type of depression syndrome (highest in ages 25-65) was diametrically opposed to the distribution for depression as a symptom or attitude (highest in the oldest age groups above 65 years old).

Depression as a symptom is essentially synonymous with demoralization.

Thus on the basis of the epidemiological as well as the clinical evidence one is able to conclude that clinical depression and demoralization are distinctly different conditions. The concern of this project is with depression both as a clinical entity and as a mood state reflecting despair, despondency, and deep dissatisfaction over changes in one's socio-ecological circumstances; in a word, demoralization.

In this subsection something of the vastness of the term "depression" has been demonstrated in view of its multiple uses by both mental health professionals and lay people. Two professional uses of the term were focused upon. One was depression as a well-defined clinical disorder; the other was depression as a symptom, a mood disturbance, called demoralization. Both were defined and distinguished as similar but separate entities.

The following subsection will address theories of depression.

Theories of Depression

This subsection will provide a brief review of four major theories of depression. The four are the cognitive, biochemical, dynamic-psychoanalytic, and behavioral theories. It is beyond the realm of this project to provide a comprehensive and exhaustive review of even one of the theories. The author is aware that, in

the interest of brevity, the review may appear to overly simplify theories which are rich and multi-faceted. The purpose of the theoretical review, however, is not to demonstrate an extensive understanding of the theories but to demonstrate an awareness and general understanding of the theoretical diversity of depression. Hollon and Beck's work (1979) is the source for most of the overview, except where otherwise indicated.

Cognitive theory. Cognitive theory posits that depression is the consequence of a negative set. Depressed individuals are seen as evidencing negative beliefs regarding themselves, their world, and their future. Beck, Rush, Shaw, and Emery (1979) termed this the negative cognitive triad. Furthermore, systematic distortions in information processing are seen as maintaining belief in the validity of the person's negative views despite contradictory environmental evidence. Cognitive theory suggests that "dysfunctional beliefs and distorted information processing styles serve both to depress mood and lead to behavioral passivity" (Hollon & Beck, 1979, p. 157).

Biochemical theory. Biochemical theories of depression generally focus on presumed imbalances in biogenic amines, such as norepinephrine (Schildkraut, 1965) or indoleamines, such as serotonin (Glassman, 1969) as being linked to depression. The biogenic amine hypothesis of affective disorders was initially

formulated by Bunney and Davis (1965) while the serotonin theory of depression is attributed to Coppen (1967).

Norepinephrine and serotonin serve as neurotransmitters in the brain. As such, they conduct impulses from one nerve to another across the synaptic cleft between the nerves. Schildkraut's (1965) formulation of the amine hypothesis suggested that deficits in norepinephrine were associated with depression. Subsequent models have become increasingly complex but retain this general form. Indoleamine theories have followed the same general form as the norepinephrine models.

Dynamic-psychoanalytic theory. Dynamic theories of depression, according to Hollon and Beck (1979), have traditionally focused on the role of retroflected anger--anger turned against the self following a real or symbolic loss. The individual is unaware of his hatred, which, being unacceptable, remains outside of consciousness. Depression, self-depreciation, and anxiety are a direct result of the retroflected anger that can neither be dismissed nor expressed by the client.

As Blau (1983) in his overview points out, "the psychoanalytic literature is rich in major papers around the subject of depression" (p. 76). Freud's (1917/1957) classic paper, "Mourning and melancholia," served for many years as the starting point for all psychoanalytic formulations of depression. In it Freud highlighted the importance of ambivalence and hostile

impulses, the splitting off of the superego from the ego, and the growing recognition of various types of object relations as well as the importance of narcissism.

"One of the most important and significant contributions" (p. 79) toward a psychoanalytic understanding of depression, according to Blau (1983), was advanced by Bibring (1953). Bibring felt that the depressed individual had suffered a blow to self-esteem although he or she maintained certain persistent narcissistic goals. The ego, on the one hand, was aware of its helplessness and inability to achieve these goals, and at the same time was forced to value them. The depression that occurred was the result of the ego's feeling doomed to failure. Depression, therefore, was the affective state of ego helplessness. The state of ego helplessness is established in early childhood, and is:

> later on regressively reactivated whenever situations arise which resemble the primary shock condition, i.e., when for external or internal reasons those particular functions which serve the fulfillment of the important aspiration, prove to be inadequate. (p. 39)

Finally, Zetzel (1970) made what Blau (1983) considered "another important contribution" (p. 81) when she viewed depression as important to the developmental process. She felt renunciation and loss were essential to human experience and was

interested in one's capacity to tolerate depression as the most critical variable. Failure to respond with:

> mature, passive acceptance of the inevitable [early in life] represents a serious potential vulnerability that becomes increasingly relevant in the later years of life, when experiences of loss, grief and frustration are not to be avoided. (p. 114)

The quality and stability of previous object relations as well as the capacity to renounce omnipotence and to accept the limitations of reality seem to be decisive in whether one becomes seriously depressed or not, according to Zetzel.

Behavioral theory. Behavioral theories can be divided into three main groups. These include affect-mediated (i.e. classical), outcome-mediated (i.e. operant), and cognitive-mediated (i.e. self-control) approaches (Hollon & Beck, 1979).

The affect-mediated theories (Wolpe, 1971) focus on the role of classically conditioned anxiety to account for depression. It is believed that certain stimuli come to elicit conditioned aversive emotional responses in an individual with the result that the individual seeks to avoid encountering those stimuli. When those stimuli, however, are also cues for major potential sources of gratification (e.g. members of the opposite sex, job

interviews, etc.) the individual is essentially barred from major sources of satisfaction. The result is depression.

Outcome-mediated, or operant, paradigms focus directly on the quality and rate of environmental events. Ferster (1974) speculated that depression might be produced by any of the three following situations: (a) low rates of reinforcement, (b) high rates of punishment, (c) the removal of discriminative stimuli for response-reinforcer sequences. Lewinsohn (1975) developed a major line of research focusing on the role of low rates of response-contingent reinforcement as a critical factor in depression. Presumably, depressed persons lack the necessary social skills to obtain gratifications from others and are thus rendered vulnerable to small fluctuations in external reinforcements.

A model of depression based on deficits in self-control was proposed by Rehm (1977). Drawing on Kanfer's (1970) concept of operations based on prior reinforcement history overriding current external contingencies, Rehm postulated that deficits in self-monitoring, self-evaluation, and self-reinforcement behaviors were central to depression.

With regard to self-monitoring behaviors, depressives were said to (a) attend selectively to negative events, and (b) attend selectively to immediate rather than to delayed outcomes. Self-evaluative behaviors were said to be maladaptive in terms of

(a) failing to make internal attributions of causality, and (b) setting excessively stringent criteria for self-evaluation. Finally, self-reinforcement deficits were said to be characterized by (a) low rates of self-reinforcement behaviors, and (b) high rates of self-punitive behavior. The cumulative effect of these behaviors resulted in depression.

This subsection identified four major theories of depression and provided a brief review of each one. The theories were the Cognitive, Biochemical, Dynamic-psychoanalytic, and Behavioral. Each has made important contributions to understanding, and thus effectively treating, depression. The following subsection will focus on the prevalence of depression.

Prevalence of Depression

In this subsection the prevalence of depression among the population of the United States as a whole and among the elderly, in particular, will be addressed. To accomplish this the subsection is divided into the following parts: definition of terms, general population prevalence, general prevalence among the elderly, difficulties in diagnosis, kinds of epidemiological prevalence studies, and specific prevalence rates among the elderly.

Definition of terms. Psychiatric epidemiology, according to Blazer (1983), "is the study of the distribution of psychiatric

disorders or symptoms in human populations and of the factors that influence this distribution" (p. 31).

Prevalence, the most commonly used rate in psychiatric epidemiology, is defined as "the number of persons with active symptoms or a diagnosis of a disorder in the community at a particular point in time" (Blazer, 1983, p. 33).

General population prevalence. Studies in the United States and Europe indicate that in the adult population approximately 18-23% of women and 8-11% of men suffer a major depressive episode at some time in their lives (American Psychiatric Association, 1980).

Gurland (1976) reported that depressive disorders as diagnosed by psychiatrists were most frequent between the ages of 25 and 65 years. Milder or neurotic depressions showed a peak before the age of 40 years, while severe or psychotic depressions peaked after age 40. Gurland also found that women showed higher rates of depression than did men in almost all age decades, though the sex differences became progressively less after the age of about 45 years and were possibly equalized or even reversed above about age 65.

General prevalence among the elderly. In contrast to the above, studies in which symptoms, rather than diagnoses, were the material for analysis showed a general agreement that the highest

rates of depressive symptoms were found in the oldest age groups above 65 years of age (Gurland, 1976).

In fact, mental illnesses, in general, appear to be more prevalent among the elderly than among younger adults (Klerman, 1983). The incidence of depression is particularly significant in persons 65 years old and older, not only for depressive disorders but also for transient symptoms of depression (Klerman, 1983; Busse & Pfeiffer, 1977).

Salzman and Shader reported in 1978 that of the 20 million persons over the age of 65 in the United States at least one million suffered from depressive illness. The population of persons age 65 and older is growing at approximately twice the rate of the general population and within that group, those age 75 and older--those at highest risk for depressive disorders--are increasing at an even faster rate (Soldo, 1980). As the numbers of elderly increase in the population, the prevalence of this mental disorder could reach epidemic proportions.

Salzman and Shader (1978) predict that the prevalence of depression among the elderly will also increase dramatically because health care services for the aged are expanding in the form of new clinic and assessment centers, and new inpatient psychiatric services. This expansion of services will result in the identification of additional cases that were previously undiagnosed.

As Klerman (1983) points out, even though depression is widespread among the elderly it is still susceptible to being misdiagnosed and mistreated. He estimates that less than one-fourth of all older patients with depression receive treatment. This is believed to be due in large part to the inherent difficulty of accurately diagnosing depression in elderly persons.

Diagnostic difficulties. Depressions in the elderly have many similarities to depressions in other age groups, particularly in their episodic nature, their tendency to remit, and their potential for favorable immediate outcome (Epstein, 1976). They often, however, are far more easily overlooked because of the confounding influences of the aging process and physical illnesses, as well as the patients themselves not admitting to feeling depressed but rather admitting to an accompanying symptom (Gaitz, 1983; Gurland, 1976; Epstein, 1976).

As Epstein (1976) points out, most elderly depressed patients show some vegetative symptoms such as insomnia, anorexia, and weight loss, as well as abnormalities in the autonomic, metabolic, or endocrine systems. There are also associated behavioral disturbances, and depression may be manifested by isolation, withdrawal or apathy, or by compulsive, agitated, or hostile behavior. Any of these symptoms may be regarded as consistent with senescence or confused with various organic states. They may

also be mislabeled as "just natural for an old person" or may be realistic responses to an illness or other stresses in the person's life.

To help sort through the confounding diagnostic variables and, in the process, to suggest some of the reasons why depression in elderly persons is so often overlooked, Epstein (1976) has grouped the depressions of the aged into the following six categories.

Atypical depressions. Atypical depression presents a less dramatic picture than the ordinary clinical picture of depression and is more common in the elderly than ordinary depression. Epstein says the picture may be one of inertia, withdrawal into solitude, apathy, and quiet self-depreciation. The patient's emotional unresponsiveness, apathetic manner, and reluctance to talk or to reply to questions are often attributed to old age rather than depressive illness.

Depression as pseudodementia. "When a patient is markedly retarded and shows memory defect and cognitive impairment, it is easy to mistake depression for a progressive dementing process" (p. 280). Although the clinical picture may be very much like that of dementia, the correct diagnosis will be revealed by the inconsistent nature of the intellectual impairment, a relatively short history of symptoms, a family history of depressive illness, and, in some cases, the occurrence of previous attacks.

Depression as confusion. According to Epstein, a relatively small proportion of the depressed elderly go through a confusional phase that usually subsides within a relatively short time, after which the underlying affective disorder becomes obvious. These patients are likely to be wrongly diagnosed as suffering from cerebrovascular disease. Undernutrition is often a factor contributing to confusional symptoms in depressive illnes.

Depression and physical illness. A depressive illness may not be identified as such because of an associated physical illness for which the mood disturbance may mistakenly be regarded as appropriate. If the physical illness is chronic and disabling, it is not infrequently considered useless to try to treat the depressive symptoms, according to Epstein. He adds that most patients in this category display the neurotic type of illness. The clinical picture usually includes a blend of depression, anxiety, irritability, attention-seeking behavior, and somatic complaints, often with a history of previous neurotic personality traits. Epstein notes that there is a high risk of suicide for patients with persistent physical complaints, whether these are hypochondriacal or are associated with an actual physical disease.

Reactive depressions. Epstein says this group overlaps the previous group to a considerable extent. In both, a high proportion of patients have longstanding neurotic personality traits, although in those who break down for the first time in old

age, these traits may have been well compensated for over much of the person's lifetime. The clinical pictures are similar with a variable depression characterized by irritability, anxiety, insomnia, and some fluctuation in response to environmental change. Depressions that are reactive to environmental deprivation or physical illness comprise much of the functional disorders of old age that are seen by mental health professionals, according to Epstein.

Organic depression. Depressive symptoms often occur as episodes in the course of progressive cerebral degenerative processes and as parts of well advanced metabolic diseases. Characteristically, according to Epstein, these depressive symptoms are fluctuating and fragmentary. Like those associated with other physical illnesses, these depressions are especially prone to precipitate serious suicide attempts.

Epstein's categories are a useful tool in highlighting the difficulties of diagnosing depression in elderly persons. They also may be helpful in enabling more correct diagnoses to be made. The difficulties still exist, however, and because of the difficulties in making an accurate diagnosis of depression, either in recognizing the depression (as in the case of pseudodementia) or in recognizing the correct cause of it, researchers have not been able to measure with complete accuracy the incidence of depression in the elderly (Klerman, 1983). For instance, studies

reported by Mehta, Mehta, and Matthews (1978) indicate wide variations in rate from 5% to 50%. In part, the wide variations in prevalence are a function of the type of epidemiological study undertaken and the kind of elderly population studied (Blazer, 1983). The following briefly reviews Blazer's (1983) analysis of the kinds of epidemiological studies.

Kinds of epidemiological studies. According to Blazer (1983), three basic sources of data have been utilized to study the distribution of depressive disorders in late life. They are psychiatric case registers, surveys of institutional and clinic populations, and general population surveys.

A psychiatric case register is a central file to which are reported all persons with a diagnosis of mental illness, such as depressive disorder, or all contacts with a group of psychiatric facilities over a period of time. The psychiatric case register provides data only on the utilization of psychiatric treatment facilities, and not the prevalence of depressive disorders in the community. Many elderly persons who suffer from depressive symptoms do not contact mental health professionals and thus would not show up on a psychiatric case register.

Surveys of institutions and outpatient facilities are a second source of epidemiologic data about late life depression. These surveys have traditionally fallen into two groups: those utilizing symptom screens and those utilizing structural clinical

interviews for the identification of cases of late life depression.

The third source of data in psychiatric epidemiology is the whole population survey. Whole community surveys are the only direct means for estimating prevalence, assuming that accurate case identification is possible.

This subsection has demonstrated that there are three kinds of epidemiologic studies, each of which, when focused on ascertaining the prevalence of depression, may focus either on diagnoses or symptoms. The result is that reported rates of depression among elderly persons vary from relatively small to large percentages of the population surveyed. The following subsection provides results of studies focusing specifically on the prevalence of depression among groups of elderly people.

Specific prevalence rates among the elderly. In keeping with the idea of the three types of epidemiological studies Blazer (1983) categorized the findings of a number of studies on the prevalence of depression among the elderly according to their setting. The three major settings for the studies were the community, ambulatory care settings, and institutions.

Most studies done in a community setting demonstrate rates of depression ranging from 13% to 30% of the population when symptom checklists are used to identify the depressed elderly. Gurland, Golden, and Dean (1980) surveyed 443 elderly (over 65 years old)

residents of a New York City community and found that 13% fulfilled their criteria for pervasive depression. Higher rates were noted in the 80 and older age group. Similarly, Blazer and Williams (1980) reported that 14.7% of their elderly North Carolina sample had significant dysphoric symptoms.

Utilizing a sample of elderly persons from a southeastern United States county, Warheit, Holzer, and Schwab (1973) found that 28% of those 70 years old and older had a high level of depressive symptoms, while only 22.3% of the 60-69 age group had them. In the same article the authors also reported on a household survey of elderly people and discovered that 30% of the elderly reported symptoms of depressive disorders.

Studies done in the United States using outpatient psychiatric and ambulatory care settings show rates of depression of fully one-third or more. Blazer (1982), using a geriatric evaluation and treatment clinic, found 33% had a clinical diagnosis of depression. Redick and Taube (1980) reviewed data on admission rates of persons aged 65 or over to psychiatric outpatient facilities and found that 38.4% of the patients suffered from depressive disorders.

Rates of depression among the elderly in institutional settings have ranged from 18% to 51% depending on the type of institution. Redick and Taube (1980) found that the percentage of admissions for depressive disorders for state and county mental

hospitals was 18.3%, for private psychiatric hospitals 51.1%, and for general hospital psychiatric units 46.1%. Cheah and Beard (1980) reported 31.3% of the patients admitted to a medical geriatric evaluation clinic received a diagnosis of dysphoria or depression with 7% being moderate to severe conditions.

From the available research cited in this subsection one can conclude that depression, both as a clinical diagnosis and as a combination of symptoms, is a significant problem affecting a large proportion of the elderly people in America. Actual rates vary as a function of whether diagnoses or symptoms are targeted as well as what setting the elderly sample is taken from.

It is significant, perhaps, that the lowest rates (as low as 13%) are found among the elderly who still live in their own community, while the highest rates (up to 50%) are consistently found among the elderly admitted and confined to institutional settings.

Given the fact that depression in the elderly population as a whole is often overlooked or misidentified, these rates may be misleadingly low. The actual rates could be much higher across all settings. Combined with the rapidly increasing size of the population in both actual numbers and as a percentage of the total population future rates may approach epidemic proportions, making treating depression of prime importance to those providing services to the elderly. Still, the prevalence of depression at

the present time is quite high, particularly in institutional settings where over one-half of all patients suffer some form of depression.

This section addressed the issue of the prevalence of depression as reported in epidemiological studies. Terms were defined and the prevalence of depression in the general population as well as generally and specifically among the elderly was reported. In addition, difficulties in accurately diagnosing depression in the elderly and the kinds of epidemiological studies generally used were focused on as an aid in understanding the prevalence of depression among the elderly. The following section will focus on depression and the elderly.

Depression and the Elderly

The final section in this review of the literature on depression will address the experience of depression in the elderly. It will focus on the general experience of depression and its factors common to most elderly people, will include a subsection on the experience of the elderly in nursing homes in terms of quality of care and quality of life, and will close with a subsection on the factors that may contribute to a sense of mental well-being in elderly nursing home residents.

The experience of depression. The depressive illnesses of old age can be considered to belong to two main types (Epstein,

1976). The first type includes the picture of endogenous depression. The clinical characteristics of this type of depression are usually guilt, self-depreciation, motor retardation, and hypochondriacal ideas or somatic delusions. The depression is worst in the morning and sleep disturbance is marked by early morning awakening.

The second type, according to Epstein, may be called, in general, neurotic depression. In this type the emotional disturbance is usually less profound. These depressions are often reactive to physical illness or social or economic stress or deprivation. A clear diurnal variation of mood is not characteristic of this type of depression. Insomnia is initial (i.e. the person has difficulty falling asleep) or there may be fitful sleep throughout the night. The neurotic or reactive depression is much more common in old age.

Although, as Epstein notes, the neurotic or reactive depression is the more common type of depressive illness suffered by the elderly it is not clear what all the precipitating factors are that lead to depression in the elderly. Some of the precipitating factors, however, have been identified. The following age-related stresses have been linked to the onset of depression in elderly persons: bereavement, social isolation, physical illness, loss of a significant person, economic deprivation, rejection by children, and poor living conditions.

Kay and Bergmann (1980) in reviewing studies of depressive symptoms in the aged concluded, "the association of age with indices of depression in some of the studies may be a consequence of the social changes that accompany aging rather than due to the aging process itself" (p. 47).

A view that may incorporate aspects of both factors, the aging process and social changes, is put forth by Busse and Pfeiffer (1977). They see the depressions of old age as linked more with the loss of narcissistic supplies (the person feels he or she has lost everything, that nothing remains) than with the loss of a person. Depression, in this view, is seen more as a reaction to a perceived loss of self than as a reaction to the loss of a significant other.

Gaitz (1983), on the other hand, emphasizes the reaction to the loss of significant others in a social context as the primary aspect in the depressions of the elderly. He finds that depression in the elderly is often related to loneliness, low self-respect, and "an intense need" (p. 44) for acceptance, affection, and intimacy rather than feelings of helplessness, inadequacy, ineffectiveness, and hostility. Gaitz concludes, "depression in old age is often a reaction to reality, not a distortion of it" (p. 46).

What is the experience of old age and depression like for many individuals? Baker and Nester (1983) attempt to convey the experience with the following word picture.

> The typical retired older person is a widow living at the poverty level. During earlier life, she experienced depression from time to time. Now she is alone. Her life seems to be without meaning. Her friends are mostly gone. She is neglected, moved from place to place, and no longer included in family social activities. Such typical experiences of the aged contribute to withdrawal, lack of concern for self, and severe mental disorders which include depression. (pp. 121-122)

The experience of old age and depression is further elucidated by Barnes, Busse, and Silverman (1955). They interviewed community volunteers over age 60 who reported that during depressive episodes, which were both more frequent and more annoying than those experienced in earlier life, they felt worried, discouraged or disgusted with their own uselessness, often to such a degree that they felt there was no reason to live.

At times the depression that an elderly person experiences can become so severe that it does lead to actual suicide attempts. As mentioned in an earlier section, "Loneliness and Depression," suicide is increasingly a major problem among the elderly. Of all those who committed suicide in 1970, 31.5% were

over 65 years old (Busse & Pfeiffer, 1977). They point out, also, that the majority of elderly people who commit suicide have been depressed.

These same authors provide an example of an elderly person's suicide attempt which illustrate several important points relevant to this study. The important points are as follows:

1. An elderly person can develop a strong attachment to a pet animal.

2. The bond between person and pet can provide an effective substitute for human relationships when such relationships are either unavailable to the person, inconsistently available, or if available, are predominatively negative.

3. More specifically, the attachment to a pet can provide social and emotional gratifications powerful enough to sustain an elderly individual in the absence of consistent, positive human relationships.

4. On the negative side, the loss of the relationship with a pet can be as devastating to an elderly person as the loss of a close human relationship.

The example follows immediately below.

> An 80 year old widow living alone in an apartment was admitted to a psychiatric hospital following a suicide attempt. She said she had become deeply discouraged after the death of her pet parakeet. It was clear from psychiatric

> interviews that the parakeet had symbolized her remaining involvement with her environment. (Busse & Pfeiffer, 1977, p. 175)

The loss of a pet, also known as a companion animal, occurs not only through the death of the pet, as in the example above, but can also occur through the admission of the elderly person to a nursing home. As a general rule nursing homes do not allow elderly persons to bring their companion animals with them when they enter the facility. When one has developed a close relationship with a pet, however, the sense of loss and depression at giving it up to enter a nursing home can be just as great as if the pet had died (Corson & Corson, 1981). The nursing home experience, which is unique to the elderly for the most part, is reviewed in the following subsection.

This subsection has attempted to highlight the experience of depression in the aged. The predominance of reactive depressions was emphasized and a number of age-related and social factors contributing to depression in the elderly were identified. The emotional experience was conveyed through examples which underlined the emptiness and hopelessness many elderly feel and which sometimes propel them to suicide. The role a companion animal can play in providing emotional and social support for some elderly people was briefly brought out. It was also pointed out that a pet can become another loss to cope with if it dies or the

person has it taken away from him or her upon entering a nursing home.

The nursing home experience. The National Center for Health Statistics (1979) reports that on any one day of the year, approximately 5% of the nation's elderly reside in a nursing home. The 5% estimate, however:

> is not accepted by gerontologists as even a rough approximation of an annualized rate for the total number of separate and distinct individuals in or entering one of the nation's 20,000 long-term care facilities. (McConnell, 1984, p. 193)

The risk of institutionalization is significantly greater than 5%, especially as one reaches retirement age. Using national data and a life table method of estimation (as compared to the death certificate technique), McConnell(1984) has shown that "the lifetime probability of institutionalization is thus 48.2%" (p. 196). Such an estimation means that there is an approximately "50-50 chance" (p. 197) that each individual will experience "at least a short spell of institutionalization in a long-term care facility" (McConnell, 1984, p. 197). He has computed the risk of institutionalization confronting the individual at age 65 to be approximately 63%.

Liu and Manton (cited in McConnell, 1984) have described something of the operational aspect common to most nursing homes.

The flow of residents in and out of nursing homes, according to Liu and Manton, is analogous to the pattern observed for acute care hospitals where the vast majority of admissions are short-term stays.

Their estimates indicate that one-third of nursing home admissions have stays less than 30 days, and 74% are discharged within the first year of residency. Another 17% of admissions are discharged dead during the first year of residency, while 19% of the admissions die shortly after discharge. Thus a substantial influx of new residents must occur in order to sustain the levels of nursing home occupancy that have prevailed over the past decade.

The 1976 survey of institutionalized persons (U.S. Bureau of the Census, 1978), however, found that the median length of stay of all nursing home residents was 19 months. Also, contrary to Liu and Manton's estimates (cited in McConnell, 1984), the survey results revealed that 73% of all nursing home residents had an average length of stay of between one and six years. Across all sizes of nursing homes the two largest percentages for average length of stay were 1-3 years and 4-6 years, respectively. These contradictory results suggest that either nursing home admission patterns have reversed themselves in less than ten years, or one of the reported studies is in error.

Ryden (1984) agrees that nursing homes are similar to acute care hospitals especially in their adopting and exemplifying the medical model of care. As such, Ryden believes the name "nursing home" is a misnomer. Ryden characterizes the medical model of care as historically hierarchical and authoritarian. When applied to nursing homes which, Liu and Manton (cited in McConnell, 1984) notwithstanding, are categorized as long-term care facilities, the constraints inherent in institutional living are intensified (Ryden, 1984).

The quality of care provided by nursing homes has been an ongoing concern and has often been the subject of criticism. The complaint is that a majority, or at least a large number, of nursing homes provide inadequate care for the elderly residents who are dependent on them.

Kane and Kane (1978) state that the low quality of care in nursing homes can be surmised from the fact that the average number of personnel in nursing homes is 64 per 100 residents, as contrasted with 243 per 100 in hospitals. They point out, also, that nursing home personnel "tend to be less well paid, poorer trained, and less satisfied with their work than those in other parts of the health care system" (p. 914).

McConnell (1984) believes there are "pervasive deficiencies in the quality of the provision of recuperative and terminal institutional care for the elderly" (p. 193). In 1976, only 12.9

percent of all nursing homes were accredited by any professional organization (U.S. Bureau of the Census, 1978); thus the majority were largely unaccountable for the services and quality of care they provided their elderly residents.

According to Mercer and Kane (1979), "the broadest area of negligence has been in the psychosocial aspects of care" (p. 93). Nonprofessional staff provide most of the nursing care in long-term care facilities. In all sizes of nursing homes aides and orderlies made up the majority of the employees in 1976 (U.S. Bureau of the Census, 1978). While they can assist functionally dependent residents in physical activities of daily living, they are not prepared to deal with the psychological consequences of increased dependency that confront most residents. In fact the 1976 survey of long-term care facilities found that only 17% of nursing home residents required no personal care assistance. Fifty percent needed regular help, and 45% were totally dependent on staff for personal care.

Mercer and Kane (1979) cite the "devastating psychological effects" (p. 93) that many elderly individuals incur when they realize, usually after exposure to the highly regimented life of the nursing home, "that they no longer have control over the decisions that affect their lives" (p. 93). Professional nurses who are qualified to help in this area are often prevented from providing the needed one-to-one intervention due to staffing

patterns and expectations of their role in long-term care facilities (Ryden, 1984).

In most cases, psychologists, psychiatrists, and to a lesser extent social workers who are trained to provide psychological help are not on staff at all in nursing homes (U.S. Bureau of the Census, 1978). For example, not one of the over 18,000 nursing homes surveyed in 1976 had a psychologist or psychiatrist on staff. One social worker was employed by most medium-sized nursing homes (100-349 beds), but with that kind of case load there is little time for therapy. The same medium-sized nursing homes had three administrative employees. The large nursing homes (over 350 beds) generally had two social workers but suffered from the same prohibitive client ratio. The small nursing homes (1-99 beds) did not have any trained mental health or social service employees (U.S. Bureau of the Census, 1978).

The result is that many nursing home residents do not receive adequate or trained care to help them work through their painful psychological and emotional reactions. Nursing home life is often very difficult for the residents, leaving many of them feeling depressed, demoralized, and lonely.

The psychological consequences of increased dependency, combined with the nursing home environment, are real for many elderly people. Ryden (1984) believes that issues of autonomy are intensified for those who live in the high constraint atmosphere

of long-term care facilities. She adds that when elderly people who already have a decrease in self-control experience such an environment, the potential for the development of a sense of powerlessness is high.

Other factors also contribute to a sense of powerlessness in the elderly. Ryden (1984) identifies them as diminished vigor, role changes, and decline in sensory acuity.

The debilitating effects of a sustained experience with powerlessness to control one's environment often result in a learned helplessness (Seligman, 1975). Seligman hypothesized that learned helplessness contributed to depression in humans. Mercer and Kane (1979) link Seligman's concept of learned helplessness with the experience of the elderly in nursing homes. Given the prevalence of apathy, passive behavior, and depression among institutionalized elderly reported by Butler and Lewis (1977), there may be reason to believe that the nursing home experience of many elderly people is an exercise in helplessness, both natural and learned.

In concluding this subsection Corson and Corson's (1981) summary of the characteristics of the psychosocial structure of a typical nursing home is presented. According to Corson and Corson the typical nursing home in the United States has the following eight characteristics.

1. It is essentially a closed social group.

2. It has a low staff/resident ratio, thus making it difficult to individualize treatment.

3. It is a highly regimented social organization, leaving very little room for the retention of a sense of individual responsibility and a feeling of dignity.

4. It is a mass-oriented social organization, leaving very little room for privacy and initiative.

5. The residents tend to lose an important life-sustaining and life-enriching driving force: a sense of purpose and engagement in satisfying goal-directed activities.

6. It fails to furnish an environment conducive to the maintenance and development of positive affective states, a feeling of being needed and respected and a feeling of being loved, and an opportunity to reciprocate such feelings.

7. The residents lack socially sustaining tactile contacts.

8. Many of the residents may suffer from varying degrees of sensory deficits, particularly in the visual and auditory modalities. These losses contribute to further tactile and social isolation.

The consensus of research and opinion appears to lead to the conclusion that the nursing home experience of many elderly people is, at best, a period of very difficult adjustment. At its worst it is a thoroughly negative experience characterized by poor care

and a sense of helplessness resulting in feelings of depression, hopelessness, and loneliness.

The experience of well-being in a nursing home. A number of elderly nursing home residents, perhaps as high as 50% based on the prevalence studies cited in the earlier section, "Prevalence of Depression," do not report experiencing significant symptoms of depression or demoralization. What factors contribute to a sense of mental well-being in a nursing home setting? That is the focus of this subsection.

Ryden (1984) reports the results of a study related to this question. Utilizing a total of 113 skilled and intermediate care residents from four urban nursing homes, Ryden found that perception of situational control was a key variable, significantly related to the morale of residents on both levels of care.

Perceived control was the only variable that had a significant direct effect on the morale of residents on skilled care. In contrast to this, health, perceived control, functional dependency, and socioeconomic status—in that order—all had significant direct effects on the morale of residents receiving intermediate care.

For intermediate care subjects "the greater the functional dependency, the less sense of control and the lower the morale score" (Ryden, 1984, p. 134). Functional dependency involved

requiring assistance in performing common tasks such as dressing, grooming, and eating.

Ryden (1984) also determined that length of institutionalization did not significantly influence the morale of either group. The results suggested the potential for improving the morale of cognitively competent residents who are depressed or demoralized by use of interventions designed to increase their perception of situational control. Mercer and Kane (1979) made similar recommendations as a result of their nursing home study. Ryden's other factors of health, functional dependency, and socioeconomic status, although significantly related to morale, were believed to be unchangeable.

It is worthwhile noting that in Ryden's (1984) study of residents in four nursing homes the overall mean score of the total sample on morale was not significantly different from the mean morale score of 928 community-based elderly people reported by Lawton and Cohen (1974). A similar finding was reported by Anderson, Patten, and Greenberg (1980) comparing nursing home residents and home care clients on a measure of life satisfaction.

It is not clear to Ryden (1984) whether such findings are typical of long-term care facilities nationwide or reflect some "regional phenomenon" (p. 135). They may be at least partially accounted for by Ryden's criteria for inclusion as a subject in her study. By her own admission the criteria made the sample "an

elite group" (p. 131) of nursing home residents. The criteria used were as follows: age 60 or over, have intermediate or skilled care status, have auditory acuity sufficient to participate in an interview, understand English, have cognitive competence as assessed by the Mental Status Questionnaire, and an energy level sufficient to participate in the testing procedure.

In addition to the factors found to significantly influence morale, and thus mental well-being, identified by Ryden (1984) there is some evidence to suggest that one's level of spirituality may also significantly influence self-reported feelings of loneliness and thus contribute to positive mental well-being.

According to Paloutzian and Ellison (1982), religious beliefs can supply purpose and meaning to life, affect one's entire satisfaction with existence, and facilitate intimate interpersonal contact and a sense of belonging.

A Gallup poll published in 1977-78 found that 86% of Americans felt their religious beliefs were fairly or very important. Zimbardo (1979) reported that for the majority of such people their religious commitment and beliefs played an important role, not only in how they lived but in how they experienced life. If one accepts Campbell's (1976) statement that "the quality of life lies in the experience of life" (p. 118) then for many people, perceived quality of life and religious commitment are inseparable. Campbell, Converse, and Rodgers (1976) found, in

fact, that for 25% of the American population religious faith was highly important in understanding their quality of life experience.

Based on Moberg and Brusek's (1978) two-dimensional conceptualization of spiritual well being, Paloutzian and Ellison (1982) developed the Spiritual Well-being Scale (SWBS) to assess one's overall spiritual well-being (SWB) along the dual dimensions of one's relationship to God--religious well-being (RWB)--and one's perception of life's purpose and satisfaction apart from any specifically religious preference--existential well-being (EWB).

In results reported in their 1982 article, Paloutzian and Ellison consistently found that subjects who obtained high scores in RWB, EWB, and SWB also produced lower loneliness scores than subjects who had low spiritual well-being scores. Thus the subjects with high spiritual well-being scores subjectively experienced a higher quality of life.

Based on these findings it is likely that elderly nursing home residents who scored high in spiritual well-being would also obtain low scores in measures of loneliness, and perhaps depression as well. The result is that their morale would be good and their mental well-being positive.

Factors that have been found to significantly contribute to elderly persons' sense of well-being and thus their perceived quality of life in a nursing home are: perceived situational

control, relatively good health, relative absence of functional dependency, and satisfactory socioeconomic status (Ryden, 1984).

A high level of spiritual well-being has been associated with low levels of loneliness (Paloutzian & Ellison, 1982) and is another potentially significant factor contributing to the quality of life of elderly nursing home residents.

Another factor which appears to significantly increase the sense of well-being of many elderly nursing home residents is the presence of, and/or development of an attachment, or bond, to a pet animal.

Corson and Corson (1981), using well-trained pet dogs in a nursing home, found that the presence of the animals "helped to improve the overall morale of the institution" (p. 159). The dogs "acted as effective socializing catalysts" (p. 159) among residents as well as between staff and residents. The pet dogs also appeared to provide a form of reality therapy and "helped transform dependent, infantilized, self-neglecting behavior into responsible, more self-reliant modes of interaction" (p. 159).

Andrysco (1982) found similar results when he introduced a well-trained dog to residents, from each of the three care levels (skilled, intermediate, and independent) of a retirement-nursing community.

Salmon, Salmon, Hogarth-Scott, and Lavelle (cited in Cusack & Smith, 1984) introduced a well-trained dog into a Geriatric

Hospital in Australia. The results of their study led them to conclude that the dog had "a positive effect on emotional well-being and physical activity of a significant number of patients" (p. 20). In addition, it was determined that the dog helped improve relationships between the patients themselves and the patients and the staff.

Brickel (1979) surveyed the staff of a geriatric hospital where cats had been available for patients to interact with for over two years, to assess the therapeutic roles of the animal mascots. The staff reported that the cats enhanced the treatment milieu, helped keep patients in touch with reality, and increased patient responsiveness. As a result, "staff efforts were rendered more successful and gratifying" (p. 372).

These few examples support the idea that allowing elderly nursing home residents the opportunity to develop an attachment to a pet animal can have beneficial effects in terms of increasing a sense of well-being and improving quality of life. Just the presence of animals in an institution, apart from the development of any attachment or bond, may be enough to produce benefits in that it may, as Brickel (1979) observed, enhance the environment by making it appear less like an institution and more like a home.

This subsection has examined the factors that contribute to some elderly persons' subjective experience of a sense of mental well-being, including the relative absence of loneliness and

depression, while living in a nursing home setting. Spiritual well-being and interaction with a pet animal were discussed in particular and are especially relevant to this study.

This concludes the review of the literature on depression. The review has included sections on definitions of depression, theories of depression, and the prevalence of depression. Within the section on the prevalence of depression there were several subsections including a discussion of the difficulties in diagnosing depression in the elderly and the kinds of epidemiological studies used to determine prevalence rates. The review concluded with a section on depression and the elderly in which an attempt was made to elucidate the experience of depression in the elderly, as well as to describe the experience of living in a nursing home. Finally, the factors that allow some elderly to escape the experience of depression and maintain a sense of mental well-being while living in a nursing home were examined.

The following section will provide an extensive review of the relevant literature on the human/companion animal bond. The review will include sections on definitions of terms, antecedents of pet-facilitated therapy in the United States, and types of human/companion animal interactions. This will be followed by a section on pet-facilitated therapy and the institutionalized elderly. The review will conclude with sections on the benefits

of pet-facilitated therapy, and the possible negative effects of pet-facilitated therapy.

Pet-Facilitated Psychotherapy

Definition of Terms

The intervention of providing pet animals with targeted populations in order to bring about psychosocial benefits is most often referred to as pet-facilitated psychotherapy (PFP) (Corson & Corson, 1978). The most common name for this intervention is pet therapy. It is also called pet-facilitated therapy (PFT). In this project the three terms are considered equivalent and are interchangeable.

In an article called "Pets as mediators of therapy" Corson and Corson (1978) coined the term pet-facilitated psychotherapy to describe their research. They defined PFP as an attempt to utilize "carefully selected and well-trained healthy pet animals as resocialization ego-strengthening catalysts in human interactions" (p. 195).

The Corsons propose PFP as an "effective instrument for developing meaningful. . . communication and as an adjunct and stepping-stone to other forms of therapy and to reasonably independent functioning" (p. 195).

The relationship people develop with animals, in particular with pets, has been described in various ways but the phrase which has come to the forefront in recent years as a definition is, "human/companion animal bond" (Yoxall & Yoxall, 1979).

Since this study makes a specialized use of a domestic dog, the terms pet-facilitated psychotherapy and/or pet therapy will be used to describe the intervention. In keeping with the literature, the term human/companion animal bond will be used to refer to the relationship between people and their pets.

The following section highlights the forerunners of the current increased interest in pet-facilitated therapy in the United States.

Antecedents of Pet-Facilitated Therapy in the United States

The first instance of the use of animals in therapy in the United States occurred in 1942 at the Pawling Army Air Force Convalescent Hospital in Pawling, New York (McCulloch, 1981). The patients, convalescing from battle injuries or emotional trauma, needed restful activity rather than continued medical treatment.

Animals and pets were used to divert the soldiers' minds from war experiences to constructive therapy efforts. No quantitative information was recorded, however, on the effects of the animals on the veterans.

The current interest in the value of companion animals to human physical and mental health was generated in large part by the work of Boris Levinson, and Samuel and Elizabeth Corson.

Dr. Boris Levinson, a psychologist, was the first to report in detail the therapeutic benefits of contact with pets (Levinson, 1962). With Levinson the therapeutic use of animals moved from anecdote to detailed case study.

Levinson's works consist of a series of articles in psychological journals and two books. In these works, he describes his own experience with the use of his one pet dog (19 cases) and accounts of therapeutically significant interactions with pets that he accumulated from various sources (49 anecdotes).

Like any pioneer, as Beck and Katcher (1984) note regarding Levinson, "he did not apply rigid experimental protocols but experimented with the use of the animal within the flow of therapy" (p. 415). There was no tabulation of overall results since he was reporting the existence of a clinical phenomenon and not trying to define it. One of the most important things he did do, however, was consistently call for systematic studies of the effectiveness of pet-facilitated therapy.

Samuel and Elizabeth Corson (Corson & Corson, 1978; Corson, Corson, Gwynne, & Arnold, 1977) used animals from their experimental dog colony with patients in a mental hospital who were deemed refractory to conventional forms of therapy.

The essential data in their presentations were the case histories of five patients out of a sample of 50 who were given extensive contact with the experimental team. In the five patients who were studied extensively "marked improvement" was observed. Marked improvement was also reported in "several" of the other 45 patients. They documented four patients whose discharge seemed to be the result of pet therapy.

As Beck and Katcher (1984) point out, the contributions of Levinson and the Corsons were "relatively simple observations and case studies" (p. 415) providing a reasonable basis for future investigators to do more thorough and experimental studies. In fact, almost all of the published works of these early leaders in the field contain admonitions that more research is necessary.

In summary, the importance of their contribution to the field of pet therapy is that it provided "evidence justifying serious scientific exploration of the ability of pets to facilitate more conventional therapy" (Beck & Katcher, 1984, p. 415).

In this section the antecedents of pet therapy in America were highlighted. The works of Boris Levinson and Samuel and Elizabeth Corson were particularly focused on as an important contribution to the current interest in pet therapy among many professional and lay people.

The following section presents the types of human/companion animal interactions.

Types of Human/Companion Animal Interactions

The purpose of this section is to provide a clear picture of the types of people-pet interactions available in PFP programs and research. Such a review may be helpful in placing this study in the larger context of the range of pet therapy alternatives.

The interactions between people and animals fall into a total of four categories. They are: (a) the individual companion, or the owned pet, (b) the part-time companion, or the regular visiting pet, (c) the mascot, or group pet, and (d) animals that form a living environment (McCulloch, 1981).

The individual companion, or owned pet, is one who is placed with an individual on a full-time or permanent basis. This could include programs for those in institutional settings as well as individuals living in their own homes.

McCulloch (1981) states that part-time companions include "animals that are used on a 'loan' basis where they may be left for periods of time with a person, but generally are the responsibility of someone else" (p. 20). Included in this type of interaction are pets who regularly visit elderly people in nursing homes for several hours at a time. These services are often provided by local Humane Societies.

The mascot, or group pet, typically lives in the institutional setting as in the case of a nursing home. These

pets provide companionship in a broad sense to all the residents, and even the staff, and as such are available (along with their benefits) to everyone (Yates, 1973).

Animals as part of a living environment are most commonly seen on working farms and residential treatment centers. Such animals include dogs, cats, poultry, horses, and livestock. These are settings in which people/residents may interact with animals that are considered part of the living environment.

McCulloch (1981) points out that various types of interactions can be combined in the same setting. For example, a residential treatment center may use animals to form a living environment but may also have an official mascot dog as well as allow responsible residents to own hamsters or caged birds. The same could be true, but on a smaller scale, in nursing homes.

In this section the four types of human/companion animal interaction have been identified and defined. It was noted that the types are not mutually exclusive but can, in some cases, be combined in a particular setting.

This study attempts to quantify the psychosocial benefits of the mascot model of interaction in a sample of elderly nursing home residents. Specifically it attempts to demonstrate decreased levels of loneliness and depression in the sample. The following section reviews studies of the therapeutic use of pets with elderly people living in institutions.

Pet Therapy With the Elderly in Institutions

The use of pet animals with the elderly in institutional settings has primarily been directed toward meeting their psychosocial and psychological needs. Since this study draws its subjects from a group of elderly nursing home residents, this section will review, in depth, pet-facilitated therapy (PFT) research using the elderly in institutions. The goal is to demonstrate both the feasibility and effectiveness of this intervention with such a population.

The majority of studies cited in the pet therapy literature involving elderly in long-term care facilities report positive results (Andrysco, 1982; Brickel, 1979; Corson & Corson, 1978; Salmon, et al., cited in Cusack & Smith, 1984). The writer could only find one study which reported that pet therapy had no effect (Robb, 1983). In one other study (Hendy, 1984) the author found some positive results of using pets but stated they were secondary to the effectiveness of visitors from outside the institution in bringing forth positive behaviors in the residents.

This section will review PFT studies conducted in nursing homes (Corson & Corson, 1978; Hendy, 1984); a combination retirement-nursing home (Andrysco, 1982), and geriatric hospitals (Brickel, 1979; Salmon, et al., cited in Cusack & Smith, 1984; Robb, 1983).

Corson and Corson (1978) introduced well-trained, carefully selected pet dogs to the residents of a nursing home. From their description it appears that the type of pet-patient interaction ranged from short visits using small dogs or puppies for the physically or psychologically bedridden, to a fairly constant mascot format using weaned puppies in a cage located in the foyer for the ambulatory patients. They also used a variation of the ownership model for the few patients living in cottages. For them they used large dogs living in dog houses.

The Corsons' data were derived from analysis of videotapes of the residents with and without the pet dogs. They concluded that the pet dogs offered the residents:

> a form of nonthreatening, reassuring nonverbal communication and tactile comfort and thus helped to break the vicious cycle of loneliness, hopelessness, and social withdrawal. Pet animals acted as effective socializing catalysts with other residents and staff and thus helped to improve the overall morale of the institution and create a community out of individuals, many of whom were separated, detached, unhappy, and self-pitying. The introduction of PFP served as a form of reality therapy and helped transform dependent, infantilized, self-neglecting behavior into responsible, more self-reliant modes of interaction. (p. 201).

The Corson and Corson study, although indicating very positive results with PFP, would have been much more informative and meaningful if it had indicated the quantitative results for each of the three groups of residents and types of interaction, detailing the procedures used.

In a well-controlled study Hendy (1984) divided nursing home residents into four groups and randomly assigned each group to one of four experimental, or treatment, conditions. The experimental conditions, in addition to a no treatment control group, consisted of exposure for equal time intervals to either live pets, stuffed animals, or videotapes of people and pets interacting.

The results indicated that measures of smiling and alertness were significantly increased by live pets in comparison with the other treatments. The animals did not, however, influence other dependent variables such as amount of talking, ambulation, proximity to others, or amount of food consumed at lunch.

An additional finding was that the number of people present, especially from outside the institution, had a greater influence on the patients' behavior than did the pets. Hendy concluded that the results support the widely held observation that "live pets are effective at increasing desirable behaviors in nursing home residents" (p. 433). Hendy added, however, that the results also suggest that "people (especially non-residents) may be even more effective toward this end" (p. 433).

In 1982 Andrysco wrote his doctoral dissertation on pet-facilitated therapy in a retirement-nursing home community. Residents and staff were introduced to pet therapy utilizing a single well-trained adult dog. The dog was a 6-year-old female Springer Spaniel x English Setter owned by one of the activity therapists. The type of patient-pet interaction was the part-time companion, or visiting pet.

The pet was introduced to the facility every day for 10 consecutive weeks. At the end of each day the dog was returned to its owner's home. Each of the residents in the experimental and control groups was visited weekly (same day, same time) by the investigator for 20 minutes. The dog, however, accompanied the investigator only on his visits to residents in the experimental group.

All subjects were rated on a Likert-type psychosocial rating scale once a week throughout the three periods of the study (pre-pet interactions, pet interactions, and post-pet interactions). The ratings were always done by the same two nurses and activity therapists. The rating scale contained seven questions concerning the residents' (a) activity involvement, (b) interactions with nursing personnel, (c) conversations about animals, (d) interactions with other residents, (e) dependency on the staff for care, (f) interactions with non-nursing personnel, and (g) opinions of animals.

In addition, 10 residents in the experimental group were studied using four videotape recordings during the pet interactions period. In all cases the videotaping occurred during the 1st, 4th, 7th, and 10th weeks of the period. The videotaping permitted the investigator to measure the following variables: (a) resident's eye-contact with the investigator, (b) resident's smile, (c) resident's tactile contact with the investigator or the pet, (d) resident's verbal response time to the investigator's questions, (e) quantity of resident's verbalization, and (f) number of questions asked by a resident.

According to Andrysco (1982), the results of the rating scale for psychosocial function were inconclusive. The results of Andrysco's analysis of the videotapes, however, led him to conclude that:

> this preliminary investigation suggests that in a geriatric facility a therapeutic pet may offer residents a nonthreatening form of tactile contact and nonverbal communication leading to the alleviation of loneliness, depression, helplessness, and social withdrawal which in turn can lead to the improvement of the overall morale of the institution. (p. 90)

The tentative phrasing of Andrysco's conclusion seems more necessary than usual given his equating of the results of the videotape measures with the eventual "alleviation of loneliness,

depression, helplessness, and social withdrawal" (p. 90). The selection and use of reliable and valid instruments specifically designed to measure those variables would have been preferable, and is needed before such conclusions are warranted.

Brickel's (1979) study was undertaken "to assess the therapeutic roles of animal mascots on a hospital ward" (p. 368) with total-care elderly patients. He surveyed 19 staff on an intermediate care unit where patients had had access to cat mascots (no number given) for two years.

Interviewed hospital staff included a physician (1), licensed vocational nurses (2), registered nurses (5), and nursing assistants (11). The survey consisted of a series of open-ended questions regarding patient-pet interactions, advantages and disadvantages to patients and staff, uses of pets in different circumstances, and issues of maintenance.

The cats were confined to the day room, being available to the patients only during the day. The 20-25 elderly ambulatory patients spent a good deal of time in the day room and thus had full access to the pets. Estimates of the time pets spent with patients on a daily basis ranged from one to ten hours, with a mean time of slightly more than three hours.

The results of Brickel's (1979) survey indicate that "pet animals can effectively serve as therapeutic adjuncts within a hospital setting" (p. 372). Specifically, Brickel's survey

revealed that the utilization of pet mascots on that particular hospital ward proved economic, valuable, and of very small time cost to staff in their effort to improve the functioning of their total-care geriatric patient populations. Finally, on the basis of his survey responses Brickel concluded that:

> mascots were effective in increasing patient responsiveness, giving patients a pleasurable experience, enhancing the treatment milieu, and helping keep patients in touch with reality. As a result, staff efforts were rendered more successful and gratifying. Staff also found that rapport with the patients could be aided with the use of animals. (p. 372)

Robb (1983) conducted a pet therapy pilot study to identify the effects of close contact with companion dogs on elderly male residents receiving long-term care in a Veterans Administration facility. Effects considered were loneliness, depression, hopelessness, morale, psychosocial symptoms, psychosocial functioning, cathectic investment, activity, medication usage, physical injuries, and zoonoses. Answers were also sought to questions concerning impacts on nurses as well as the dogs, and program costs.

A multiple-time series, quasi-experimental design was employed that involved seven 4-week observation periods (3 pre-, 1 during, 3 post-treatment) and three study groups (control, N=14;

patients treated without pets, N=11; patients exposed to pet dogs, N=6). The treatment, consisting of a 6-week exposure to employee-owned dogs and volunteer handlers, was randomly assigned to the experimental floor one week before the treatment phase.

Repeated measures analysis of variance indicated no impacts on oriented subjects ($p > .05$). Positive effects were noted, however, on disoriented residents. Favorable changes were also observed in nurses' perception of dogs in health facilities. There were no occurrences of zoonotic diseases nor any negative effects on the dogs. The smallness of the sample makes generalization of the findings of this pilot study unreasonable. The results suggested to Robb, however, that further investigation was warranted.

The final study of pet therapy with institutionalized elderly to be reviewed is one conducted in Australia by the research team of Salmon, Salmon, Hogarth-Scott, and Lavelle (cited in Cusack & Smith, 1984). The setting was a geriatric hospital and the type of human/companion animal interaction investigated was the mascot, or group pet, model. The primary objective was to determine whether or not a pet in the hospital had a quantifiable therapeutic effect on the patients' health and well-being.

Involvement in the project was restricted to 60 patients in two long-term care wards, with the patients in a third ward acting as a control group. The patients were all frail and elderly with

an average age of 80. Many of the patients suffered from cardiovascular complaints and arthritis. They were also mostly non-ambulatory, uncommunicative, and showed little interest in their surroundings.

The pet selected to act as the hospital mascot was a Labrador dog which was an ex-guide dog trained at the Royal Guide Dog's Association. It was introduced into the hospital for a 6-month period during which the study was conducted.

The research design was the standard "pre-post" test with experimental and control groups. A preliminary questionnaire was shown to both patients and staff to assess their attitudes and potential reactions towards the dog. This was followed by three monthly observation sheets on which staff members recorded their impressions of each patient's progress in both the experimental and control groups. Progress was monitored in terms of emotional, physical, and social behaviors. A final post-test questionnaire was administered to both staff and patients to again assess their attitudes and actual reactions to the dog at the end of the 6-month experimental period.

An analysis of the staff's observation sheets on the patients, using the F-test of significance, revealed that the dog had a positive effect on the emotional well-being and physical activity of all the patients in the experimental group.

Specifically the dog's presence in the hospital after 6 months resulted in statistically significant increases in staff reported levels of patient happiness, sense of humor, laughter, alertness, responsiveness, easygoing attitude, enjoyment of life, and incentive to live. In addition, there were significant increases in the patient's interest in others, as well as improved relationships among the patients themselves, and between the patients and the staff. It was reported that the dog became something that the staff could share and talk about with the patients, a common interest.

The analysis of staff and patient attitudes toward the dog before its arrival and 6 months later were also positive. In all cases, the benefits actually experienced by the staff and patients exceeded the benefits they had expected.

The four main benefits for the staff, reported 86% or more of them, were: (a) the dog made the ward more like home, (b) the dog made the ward happier, (c) the dog was a talking point with the patients, and (d) the dog provided something to share in common with the patients.

The four primary benefits for the patients of having a dog mascot, experienced by 89% or more of the patients, were: (a) the dog made the ward more like home, (b) the dog made the ward happier, (c) the dog provided something to talk about, and (d) the dog was a source of love and affection.

Three of the four benefits were named by both staff and patients which may explain why the relationship between staff and patients improved.

Salmon, et al. as part of the pre-test, also assessed the problems anticipated by both staff and patients of having a dog live in the hospital. These were then compared with the actual problems experienced by staff and patients as reported on the post-test questionnaire. The results clearly showed that for both staff and patients the anticipated problems were for the most part not realized.

Staff expected more problems with the dog than patients did, which was felt to be probably the result of "'a realistic appraisal of fears associated with a novel experience and technique'" (Cusack & Smith, 1984, pp. 22-23). Staff experienced absolutely no problems in the categories of urinating and defecating on the ward, smell, cruelty to the dog, and barking, even though about a quarter to about a third of the staff had expected such problems to occur. Twenty-four percent had expected an increased workload because of the dog but only 2% of the staff experienced such a workload. Two categories of problems, however, were experienced by 21% of the staff. Those problems were discipline/training (anticipated by 22%) and getting in the way (anticipated by 40%).

The major problems anticipated by the patients regarding the dog were barking (26%), getting in the way (19%), discipline (16%), tripping over the dog (14%), and urinating or defecating on the ward (14%). On the post-test the patients reported experiencing absolutely none of the problems with the dog they had anticipated, with the exception of two problems. Three percent of the patients reported that the dog got in their way and 2% reported that the dog's barking was a problem.

The final aspect of the study considered the dog and the effect living at the hospital had on her. At the end of six months the dog seemed happy and content to the staff but was definitely overweight. Steps were then taken, in conjunction with a veterinarian, to overcome the dog's weight problem.

Since the study was believed to have demonstrated the therapeutic effect on patients' well-being of having a mascot dog, the dog officially became the hospital dog at the end of the experiment. Cusack and Smith (1984) report that Salmon et al. believe the success of their study was :

> due to two factors--staff support and careful planning. It was constantly apparent that the staff's desire to have a dog in the wards and their commitment to making the programme work, were vital to its success. Equally important, perhaps, was the initial planning that took place prior to the introduction of the dog. (p. 28)

This section reviewed pet therapy studies utilizing institutionalized elderly subjects in nursing homes, a retirement-nursing facility, and geriatric hospitals. The results were generally positive, but some of the studies lacked scientific rigor, including adequate research design, acceptable controls, and appropriate instruments that would make the results reliable and meaningful. Other results, however, suggest that placing pets with the institutionalized elderly, in either visiting or mascot capacities, may have the potential to produce psychosocial and psychological benefits. More research is needed.

Some of the benefits cited in the studies reviewed included increased social interactions both with other residents and with staff, improved morale, keeping in better contact with reality, increased alertness and happiness, provision of a nonthreatening form of tactile contact, increased enjoyment of life and incentive to live. Several of the studies equated one or more of the previously mentioned benefits with decreases in depression and loneliness. The literature, however, is lacking in studies focusing specifically on depression and loneliness which make use of self-report instruments to measure the variables rather than staff reported instruments based on observations of behaviors assumed to be related to depression and loneliness.

Finally, very few of the studies reviewed reported problems associated with the institution of pet therapy projects. The one

study (Salmon, et al. cited in Cusack & Smith, 1984) that addressed the issue found that the problems anticipated by staff and patients far exceeded the few problems that were actually encountered. That study demonstrated, however, that pet therapy projects carry with them potential problems. The potential negative effects of pet-facilitated therapy need to be known and guarded against. These will be addressed in the section following this next one. The following section examines more broadly the benefits associated with pet facilitated therapy.

Benefits of Pet-Facilitated Therapy

Benefits to both patients and staff have been suggested by the studies contributing to the review of pet-facilitated therapy (PFT). The goal of this section is to combine in one place benefits that have been noted or suggested to occur in association with pet-facilitated therapy. In doing this it is expected that the breadth of the benefits and the potential effectiveness of the intervention (PFT) will stand out.

Katcher and Friedmann (1980) identified seven functions of companion animals that would be expected to have some influence on the physical and mental health of adult populations.

The first three functions involve activity and would be expected to decrease depression, feelings of loneliness, and

social isolation. Pets offer something to decrease loneliness, something to care for, and something to keep a person busy.

The second three functions involve personal interaction and companionship. Pets can be touched and fondled, watched, and can make you feel safe. These would be expected to decrease anxiety and autonomic arousal.

The seventh function noted by Katcher and Friedmann (1980) is that pets provide a stimulus for exercise. Katcher and Friedmann believe that any factor that diminishes or counteracts feelings of depression, loneliness, helplessness, and anxiety would be likely to have a beneficial effect on physical health. They go on to suggest that the alleviation of these unhealthy feelings could reduce the incidence of a wide range of chronic diseases, including degenerative cardiovascular disease.

In fact, Friedmann, Katcher, Lynch, and Thomas (1980) found that pet ownership by itself was the major variable in predicting one-year survival of 92 patients who were hospitalized for either angina pectoris or myocardial infarction. None of the other variables studied, such as living alone or being married, the amount of daily contact with neighbors, the number of people talked to each day, or participation in community activities, explained as much of the variance in survival as did pet ownership. The effect was obtained from a wide range of pets, not just those needing exercise (i.e. dogs).

Katcher (1981) reported the results of a study comparing the effects on blood pressure in human subjects of reading aloud and a brief interaction with their pet dogs. He found that during the pet-person interaction (a talkative greeting involving pats and strokes) blood pressure and heart rate were significantly lower than during the time in which the subjects were reading aloud.

McCulloch in his 1982 article, "Animal facilitated therapy: Overview and future direction," provided a thorough review of pet-facilitated therapy benefits. McCulloch divided the benefits derived from pet interaction into three categories: psychological, social, and physical. The physical benefits were primarily taken from therapeutic horseback riding programs for the physically handicapped. Since that is not relevant to this study, these benefits will not be recounted here.

Among the psychological benefits, interaction with pets was found to promote a positive affective state in patients (Corson & Corson, 1978) described by others as improved morale (Brickel, 1979), and happiness (Salmon et al. cited in Cusack & Smith, 1984). In addition Salmon et al. found that their long-term geriatric hospital subjects enjoyed life more and consequently had an increased incentive to live.

Interaction with companion animals also tended to promote humor and a sense of play (Salmon et al. cited in Cusack & Smith, 1984; McCulloch, 1982). According to McCulloch (1982) companion

animals may also help improve a person's self-esteem through their trusting dependence. Several investigators (Andrysco, 1982; Brickel, 1979; Corson & Corson, 1981) have reported that companion animals in long-term care facilities for the elderly act as a form of reality therapy for some of the residents.

The social benefits include the catalyst effect previously described by Corson and Corson (1978, 1981) as "social lubricant" or "widening circle of warmth." This refers to the observation that companion animals often stimulate social interactions with others, possibly resulting in social cohesion. The need to be in close physical proximity to other living things, known as affiliation, is another social benefit provided by pets (Corson & Corson, 1978; Katcher, 1981).

In institutional settings social benefits extended to staff as well as to the patients. The staff benefits included increased positive verbal interactions with residents, the patients demonstrated increased cooperation with their care-givers making their job easier, and the work environment became happier, being described as more like home (Brickel, 1979; Salmon et al. cited in Cusack & Smith, 1984; McCulloch, 1982).

The foregoing review of the benefits of pet-facilitated therapy suggests that establishing human/companion animal interactions can produce psychological and social benefits for the

individuals involved. For the elderly this especially appears true. As Michael Fox (1981) writes

> pets can provide a means of allaying negative psychological manifestations in the aging, helping to prevent social withdrawal and alienation among them. The dependent needs, their serving as attentive and responsive companions, and their role as catalysts in person-to-person interactions enable pets to serve as constant life reinforcement and anchor for people whose life role, lifestyle, and relationships with people are undergoing significant change. (p. 130)

This section has examined the benefits of pet-facilitated therapy. Benefits were categorized primarily as psychological and social. Some evidence for physical health benefits was also reported. The following section examines the potential problems associated with pet-facilitated therapy.

Potential Negative Effects of Pet-Facilitated Therapy

In his overview of animal facilitated therapy programs McCulloch (1981) found a strong bias toward an advocacy position. The benefits seemed to be emphasized while the negative effects were deemphasized in the literature. With the number of pet therapy programs already large and still growing, problems are certain to arise, especially if possible pitfalls are not known

and actively avoided. The purpose of this section is to demonstrate a thorough understanding of the possible problems of undertaking a pet therapy project.

Arkow (1981) has organized the potential problems of pet therapy into five main categories: a) physiological, b) psychological, c) legal, d) financial, and e) humane.

Physiological complications. The major physiological complications that Arkow sees are disease, injury, sanitation, physical limitation of patients, breeding, and grooming. Problems in each of these areas can usually be traced to inappropriate pet selection and mismatching with patient needs and capabilities.

Arkow states there are 65 communicable diseases which can be transmitted from dogs and cats to humans. Of these, 40 are extant in the United States. The elderly and those already in poor health may be very susceptible to animal-transmitted diseases and infections. Some individuals may also have allergies or respiratory ailments which could make the introduction of a pet dangerous. To avoid such problems any pet used in a therapy program must be certified healthy to reduce the possibility of disease transmission.

Injuries are also a potentially serious problem in pet therapy programs. Pets can injure clients with bites and scratches. Clients can also injure their pets either through deliberate abuse, unintentional mishandling, or benign neglect.

All forms of injury should be avoided and should be reported if they occur. To prevent injuries animals should be screened for mild or friendly temperament, be trained if possible, and clients instructed in the proper care and handling of the pet to minimize both the possibility of their provoking aggression in the pet and the possibility of the pet being injured.

Problems with sanitation, particularly in the areas of hair, food, and biological waste are almost always linked with pets. Objectionable odors may also occur. Most of these can be combatted, however, without much difficulty through instruction and proper equipment. In institutional settings animals will need to be prohibited from sensitive areas such as food preparation, dining, and intensive care. Noise may also be a problem with certain pets. The rights of all affected, therefore, must be considered.

The capabilities of a patient need to be kept in mind when a pet is selected. If a person is limited physically he or she may not be able to provide for the needs of the pet (for instance, exercise), thus creating a difficult situation for both the person and the pet. This demonstrates the importance of a well-informed match of the pet's needs and characteristics with the patient's personality and abilities.

Animals such as dogs and cats which are not spayed can present potential problems including increased excitability and

spraying their scent inappropriately. Animals that get pregnant may produce problems by providing more animals for the person or institution than are wanted or can be properly cared for. For these reasons--if they are viewed as undesirable--pets should be neutered before becoming part of a pet therapy program. Neutered pets also are usually more gentle, stable, affectionate, less likely to roam and make better companions (Arkow, 1981).

The grooming needs of certain pets (bathing and brushing) can be a potential problem when the physical exertion and coordination necessary to do this is impossible for the clients. Again, the grooming needs of a pet must be matched with the client's capabilities.

Psychological complications. Under this heading Arkow includes retaliation and abuse directed toward the companion animal, rejection, and consideration of the psychological needs of others.

In implementing a pet therapy program one must be aware of the possibility that clients may retaliate against perceived wrongs done them by another person, staff, or society in general by mistreating or abusing a companion animal. This is to be avoided at all costs. Clients with problems in handling frustrations and angry feelings should be eliminated from unsupervised companion animal interactions.

Rejection is a potential problem that works two ways. There may be situations where a companion animal either rejects, or is perceived to reject, a client's interest. This may occur because the animal is tired, the type of animal selected is inappropriate, a mismatch of a pet's capabilities with a client's desires exists, or because of the client's psychological condition. There may also be situations where clients reject the companion animal selected for them. Possible reasons for this include: the client's perception of a pet's temperament being threatening, the client's not liking the type of animal selected, and the client's having had traumatic negative experiences with the type of animal selected.

The death of a companion animal is another possibility that can result in psychological complications. The loss of a much liked or loved pet can cause psychological reactions similar to those experienced upon the death of a family member or friend, including depression and guilt (Katcher & Rosenberg, 1979; Quackenbush, 1984). Provisions should be made to deal with this situation should it occur.

The psychological needs of others become a potential problem in group settings where pet therapy is used to help one or several individuals but not the rest. In such situations one should be aware of the needs of the nonparticipants. The companion animal

may benefit one person but this should not occur at the expense of other people's discomfort.

Legal complications. Two potential legal problems related to pet therapy are liability for accidents and local or state ordinances.

Before any pet therapy program is entered into liability for accidents should be discussed and decided on. Insurance coverage should also be checked. Where a pet therapy program is being considered in a health care institution, state or local health department regulations should be researched to determine if the regulations restrict or affect the program. Laws, if they exist, should be discussed with knowledgeable authorities before a pet therapy program is started.

Financial complications. Instituting a pet therapy program of any kind generally involves an outlay of some money. The costs of food, shelter, sanitation aids, and veterinary care need to be anticipated prior to inaugurating a program.

Humane complications. The welfare of companion animals is another source of potential negative effects. Arkow (1981) states, "care must be undertaken at all times to guarantee that all animals used in Pet Therapy have adequate food, water, shelter, access to veterinary treatment, opportunity for rest, exercise, and other humane necessities" (p. 35).

Security is another necessary consideration. If expensive purebred pets or exotic wild animals are used there may be a theft problem. In that regard, also, mixed-breed animals may be more emotionally stable as well as less of a security risk.

To insure success "pet therapy programs must have planning, structure and purpose, but the actual implementation must be flexible enough to allow for unseen conditions, new developments and improvement" (Arkow, 1981, p. 36).

In summary, this section has considered some possible negative effects that might be realized in a pet therapy program. It has also provided guidelines for avoiding some of the problems that one might encounter. One might ask, however, "Do the benefits of pet therapy sufficiently outweigh the possible negative effects to justify the therapeutic use of companion animals? Clayton (cited in Arkow, 1981) writes in her study of facilities that instituted a pet therapy program:

> once animals had been utilized in either a planned manner or as auxiliaries to the basic programs. . . the positive values outweighed by far what were considered by most to be contraindications. All persons whom the writer interviewed or with whom she corresponded. . . indicated their intention to continue or expand their animal-related projects. (p. 38)

This concludes the review of pet-facilitated psychotherapy. The review included sections on definition of terms, antecedents of pet-facilitated therapy in the United States, and types of human/companion animal interactions. The review closed with sections on pet therapy with the elderly in institutions, the benefits of pet-facilitated therapy, and, finally, the potential negative effects of pet-facilitated therapy. The remainder of the chapter is devoted to providing a review of the research problem, its rationale, and the hypotheses of the study.

Research Problem, Rationale, and Hypotheses

Much of the research into the human/companion animal bond (H/CAB) in the past has consisted of anecdotal reports and clinical case studies of the beneficial use of pets under various conditions. Of the experimental studies that have been conducted some were deficient in certain important methodological areas, thus making their findings of questionable value.

Many authors (Beck & Katcher, 1984; Corson & Corson, 1978; Levinson, 1962; McCulloch, 1982) have called for scientific, quantitative research into various aspects of the human/companion animal bond. Bustad and Hines (1982) wrote, "very little data exist on measurable effects of animal companionship on people, including the elderly" (p. 37). As recently as 1984 Beck and

Katcher emphasized the "critical need for well designed and controlled studies with subject populations of sufficient size to permit statistical interpretation of the data" (p. 420).

The goal of this dissertation was to provide such quantitative research data based on a well designed study. The focus was on the mascot type of human/companion animal interaction. The companion animal was a medium-sized canine. The population was elderly people living in a nursing home. The dependent measures were loneliness and depression, assessed by reliable and valid instruments.

Pet therapy research, or more generally the human/companion animal bond, has practical value and implications. This is especially true in view of the steadily rising elderly population in the United States.

The population of elderly citizens is projected to continue rising on into the next century, while the number of people in the younger age brackets will remain the same or decrease. This rising population may exacerbate the continued lack of qualified staff in most geriatric institutions. The result is likely to be higher and higher resident-to-staff ratios. Dudley and Hillery (1977) reported ratios as high as 30:1.

This raises the possibility existing in many places today that elderly persons living in group situations may not get the

quality care they are entitled to receive. The quality of life of the elderly living in institutions should be a primary concern.

Many elderly residents of nursing homes, having outlived their spouses and many of their friends, being afflicted physically, and having been removed from the familiar surroundings of their own homes, may already feel their quality of life is low. They are placed in nursing "homes" with strangers where they may suffer the further loss of being separated from a beloved pet. In addition, due to high resident-to-staff ratios and inadequate training, oftentimes staff is unable to provide the personal attention and/or activities for the resident that communicate acceptance, love, and companionship.

It is not surprising that many elderly people report feeling lonely and depressed in nursing homes. In such cases the introduction of a friendly, well-behaved companion animal into the institution may be seen by many residents as a source of nonthreatening companionship, offering unconditional acceptance and affection as well as diversion while stimulating human-to-human social interactions. It is a challenge for professionals working with the elderly to do all they can to help alleviate loneliness and depression and thus improve the quality of life for many residents.

Fox's (1981) observations and a review of the pet-facilitated therapy literature suggest that the interaction of companion

animals and the elderly functions in ways that improve quality of life perceptions of the elderly. If psychological and psychosocial benefits can be demonstrated for the mascot model of interaction, then a basis would be laid for geriatric facilities utilizing a single companion animal in more than one person's life. More and better research is needed, however, before the many positive statements contained in the literature can be considered documented conclusions.

Specifically, this study sought to demonstrate the psychosocial benefits of the use of a canine mascot in a nursing home in terms of significantly lower levels of loneliness and depression among a group of elderly nursing home residents.

The hypotheses to be tested are the following.

1. Self-reported feelings of loneliness, as measured by the Abbreviated Loneliness Scale II (ABLS) (Paloutzian & Ellison, 1982) will be significantly lower ($p < .05$) among the residents-subjects when the companion animal is present than when it is not present.

2. Self-reported feelings of depression, as measured by the Depression Adjective Check List (DACL) (Lubin, 1965), will be significantly lower ($p < .05$) among the residents-subjects when the companion animal is present than when it is not present.

3. Existential Well-Being (EWB) subscale scores of the Spiritual Well-Being Scale (Paloutzian & Ellison, 1982) will be

significantly negatively correlated with loneliness and depression scores ($p < .05$).

Organization of the Study

Included in this chapter was an overview of the research problem and its importance. Literature reviews of loneliness, depression, and pet-facilitated psychotherapy were also included. The chapter concluded with a review of the research problem and its rationale, closing with a statement of the hypotheses of the study.

In Chapter Two, the methods chapter, the setting, the subjects, materials, research design, and procedures are presented. The results will be presented in Chapter Three. Chapter Four will contain a discussion of the results, conclusions, and recommendations. References and appendices follow Chapter Four.

CHAPTER II

METHODS

Setting

The nursing home selected for this study was Immaculate Mary Home (IMH), located in Philadelphia, Pennsylvania. IMH is a 10-year-old Roman Catholic facility administered by the Franciscan nuns. It is lodged in a four-story building that can accommodate 296 residents for both skilled and intermediate care.

In a recent survey of nursing homes (Abrams, 1985) designed to determine the best nursing homes in 10 major metropolitan areas in the United States, IMH was rated by hospital discharge planners as third best in the Philadelphia area.

IMH was chosen over other nursing homes for this study because (a) the medical director, Dr. Herbert Bergman, exhibited a keen interest in pet-therapy research, and (b) it provided a large number of residents, and thus potential participants, on one floor.

Subjects

The sample for this study consisted of 54 intermediate care residents, out of a possible 100, who made up the fourth floor of

IMH. The 54 participants were self-selected; i.e., they volunteered to participate when approached by the investigator and the floor social worker to enlist their support. In several instances residents who were either extremely hard of hearing or who did not understand or speak English very well were not asked to participate. This eliminated a total of 10 residents from the study. The specific method of approaching the residents as well as what they were told regarding participation is explained in detail in the "procedures" section.

During the course of the 24-week study six of the 54 residents were either unable to continue or chose not to, leaving a final sample of 48 participants.

Residents in the sample ranged in age from 65 to 95 years, with a mean age of 82.9 years. The males were approximately 10 years younger on the average than the females. Females predominated, comprising 92% of the sample (44 females to 4 males). Among the subjects 34, or 71%, were widowed; 13 or 27% had never been married; and one subject, or 2% of the sample, was still married. Length of stay varied from 1 to 9.5 years with a mean of 4.8 years. Two of the subjects had senile dementia and two others had organic brain syndrome.

Materials

The instrument selected to measure the dependent variable, loneliness, was the Abbreviated Loneliness Scale (ABLS) Version II (Paloutzian & Ellison, 1982). (See Appendix A.)

The instrument chosen to measure the other dependent variable, depression, was Lubin's (1965) Depression Adjective Check List (DACL), forms A and C. (See Appendix B.)

It was originally intended that a third instrument, the Spiritual Well-Being Scale (SWBS) (Paloutzian & Ellison, 1982), be administered to the subjects at the end of the experiment as a possible means of explaining individual differences. (See Appendix C.) The Administrator of IMH discovered, however, in the course of reviewing the instruments proposed for the study, that the SWBS included 10 items that measure aspects of one's relationship to God (Religious Well-Being). The administrator expressed strong reservations about the appropriateness of the Religious Well-Being (RWB) items because of a conviction that one's relationship to God was a strictly personal and private matter. As a result, the administrator refused to approve the use of the RWB items of the SWBS with the residents.

The remaining items of the SWBS not containing references to God, the Existential Well-Being (EWB) items, were approved by the administrator for use with the residents (see Appendix D).

Demographic data on the subjects were also gathered through a Demographic Questionnaire developed by the investigator. (See Appendix E). Information sought included age, sex, marital status, length of time living at the facility, health, and previous pet-owning history including kind of pet, length of time owned, and the last time a pet was owned. Three additional questions were asked regarding having a pet dog in the nursing home: (a) did the resident like having the dog there?, (b) how much time did the resident spend with the dog?, and (c) how attached did the resident get to the dog? (See Appendix E.)

The Abbreviated Loneliness Scale (ABLS). The ABLS is a seven-item questionnaire developed by Paloutzian and Ellison (1982) from the UCLA Loneliness Scale (Russell, Peplau, & Ferguson, 1978). The correlation between version II of the ABLS and the UCLA Loneliness Scale is r [194] = .73, $p < .001$. The magnitude of this correlation suggests that the ABLS is tapping essentially the same dimension as the UCLA Scale. Test-retest reliability of the ABLS was $r = .85$, $p < .001$. According to Paloutzian and Ellison (1982):

> the index of internal consistency, coefficient alpha, was .68, indicating that the items cluster together fairly well. The validity of the ABLS is supported by the nearly parallel correlations between both the ABLS and the UCLA measures of loneliness and a variety of criterion variables. These

include self-esteem, social skills, and developmental background variables, as well as a list of emotional experiences when lonely. Taken together, these findings suggest that the ABLS would be useful in subsequent research. (p. 229)

The Depression Adjective Checklist (DACL). The DACL consists of seven parallel lists of adjectives separated into two sets. Set one, developed from a female sample, is made up of forms A, B, C, and D. These forms contain 22 adjectives that load in the depressive direction and 10 that load in the nondepressive direction. Set two, developed from a male sample, is made up of forms E, F, and G. Each list in set two contains 22 adjectives that load in the depressive direction and 12 that load in the nondepressive direction. Forms A and C were selected for this study because they were developed from a female sample and the subjects of this study were primarily females.

Subjects check the adjectives that best describe how they are feeling that day, or how they have generally felt over a specified period of time, depending on the requirements of the study. A study by Lubin, Marone, and Nathan (1978) found no difference between self-administered and examiner-administered DACLs.

The equivalency of the seven lists as parallel forms is indicated by the intercorrelations among the lists (Lubin, 1981). The smallest correlation between any two lists for males was .83,

for females .80, and for the combined groups, .85. The correlation between forms A and C was .85 for males and females combined. All correlations were significant beyond the .01 level.

As Lubin (1981) indicated, test-retest reliability of the DACL should not be at a high level because it purports to measure state depression and thus should be sensitive to mood fluctuations. For forms E, F, and G Lubin found test-retest coefficients of .19, .24, and .22 respectively after a one-week interval.

Internal consistency coefficients for forms A and C were computed from a two-way analysis of variance and were found to be .83 and .88 respectively. The magnitude of these coefficients suggests that these forms have high internal consistency. Split-half reliability of the seven forms of the DACL was also computed. For form A the split-half reliability coefficient (uncorrected) was .92 and for form C it was also .92 (Lubin, 1981).

The validity of the DACL was demonstrated by Lubin (1981) in several ways. A cross validation study was done in which the analysis of variance F-ratios for all forms was significant at the $p < .01$ level.

Concurrent validity was demonstrated (Lubin, 1981) through significant correlations ($p < .05$ or $p < .01$) between the DACL and the Multiple Affect Adjective Check List—Depression Scale

(Zuckerman & Lubin, 1965), with subjects' ratings of depressed mood (Fogel, Curtis, Kordasz, & Smith, 1966), and the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

Discriminant validity was demonstrated in a study by Byerly (1979) in which the DACL correctly predicted group membership for psychiatric patients and normals. The DACL had an overall mean correct classification of 84.8%.

In terms of the limitations of the DACL, it has been noted that it appears to be inadequate in differentiating severe from moderate levels of depression (Ciminero, Calhoun, & Adams, 1977) and that it taps a limited range of depressive behavior (Pehm, 1976). The DACL specifically measures depressed affect. There are no items involving the self-report of overt-motor, physiological, and cognitive distortion behavior.

Ciminero, Calhoun, and Adams (1977), however, believe that the DACL "is one of the few existing scales shown to be sensitive to behavioral treatment programs for depression" (p. 181). Anton (1975) demonstrated that DACL scores change significantly in depressed subjects as a function of treatment. The usefulness of the DACL for monitoring short-term changes in mood is further supported by Gambrill (1977). Lubin (1965) himself states, "the depression adjective checklists (DACL) were developed in order to fill the need for an instrument with which to measure transient

depressive mood, feeling, or emotion" (p. 57). According to Pehm (1976), the DACL's "have the advantage of rapid administration (2 1/2 minutes for normals) and equivalent forms which make them ideal for purposes of frequent repeated assessment" (p. 241).

The Spiritual Well-Being Scale (SWBS). The SWBS is a 20-item questionnaire developed by Paloutzian and Ellison (1982) that distinguishes between religious well-being (RWB) and existential well-being (EWB).

Each item is rated on a six-point Likert-type response with no midpoint. The RWB items (odd-numbered) contain a reference to God. The even-numbered EWB items contain no such reference. As indicated earlier, only the EWB items were administered to the participants, in conformity with the nursing home administrator's decision.

Paloutzian and Ellison (1982) further describe the SWBS as yielding three scores, (a) a summed score for religious well-being, (b) a summed score for existential well-being, and (c) a total spiritual well-being (SWB) score. Ellison reported a correlation between the RWB and EWB subscales of $r = .32$ ($p < .001$). Test-retest reliability coefficients were .93 (SWB), .96 (RWB), and .86 (EWB). Coefficient alpha, reflecting internal consistency, was .89 (SWB), .87 (RWB), and .78 (EWB). According to Paloutzian and Ellison (1982), "the magnitude of these

coefficients suggests that the SWB Scale and subscales have high reliability and internal consistency" (p. 234).

The validity of the SWBS was demonstrated by Paloutzian and Ellison in that SWB scores correlated in predicted ways with several other scales. People who scored higher on spiritual well-being tended to be less lonely, more socially skilled, more intrinsic in their religious commitment, and had higher self-esteem. Face validity of the SWBS is suggested by examination of the item content. Paloutzian and Ellison concluded, "the SWB Scale appears to have sufficient validity for use as a quality of life indicator" (p. 234).

Research Design

The research design chosen for this study was the quasi-experimental, equivalent time-samples design (Campbell & Stanley, 1966).

An equivalent time-samples design employs two equivalent samples of occasions; in one the experimental variable is present, and in the other it is absent. The design can be expanded, as it was in this study, to accommodate the repeated introduction of the experimental variable.

Campbell and Stanley (1966) state that this design is commonly used in one-group experimentation. One-group experimentation is research in which it is not feasible to set up

a control group separate from a treatment group. Campbell and Stanley also indicate that this design "is most obviously useful where the effect of the experimental variable is anticipated to be of transient or reversible character" (p. 43).

The use of the equivalent time-samples design is especially appropriate for this study for the following reasons.

1. The introduction of a dog as a mascot in a nursing home precludes the use of a separate control group, making this a one-group experiment.

2. It is expected that the effect of the treatment will dissipate rapidly upon removal, thus being reversible.

3. The treatment will be introduced twice, alternating with equivalent periods in which the treatment is absent.

The equivalent time-samples design is best suited to accommodate these procedural and experimental characteristics. Thus it is the design of choice for this study.

In this design the dependent variables are depression, as measured by scores on the DACL, and loneliness, as measured by scores on the ABLS. The independent variable, the treatment, is the introduction of and presence of a pet mascot dog at the nursing home.

As Cook and Campbell (1979) point out, a treatment effect would be suggested "if the dependent variable responded in similar

fashion each time the treatment was introduced and in a similar fashion each time it was removed" (p. 222).

There are two aspects of the study that could create interpretation problems. They need to be brought out and addressed. One deals with the design and the other with one of the instruments. First the design.

Campbell and Stanley (1966) prefer a random sequence of treatment and no-treatment conditions. For most purposes, they feel that both a basic alternation of conditions and an equal time spacing are undesirble because they may "introduce confounding with a . . . monthly cycle, or when through the predictable periodicity an unwanted conditioning to the temporal interval may accentuate the difference between one presentation and another" (p. 44).

With this study replicating the treatment and no-treatment conditions only one time, for a total of four data collections points, the investigator believed that any conditioning to the "temporal interval" was unlikely. The possibility of confounding based on tapping into some kind of cyclical effect was also unlikely, because the four data collection points (spaced every six weeks) fell on different days of the month (in order: 8/9, 22/23, 3/4, and 14/15). Two fell at or toward the beginning of the month, one fell near the middle of the month, and the last fell toward the end of the month.

Now the potential problem related to the instrument. Using two forms of the DACL raises the possibility of contamination of treatment effects by unsystematic exposure to the forms. Counterbalancing of the forms was undertaken to avoid or control this type of potential contamination. This was not possible with the ABLS.

To counterbalance the two DACL forms (A and C) over the four data-gathering points, a Latin Square procedure was used (Kirk, 1982). According to Kirk, a Latin Square "is an arrangement having 'p' rows and 'p' columns with 'p' Latin letters assigned to the cells of the square so that each letter appears once in each row and once in each column" (p. 308). Each row and each column of the square thus represents a complete and proper balancing of forms over the experimental conditions.

As Kirk (1982) points out, there is a total of only two arrangements of a 2x2 Latin Square. The first is a self-conjugate standard square (i.e., the same square is obtained when the rows and columns are interchanged). Using the designation of the DACL forms the standard square would appear as follows: $\begin{matrix} AC \\ CA \end{matrix}$. The second is a nonstandard square "which is obtained by interchanging either rows or columns of the standard square" (p. 311). Using the DACL forms this would appear as $\begin{matrix} CA \\ AC \end{matrix}$.

Either arrangement is an appropriate choice for this study. The author decided to use the standard square. Thus the Latin

Square counterbalancing of the two DACL forms (A and C) over the four data points yielded the following format for the presentation of the forms: A (baseline #1), C (treatment #1), C (baseline #2), and A (treatment #2).

It is important to note at this point that although an equivalent time-samples design was planned, problems were encountered which made it impossible to complete the second treatment condition. These problems resulted in the equivalent time-samples design being degraded to a time-series design (Campbell & Stanley, 1966). The major limitation of the time-series design is that it does not rule out the possibility that other factors which coincided in time with the experimental treatment (history) may account for significant treatment effects.

Procedures

The investigator met with Dr. Allan Beck of the University of Pennsylvania, an internationally recognized authority in the area of the human/companion animal bond, to discover which nursing homes in the area were open to the idea of pet-facilitated therapy. Dr. Beck suggested Immaculate Mary Home (IMH) because he knew the medical director, Dr. Herbert Bergman, was interested in collaborating on pet therapy research.

Meetings were arranged with Dr. Bergman and then with the administration, nursing, activities, and social work departments of IMH. Copies of the proposed research design, instruments, and procedures were made available to the head of each department. Where appropriate those of the employees who would be involved in the project were included in the decision-making process. The response to the overall idea of the proposal was positive and a willingness to cooperate and support the project was expressed.

Specific concerns regarding legal responsibility, financial responsibility, health concerns related to the use of a dog, the Spiritual Well-Being Scale instrument, and data collection were raised.

The staff were assured that the investigator would take legal as well as financial responsibility for the dog, including licensing, veterinary care, and taking ownership as well as providing food, brush, leash, and other care items.

Health concerns involved securing a certificate of good health for the dog before it could be involved as the fourth floor mascot. The question of residents being allergic to dogs was resolved by verifying that resident records did not reveal any residents who had such allergies.

The administrator requested that a detailed protocol of the project be developed by the medical director and the investigator, approved by her, and disseminated to the department heads and

through them to the appropriate employees. This was done and is included in this report as Appendix F.

Separate staff meetings were suggested by the investigator for the purpose of furthering knowledge and acceptance of the investigator and the project; this suggestion was not accepted. However, administrators were asked to stress the importance of confidentiality. Confidentiality was defined as not informing the residents about the project ahead of time. This was done to avoid the possibility that such knowledge might influence the residents' responses on the questionnaires.

The next step involved securing an appropriate dog to function as a mascot for the fourth floor.

To be suitable as a nursing home mascot/pet it was judged that the dog must meet certain criteria. The dog should be healthy and, of paramount importance, it should be gentle and friendly in temperament. It should also be capable of receiving physical and verbal attention without becoming aggressive, and should be at least minimally trained, including being housebroken and responsive to voice commands to "come."

It was further expected that the dog selected to act as the mascot would not be above medium size, would be a full-grown adult dog rather than a puppy, and that it would be neutered. It was also believed to be important that the mascot not belong to any staff member or resident who worked or lived on the fourth floor.

The actual selection of a dog to act as a mascot for the fourth floor occurred in the following manner. The director of nursing and her assistant volunteered to Dr. Bergman a dog for which they had been caring for approximately three months. Since the animal in question had been rescued from the highway and efforts to locate the owners had been unsuccessful, nothing could be ascertained regarding its background.

However, the director of nursing believed the dog met the criteria established for the nursing home mascot. It was housebroken, had a calm disposition, and was very gentle, friendly, and affectionate. Although the dog had experienced dramatic changes of veterinary care, being exposed to new situations and new people, and traveling by car, it had reacted well in all instances.

Dr. Bergman, the director of nursing, and subsequently the investigator took the dog to different parts of the nursing home to observe its behavior around elderly people, around wheelchairs, around staff, and on elevators. Dr. Bergman also tested the dog's response to physical attention and voice commands. He jostled the animal and pulled on its ears and fur. The dog responded well in all areas tested, including being responsive to the voice command "come." This dog would continue to live with the director of nursing until it was time to introduce it to the fourth floor, according to the research design.

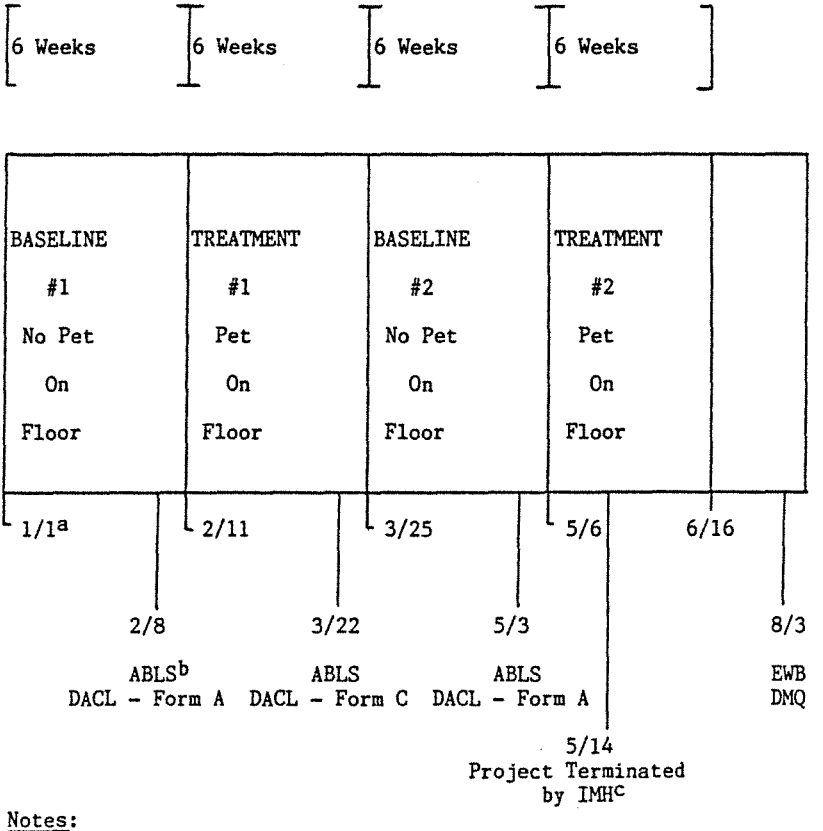
The animal selected was a full-grown, medium-sized, female Springer Spaniel named "Lady." "Lady" was approximately two to three years old. Before her introduction onto the fourth floor of IMH she received the necessary shots and veterinary care, and was certified as healthy. She was not spayed, however, because it seemed to the veterinarian that "Lady" had had a litter of pups in the recent past, and thus was unlikely to go into estrus during her time at IMH.

The time frame for the 24-week study was January 1 to June 16, 1985. The format, included in Appendix F, was as follows. The 24 weeks were divided into four 6-week segments or conditions. The conditions alternated between no pet dog being present on the fourth floor and having one live there as a mascot (see Table 1).

The no-pet segments were the baseline conditions and the pet mascot segments were the treatment conditions. There were two of each. Questionnaires were administered at the end of each 6-week segment to measure the self-reported levels of loneliness and depression. The second treatment condition, however, was terminated after only one week due to problems that developed with the dog and the protocol. Thus data on loneliness and depression were not collected for the second treatment condition. The problems that resulted in the premature termination of the second treatment condition are presented later in this chapter under the

TABLE 1

Summary of research design and major events



Notes:

[a] Dates in month and day.

[b] Questionnaires administered as indicated; see text for full names.

[c] Reasons for premature termination given in text.

subsection entitled, "Treatment number two." At the end of the fourth and final 6-week segment the Existential Well-Being (EWB) subscale of the Spiritual Well-Being Scale (SWBS) and the Demographic Questionnaire (DMQ) were scheduled to be administered, in addition to the ABLS and DACL. Thus data on loneliness and depression were collected at the end of weeks 6, 12, and 18, while the EWB and demographic data were collected at the end of the 24th week.

The 6-week segments were chosen for treatment purposes and reflected the input of Dr. Beck. It was believed that six weeks was the minimum amount of time required for a mascot dog to become acquainted with the facility and for the subjects to develop attachments to, or to experience psychosocial benefits through interactions with the dog.

Baseline number one. The first baseline period began on January 1 and extended through February 10, 1985. The investigator administered the ABLS and DACL, form A, to subjects on Thursday and Friday, February 7 and 8.

A baseline period is the usual state of affairs or functioning of an individual, or in this case a group of individuals, prior to the introduction of a treatment or intervention. Thus for the 6-week baseline period the fourth floor of IMH and its residents functioned as they usually did with their regular schedule of daily events and activities. The

investigator was not on the floor during the baseline period. At the end of the six weeks, however, the investigator administered the ABLS and DACL, form A, questionnaires as indicated above.

If enlisting the support and cooperation of the staff is crucial to successfully implementing a pet therapy study, getting the support and involvement of a large number of the residents is important to subsequently evaluating it. This was accomplished in the following way.

To insure greater objectivity, the residents were not informed of the true purpose of the study. To provide control over a potentially contaminating variable, this was deemed ethically acceptable.

To separate in the minds of the residents the investigator and his questionnaire from the dog, the investigator was described as a student who would be observing at the nursing home periodically over the coming six months. As part of his course requirement he would need volunteers from among the residents to administer short questionnaires to. The dog was introduced to the fourth floor for the first treatment condition as a project of Dr. Bergman's. In this way the residents would not, and did not, associate the investigator and the questionnaires with the dog even when they coincided.

The exact means of enlisting residents to volunteer as subjects was as follows. During lunch on Wednesday, February 6,

the day before the first baseline data were to be collected, the fourth floor social worker visited each table and announced to the residents that a student (the investigator) would be on the floor the next day. In addition the residents were told that the questionnaires would only take about 10 minutes of their time. It was emphasized that the residents did not have to volunteer if they did not want to and that their care would not be affected if they decided not to volunteer. The social worker further informed the residents that she herself would take the student around to each room and introduce him to them.

The following morning the investigator went with the social worker to each room. The social worker knocked on the door and entered with the investigator when invited by the resident(s) to do so. The social worker introduced the investigator and reminded the resident(s) of his reason for being there.

The investigator then described the project to the resident(s). It was explained as a project for his "Adult Development" course that sought to discover whether or how much the feelings or emotions of nursing home residents changed over a period of time. It was further stated that "a lot" of volunteers were needed to make the project a success.

The residents were also told that there would be four separate times they would be asked to answer questionnaires, but

that it would be six weeks between administrations. It was emphasized that the questionnaires were simple and quickly answered. Residents would not have to read or write, and the whole process would take only about 10 minutes. Confidentiality of their responses was assured. Finally, it was emphasized that they did not have to volunteer to participate if they did not want to. The fact that the individual's level of care would not be affected by the decision regarding participation was also clearly stated.

The residents were then asked by the investigator if they would be willing to help him with his project. At this time they selected or excluded themselves as subjects in the study.

For the first baseline condition 54 residents (54%) volunteered to be subjects and completed the questionnaires. It was agreed beforehand by the social worker and the investigator that no staff member, including herself, would be present when the investigator administered the questionnaires. It was believed that this would increase the likelihood of subjects giving honest responses. Although subjects were housed two to a room, whenever possible, the questionnaires were administered privately.

Administration of the questionnaires. The questionnaires were administered to the subjects on all occasions as follows. First, a few brief rapport-building statements were made.

All instruments were administered by the investigator during individual interviews. The investigator was careful to position himself so that the subject could see his lips clearly in case the resident had suffered a hearing loss. Questionnaire items were read slowly and repeated when necessary. Ample time was provided for response.

In administering the instruments the investigator provided the resident/participant with her/his own copy to follow along with while he read the items aloud from a separate questionnaire. This allowed the resident to use two modalities, auditory and visual, to process the questionnaire material. The investigator marked the resident's responses on the questionnaire he read from. This questionnaire identified the resident by name and room number.

During all three occasions when questionnaires were administered to the participants the Abbreviated Loneliness Scale II (ABLS) was presented first, followed by the Depression Adjective Check List (DACL Forms A, C, and C). On the fourth and final collection of data, however, since the ABLS and the DACL were not administered, as previously noted, the Existential Well-Being (EWB) subscale of the Spiritual Well-Being Scale (SWBS) and the Demographic Questionnaire were administered, in that order.

Prior to presenting the questionnaires to the participants, the investigator requested that they answer each item on the basis of how they honestly felt. They were also reminded that their answers were confidential; responses would not be shared with anyone else.

The instructions given to the participants for the ABLS and the DACL are detailed in Appendices G and H, respectively. These were the only two questionnaires given during the data collection for the baseline number one, treatment number one, and baseline number two conditions. The instructions for the EWB and Demographic Questionnaire are discussed when the treatment number two condition is described.

At the conclusion of each questionnaire the investigator gave the resident liberal positive feedback for her/his effort. When the data collection interview was completed, the investigator thanked the resident for her/his time and expressed appreciation for her/his help.

The first six weeks of the study (January 1 - February 10), including the first collection of data through administering questionnaires, was baseline number one. The data collected through the completed ABLS and DACL, form A, questionnaires provided baseline information on the usual level of loneliness and depression experienced by the participants.

Treatment number one. Beginning with the first day of the 7th week (February 11) through the last day of the 12th week (March 24), the dog, "Lady," was introduced onto the fourth floor on a 24-hour per day basis, to live and function as the floor mascot. This constituted the experimental intervention. Data, in the form of self-reported levels of loneliness and depression, were collected using the ABLS and DACL, form C, questionnaires on the Thursday and Friday (March 21-22) of the 12th week.

As part of the protocol required by the nursing home administrator prior to introducing "Lady" to the fourth floorspecific instructions regarding responsibility for the dog's care and rules for her behavior were developed. The information was communicated to the nursing, activities, social work, and security personnel in both written and verbal form by the end of the last week of the baseline number one condition. Details of pet care and protocol may be found in Appendix F.

Arrangements for feeding and care of "Lady" were made with security guards and nursing supervisors, the investigator being available by phone should problems arise.

Additionally, the investigator visited the fourth floor three times each week while the dog was there to observe the dog's behavior and its interactions with residents and staff, as well as their interactions with it, and to be available to answer questions or advise on issues that arose. In keeping with the

goal of separating the investigator and his role as a student administering questionnaires from the use of "Lady" as a therapeutic mascot, the residents were informed by both staff members and the investigator, whenever they asked, that the investigator's regular visits were part of his course requirements.

"Lady" was introduced to the fourth floor as its mascot in the following manner. During lunch on February 8, the Friday before "Lady" was scheduled to be introduced to the fourth floor, the residents were informed by Dr. Bergman that he wanted to see what it would be like for the residents and staff to have a pet. They were assured that the dog was friendly, gentle, and healthy and informed about the specifics of the dog in terms of its breed, size, colors, age, sex, and name. Residents were also told that the dog had been donated to IMH and did not belong to anyone in particular but was for the whole floor.

To calm any fears about having a dog on the floor the social worker assured the residents that they could interact with the dog as little or as much as they desired. They were told that it was there for their enjoyment and that the staff would do all the work involved with having the dog there. The social worker also went over the rules in order to answer specific questions that residents might have.

The social worker then charted the initial feelings of the residents about having a dog on the floor as a pet. She found 55 residents (55%) were in favor of trying it, 28 (28%) were against it, and 17 (17%) were undecided or noncommittal.

While "Lady" lived at the nursing home she assumed the role of a mascot. In accordance with her rules she was free to roam the floor except for the specified restricted areas. Residents interacted with "Lady" according to their degree of emotional comfort around dogs. This included but was not necessarily limited to watching "Lady" from a distance, talking to her, petting her, and on a few occasions having her visit with them in their rooms for no more than 30 minutes.

At different times during the day and evening "Lady" accompanied nurses on their rounds to each room. She stayed outside the rooms but was visible to the residents and, if desired, accessible for closer contact including petting and talking. Thus all residents had a regular opportunity to interact at least passively with their floor pet.

No problems were encountered between "Lady" and the residents. Those who had expressed an initial fear of dogs in general were able to avoid being near her. It helped also that she was not overly active in approaching people who ignored her.

Near the end of the 6-week pet therapy segment an anonymous fourth-floor nursing staff member wrote, "The pet therapy to my

eyes is being successful. The residents that I thought least expected to respond to Lady made everyone surprised." She then gave examples of five residents who had surprised "everyone" by their positive response to the floor mascot. The nursing employee added:

> I try to let them see Lady every day and they all love to see her. The pet therapy also hit the aids (sic) and nurses because Lady never barks or wets. She is well behaved dog that greets everyone with a paw and wags her tail. When Lady leaves these people will miss her. . .

A nurse on the 11:00 p.m. to 7:00 a.m. shift wrote regarding "Lady": "I have seen her be loving and gentle with patients in the a.m." A registered nurse wrote, "Lady seems to be well-liked and is attentive to all patients. She does not enter patient rooms or does she bother anyone. She is (in my opinion) an obedient dog."

In general it was agreed that "Lady's" presence on the floor was acceptable to the staff, although some adjustments had to be made during the first week of her stay; namely, the dog had to be kept away from male maintenance and housekeeping personnel who happened to be of a particular race.

At the end of the sixth week of the first treatment segment (March 21-22), the 12th week of the study overall, the investigator again arrived on the fourth floor to administer

questionnaires to the residents who had volunteered to answer them. The questionnaires administered to the subjects were the ABLS and the DACL, form C, which measured, respectively, the subjects' self-reported levels of loneliness and depression.

The procedure for administering the questionnaires was essentially identical to that already described in the subsection "Administration of the questionnaires." On Thursday and Friday, March 21 and 22, the investigator sought out the participants individually.

In only two cases did residents who had originally volunteered decide against continuing in the project. In addition, four other volunteer subjects had to be dropped from the study because they had required admission to a hospital. The result was a decrease in the number of subjects from 54 to 48.

On Sunday, March 24, the final day of the first treatment segment, the investigator removed "Lady" and her belongings from the fourth floor of IMH to a kennel. "Lady" lived at the kennel for the six weeks of the second baseline period.

Baseline number two. The following day, Monday, March 25, the fourth floor residents were informed that "Lady" had been removed from the floor for an indefinite period of time while they evaluated the positive and negative aspects of having "Lady" live on the fourth floor.

Advance notice of "Lady's" removal from the floor had not been given to the residents in order to avoid anticipatory feelings of loss, grief, and depression or loneliness that might contaminate the treatment data collected the Thursday and Friday of that week.

Vague or noncommittal answers were given by staff regarding whether or when "Lady" would return, to avoid the possibility of contaminating the questionnaire responses by the subjects with hope of seeing "Lady" again soon.

Thus, beginning with the first day of the 13th week (March 25) and extending through the last day of the 18th week (May 5), the mascot, "Lady," was absent from the fourth floor of IMH. This constituted a replication of the initial baseline period and was designated as baseline number two.

During this six-week period the normal schedule of events and activities of the fourth floor was maintained. The investigator did not continue to visit the fourth floor three times a week to observe, since the dog was not there. To continue to maintain the separation of the investigator and the questionnaires from the presence of the pet, the investigator's absence was attributed to other duties.

At the end of the sixth week of "Lady's" absence from the fourth floor the data relating to the second baseline period were again collected. Using the ABLS and the DACL, form C, the

subjects' self-reported levels of loneliness and depression were measured on Thursday and Friday, May 2 and 3. The questionnaires were administered according to the procedures previously outlined for the first baseline and first treatment conditions.

Treatment number two. The second treatment condition of the mascot dog, "Lady," living on the fourth floor began on the first day of the 19th week (May 6). It was scheduled to terminate at the end of 6 weeks, on June 16. The final collection of data, which included the EWB subscale of the SWBS and the Demographic Questionnaire in addition to the ABLS and DACL, form A, was scheduled for Thursday and Friday, June 13 and 14.

"Lady" was returned to the fourth floor of IMH by the investigator with her food and equipment late in the afternoon of May 5, without advance notice to the residents. All aspects of her lodging, feeding, walking, care, and interactions were to continue as they had been when she was first introduced to the fourth floor (see Appendix F). The residents were told that more time with "Lady" living on the floor was needed to enable the staff to better evaluate the situation. The investigator also returned to observing "Lady" three times a week during the second treatment condition. The days and hours remained the same as they had been during the first treatment condition.

During the first week of her return to the fourth floor there were, according to the assistant director of nursing, "increasing

problems with 'Lady.'" She barked at the housekeeping men and others, and again spent "most of her time" under the chart desk at the nursing stations. She also had a couple of bowel or bladder accidents on the floor (later determined to be due to personnel problems rather than the fault of the dog).

Mother's Day (May 12), which occurred at the end of "Lady's" first week back on the floor, was a particularly difficult day for the dog. The fourth floor was crowded with visitors, including youngsters who ran up and down the hallways, and it was noisy. "Lady manifested more unacceptable behaviors. The investigator, however, was not contacted during this time.

The following day (Monday), the assistant director of nursing wrote a memo to Sister Corda Marie, the administrator, detailing the problems with "Lady" as she perceived them. A copy of this letter is provided in Appendix I. In concluding her memo, she recommended that "'Lady' be found a good home and removed from the facility."

The reasons that contributed to the decision to terminate the study five weeks early are analyzed in Chapter Four.

Since the final treatment condition had ended prematurely after only eight days, it was impossible to measure "Lady's" effect on the subjects' self-reported levels of loneliness and depression. Thus the ABLS and DACL, form A, were not administered on June 13 and 14 as scheduled for the final collection of data.

Data on the subjects' self-reported levels of loneliness and depression were collected only for the first baseline, first treatment, and second baseline conditions.

The EWB subscale and the Demographic Questionnaire were administered to the subjects on August 3. The procedure for administering them to the subjects was identical to that outlined in "Administraiton of the questionnaires," except that the subjects were informed at the beginning of the interview that these were the last questionnaires they would be asked to complete, and that the two questionnaires were different from the others they had completed.

The EWB subscale (Appendix C) was administered first to the subjects. The instructions given the participants are detailed in Appendix J.

The final questionnaire administered to the subjects was the Demographic Questionnaire (Appendix E). No special instructions were required for the residents with this instrument.

Summary. This chapter presented information on the setting of the study, the participants, the instruments, the research design, and the procedures for implementing the design.

The study was conducted on the fourth floor of Immaculate Mary Home in Philadelphia, Pennsylvania. Forty-eight residents, predominantly female, volunteered to participate in the study and completed all questionnaires.

The dependent variables of loneliness and depression were measured by the Abbreviated Loneliness Scale, version II (ABLS) and the Depression Adjective Check List, forms A and C (DACL), respectively. The DACL forms were counterbalanced in their presentation. Existential well-being was measured by the Existential Well-Being subscale of the Spiritual Well-Being Scale. Finally, the Demographic Questionnaire was administered to the subjects. The research design was the quasi-experimental time-series design proposed by Campbell and Stanley (1966).

The procedures section detailed the way in which the research design was implemented including such aspects as the selection of the facility, the subjects, the mascot dog, and the collection of data. The dog used in the study was an approximately three-year-old female Springer Spaniel called "Lady."

The following chapter presents the results of the data in terms of the statistical findings concerning the hypotheses in Chapter One.

CHAPTER III

RESULTS

This chapter presents the statistical methods used to test the hypotheses of this study and the results obtained. Data collected from the 48 subjects produced scores from four self-report measures for each subject. Two of the measures--Abbreviated Loneliness Scale and Depression Adjective Check List--were administered three times to each subject (baseline, treatment, second baseline). The remaining two measures--Existential Well-Being subscale and Demographic Questionnaire--were administered once each.

Formulas described in Statistical Package for the Social Sciences (SPSS) (Nile, Hull, Jenkins, Steinbrenner, & Bent, 1975) were used to compute the one-way multivariate analysis of variance (MANOVA) with repeated measures for the three data collections (baseline, treatment, second baseline) as well as the covariate analyses that were conducted. The SPSS repeated measures MANOVA provides univariate results in addition to multivariate. In each case the univariate solution was chosen over the multivariate ones because the data satisfied the assumptions for using univariate

results. In addition, when sample size is small the univariate approach is more powerful than the multivariate approach (Nile et al. 1975).

In a within-subjects design like the one used in this study, the sole assumption to be satisfied to use the univariate approach is that for each effect, the variance-covariance matrix of the transformed variables used to test the effect has covariances of zero and equal variances (Nile et al. 1975). The SPSS repeated measures MANOVA program provides the necessary test (Mauchly's test of sphericity) to determine whether the necessary precaution has been satisfied.

To examine more closely the hypotheses regarding loneliness, depression, and the mascot model, post hoc analyses were conducted using the method incorporated into the SPSS repeated measures program. That method, difference contrasts, analyzes linear combinations of the differences among the original variables (Nile et al. 1975). To do so, it creates an orthonormalized transformation of the original variables. The transformation insures that the contrasts are both statistically independent and that the sum of the squared coefficients is one (1).

Multivariate repeated measures analysis of covariance was conducted to examine how the variables of residents' existential well-being and amount of interaction with their pet dog (time with dog and attachment to dog) affected scores on the measures of

loneliness and depression. A third set of covariates called pet history (having a pet as a child and having a pet as an adult) were originally scheduled to be included in the analysis but was eliminated because the SPSS program places a limit on the number of covariates that can be analyzed. It was decided to eliminate the pet history covariates because they manifested the smallest correlations and were not current variables. Thus EWB and pet interactions were included as covariates because they exhibited the largest correlations and were also current or active variables.

The MANOVA univariate averaged F-test was used to reveal main effects: overall significant differences in the data. Difference contrasts, as a post hoc test, were used to show whether overall significant differences were the result of significant differences in the two baseline conditions of the dependent variables or, as hypothesized, the result of significant differences between the two baseline conditions and the treatment condition. Pearson Product Moment Correlation coefficients were used to test the correlational hypotheses. Critical values for the F-tests for the MANOVA, analysis of covariance (ANCOVA), post hoc difference contrasts, and Pearson Product Moment correlations were all designated at the $p \leq .05$ significance level.

Descriptive Statistics

The sample consisted of 44 females (91.7%) and 4 males (8.3%). Participants ranged in age from 65 to 95 years with a mean age of 82.9 years. The males were approximately 10 years younger on the average than the females. Among the participants 34 (71%) were widowed, 13 (27%) had never been married, and 1 (2%) was still married. Length of stay in the nursing home varied from 1.0 to 9.5 years with a mean of 4.8 years. Two of the participants had been diagnosed as having senile dementia and the diagnosis of two others was organic brain syndrome.

In terms of pet owning history 35 participants (72.9%) had had one or more pets as children, while only 28 (58.3%) had owned pets as adults. At the beginning of the experiment, just before the dog was introduced onto their floor, 31 participants (65%) liked the idea of having a pet dog on their floor of the nursing home. By contrast, at the end of the experiment 22 participants (45.8%) liked the idea of having a pet dog as their floor mascot.

During the time the pet dog lived on their floor of the nursing home as its mascot 25 participants (52.1%) said they spent no time interacting with it, 20 (41.7%) interacted with it "a little," and 3 (6.3%) spent "more than a little but not a lot" of time with the dog. None of the participants said they spent "a lot" of time with their mascot.

Finally, the participants were asked about their level of attachment to the dog during the time it lived on their floor. Thirty-nine (81.3%) did not feel attached at all to the dog, 5 (10.4%) felt "a little" attached, 3 (6.3%) characterized their attachment to the dog as "more than a little but not a lot," and 1 (2.1%) felt strongly attached to the dog.

Mean scores and standard deviations for each variable were also computed for the entire sample. Tables 2 and 3 give these descriptive data for the Abbreviated Loneliness Scale II (ABLS) and the Depression Adjective Check List (DACL), respectively. The Existential Well-Being subscale of the Spiritual Well-Being Scale was administered once to all 48 participants. The mean was 39.25, out of an upper limit of 60, with a standard deviation of 6.73. The higher the score the greater the sense of existential well-being.

Table 2

Means and Standard Deviations of the ABLS

Conditions	Mean[a]	S.D.
Baseline 1	13.77	3.82
Treatment	13.00	3.84
Baseline 2	14.56	3.99

Note. N=48. Higher scores signify greater loneliness.

[a] Maximum score = 28.

Table 3

Means and Standard Deviations of the DACL

Conditions	Mean[a]	S.D.
Baseline 1	10.62	5.01
Treatment	9.04	5.83
Baseline 2	11.21	7.06

Note. N=48. Higher scores signify more depressed.

[a] Maximum score = 32.

Hypotheses

Hypothesis one

Hypothesis 1 stated that self-reported feelings of loneliness, as measured by the Abbreviated Loneliness Scale II (ABLS), would be significantly lower when the mascot dog was present (treatment condition) than when it was absent (baseline conditions). This was confirmed. The analysis of variance utilizing the averaged F-test (univariate) indicated an overall significant main treatment effect, $F(2,94) = 605.52$, $p < .05$.

This finding is supported by an analysis of the changes in individual ABLS scores from baseline to treatment conditions. The scores of 29 participants (60%) were lower (less lonely) during the time the mascot dog was present. A total of 13 participants (27%) had higher scores (more lonely), while the loneliness scores of 6 participants (13%) remained the same.

The loneliness data were also analyzed with EWB, time with dog and attachment to dog serving as covariates. The analysis of covariance was done in two stages. First, EWB served as a covariate by itself; in the second stage the pet interaction covariates were added to the analysis.

The analysis of covariance with EWB as the sole covariate showed that EWB had a highly significant effect (F (1,46) = 14.40, $P < .0005$) on the loneliness scores, as indicated in Table 4.

Table 4

ANCOVA results for ABLS with EWB as covariate

Source of Variation[a]	DF	F	Significance of F
Within Cells	46		
Regression	1	14.40	.0005
Constant	1	87.28	.0005

Note. N=48.

[a] Regression refers to the covariate effect.

Constant is a contrast variable corresponding to the overall ABLS mean (baseline and treatment conditions).

However, with the variance of EWB factored out, a significant main treatment effect, F (2,94) = 4.22, $p < .05$, was still observed in the loneliness scores. Post hoc analysis using the difference contrasts and univariate F-tests indicated that the two baseline loneliness conditions (B_1 and B_2 ABLS) did not significantly differ from each other F (1,47) = 2.61, $p > .05$.

However, a significant difference was noted between the two baseline conditions and the treatment condition, F (1,47) = 5.37, $p < .05$.

When the pet interaction covariates (time with dog and attachment to dog) were added to the covariance analysis, they were not found to be significant (see Table 5). They did not affect the previously noted overall significant treatment effect of the loneliness scores, nor did they significantly affect the outcome of the post hoc analysis. With pet interaction controlled, the difference contrasts still showed no significant difference between the scores of the two baseline conditions, F (1,45) = 1.93, $p > .05$ and a significant difference between the baseline and treatment conditions, F (1,45) = 4.78, $p < .05$.

Table 5

ANCOVA results for ABLS with pet interaction covariates

Source of Variation[a]	DF	F	Significance of F
Within Cells	93		
Regression	1	.00	.960
DEP	2	4.18	.018

Note. N=48.

[a] Regression refers to the covariate effect.

DEP is the contrast variable corresponding to the dependent variable, ABLS scores.

Hypothesis two

Hypothesis 2 stated that self-reported feelings of depression, as measured by the Depression Adjective Check List (DACL), would be significantly lower when the mascot dog was present (treatment condition) than when it was absent (baseline conditions). This was confirmed. The analysis of variance utilizing the univariate averaged F-test indicated an overall significant main treatment effect, $F\ (2,94) = 141.19$, $p < .05$.

This finding is supported by an analysis of the changes in individual DACL scores from baseline to treatment conditions. The

scores of 26 participants (54%) were lower (less depressed) during the time the mascot dog was present. A total of 16 participants (33%) had higher scores (more depressed), while the depression scores of 6 participants (13%) remained the same.

The depression data were also analyzed with EWB, time with dog, and attachment to dog serving as covariates. The analysis of covariance was again done in two stages with EWB first as a sole covariate and then the pet interaction covariates added to the analysis.

The analysis of covariance with EWB as the covariate indicated that EWB had a highly significant effect, F (1,46) = 10.74, $p < .005$, as shown in Table 6.

Table 6

ANCOVA results for DACL with EWB as covariate

Source of Variation[a]	DF	F	Significance of F
Within Cells	46		
Regression	1	10.74	.002
Constant	1	35.14	.0005

Note. N=48.

[a] Regression refers to the covariate effect.

Constant is a contrast variable corresponding to the overall DACL mean (baseline and treatment conditions).

When the variance of EWB was factored out, however, a significant treatment effect was observed in the depression scores, F (2,94) = 3.18, $p < .05$. Post hoc tests using the difference contrasts and employing univariate F-tests showed that the scores for the two baseline conditions (B_1 and B_2 DACL) did not significantly differ from each other, F (1,47) = .44, $p > .05$. A significant difference was noted, however, between the two baseline conditions and the treatment condition, F (1,47) = 5.76, $p < .05$.

The addition of the pet interaction covariates (time with dog and attachment to dog) to the analysis showed that they did not significantly affect the DACL scores, $F(1,93) = .04$, $p > .05$, in terms of the amount of variability attributed to them (see Table 7). Table 7 also shows, however, that the overall treatment effect, previously shown to be significant, now slightly exceeded the .05 level of significance.

Table 7

ANCOVA results for DACL with pet interaction covariates

Source of Variation[a]	DF	F	Significance of F
Within Cells	93		
Regression	1	.04	.836
X	2	2.94	.058

Note. N=48.

[a] Regression refers to the covariate effect.

X is a contrast variable corresponding to the dependent variable, DACL scores.

Post hoc analysis of the DACL data, however, with pet interaction differences eliminated showed significant differences

between the two baseline conditions, F (1,45) = 4.74, $p < .05$, and highly significant differences between the two baseline conditions and the treatment condition, F (1,45) = 13.04, $p < .005$.

Hypothesis three

Hypothesis 3 had two components. The first component dealt with the correlation between Existential Well-Being (EWB) and loneliness. The second component dealt with the correlation between EWB and depression.

The hypothesis regarding EWB and loneliness stated that there would be a significant negative correlation between scores on the two variables as measured by the EWB subscale of the Spiritual Well-Being Scale (SWBS) and the ABLS. Table 8 shows that EWB scores correlated in a significant negative direction with all three ABLS scores (B_1 ABLS, B_2 ABLS, and T_1 ABLS). The correlation between EWB and B_1 ABLS was r (46) = -.4134, $p < .01$, one-tailed. The correlation between EWB and B_2ABLS was r (46) = -.5496, $p < .001$, one-tailed. The correlation betseen EWB and T_1 ABLS was r (46) = -.252, $p < .05$, one-tailed.

The hypothesis regarding EWB and depression stated that there would be a significant negative correlation between scores on the two variables as measured by the EWB subscale of the SWBS and the DACL. Table 8 shows that EWB scores correlated in a significant negative direction with the two baseline DACL scores (B_1 and B_2

DACL) but not with the treatment score (T_1 DACL). The correlation between EWB and B1 DACL was r (46) = -.4040, $p \leq .01$, one-tailed. The correlation between EWB and B2 DACL was r (46) = -.5313, $p \leq .001$, one-tailed. The correlation between EWB and T_1 DACL was r (46) = -.099, $p > .05$, one-tailed.

Table 8

Intercorrelations Between EWB and ABLS and DACL Under Baseline and Treatment Conditions

	ABLS			DACL		
Variables	B1[a]	T1	B2	B1	T1	B2
B1 ABLS	1.000					
T1 ABLS	.527***	1.000				
B2 ABLS	.622***	.472***	1.000			
B1 DACL	.590***	.539***	.562***	1.000		
T1 DACL	.251*	.607***	.238	.551***	1.000	
B2 DACL	.429**	.414**	.652***	.540***	.410**	1.000
EWB	-.413**	-.252*	-.550***	-.404**	-.099	-.531***

Note. N=48

[a]B1 is first baseline condition; T1 is treatment condition; B2 is second baseline condition.

* $p < .05$, one-tailed. ** $p < .01$, one-tailed. *** $p < .001$, one-tailed.

In addition to the significant negative correlation between existential well-being and both loneliness and depression, there was a significant positive correlation between the variables loneliness and depression as measured by the ABLS and DACL, respectively. Table 8 shows that 8 of the 9 correlations between the three conditions for each variable (baseline 1, treatment, baseline 2) were significant at $p \leq .05$, with 5 of the correlations significant at $p \leq .001$. Only the baseline 2 ABLS with treatment DACL correlations failed to demonstrate a significant positive relationship.

To summarize, the results showed, as hypothesized, that loneliness and depression scores were significantly lower in the treatment condition (mascot dog present) than in the baseline conditions (no pet present). Analyses of covariance with EWB, time with dog, and attachment to dog as covariates were significant only for EWB for both loneliness and depression. The amount of pet interaction did not significantly affect the residents' self-reported feelings of loneliness and depression under the treatment condition.

Existential well-being was found, also as hypothesized, to correlate significantly in a negative direction with both loneliness and depression. Finally, loneliness and depression were found to correlate significantly in a positive direction on 8

of 9 correlations. The complete raw data matrix can be found in Appendix M. The following chapter evaluates and interprets the results.

CHAPTER IV

DISCUSSION

In this chapter the results of the study are evaluated and interpreted, especially with respect to the hypotheses. The chapter is composed of the following sections. First, the representativeness of the sample is discussed. Next, the effect of the mascot model of the human/companion animal bond on loneliness among elderly nursing home residents is discussed. The third point of discussion is the effect of the mascot model of pet therapy on depression among elderly nursing home residents. This is followed by a discussion of the relationship between existential well-being and loneliness and depression. Fifthly, the importance of pet selection and staff support in pet therapy projects is discussed. A discussion of the theological aspects of the human/companion animal bond is also presented. Potential directions for future research are outlined. The chapter concludes with a brief summary of the major findings and implications of the study.

The underlying hypothesis of this study has been that the mascot model of human/companion animal interaction (whether active

or passive) can provide psychosocial benefits to elderly nursing home residents, particularly in the form of significantly lower levels of loneliness and depression. The results suggest this may, in fact, be true.

Representativeness of the Sample

Subjects used in this study, residents of Immaculate Mary Home (IMH) receiving intermediate care, were slightly older, had been in the home longer, and had better psychological health than the study sample of the 1976 National Survey of Institutionalized Persons (U.S. Bureau of the Census, 1978). There was also a higher percentage of females.

In terms of psychosocial functioning the sample was seen to be less representative of elderly nursing home residents with regard to feelings of loneliness but more representative with regard to feelings of depression and existential well-being as noted in the sections on loneliness, depression, and nursing homes in Chapter 1.

The mean baseline loneliness score of the sample on the ABLS was 13.77. The mean ABLS score achieved by a sample of 123 undergraduate college students in an Introductory Psychology class was 14.10 (standard deviation of 3.2) (R. F. Paloutzian, personal communication, October 13, 1986). A *t*-test of the differences of the two means revealed they were not significantly different,

t (169) = .573, $p > .05$. Other normative data on the ABLS are lacking. Thus, given the present comparison it is unclear just how lonely the nursing home sample was.

The initial baseline mean depression score of the sample based on form A of the DACL was 10.62. This is significantly higher (t (1,496) = 3.604, $p < .001$, two-tailed) than the mean obtained on form E of the DACL (8.09) by a nation-wide sample of 1,450 predominantly white (87.8%) normal adult females (mean age 44.5 years) selected for the National Depression Survey (Lubin, 1981). The use of different forms of the DACL does not invalidate the comparison because Lubin (1981) has demonstrated that all seven lists of the DACL "can be considered parallel forms" (p. 11) based on their intercorrelations, all of which were significant beyond the .01 level.

The baseline DACL mean of the study sample is also significantly higher (t (637) = 3.53, $p < .001$, two-tailed) than the mean (7.78), also using form A, obtained by 591 normal female students who were predominantly college level (Lubin, 1981). However, the mean of the present nursing home sample was significantly lower (t (146) = 5.61, $p < .001$, two-tailed) than the mean (16.03) obtained on form A by adult female psychiatric patients rated "depressed" based on a psychiatric interview (Lubin, 1965).

These comparisons suggest that the elderly nursing home residents experienced significantly higher levels of depression as a group than both normal female college students and normal adult women approaching middle age. Yet their level of depression was significantly lower than that of clinically depressed adult female psychiatric patients. In actuality, the nursing home sample mean is not significantly different from the mean (11.14) on form A of "nondepressed" adult female psychiatric patients (Lubin, 1965), t (165) = .530, $p > .05$, two-tailed.

This finding probably reflects the struggle of coping with such age-related stresses as social isolation, physical illness, economic deprivation, perceived rejection by children, poor living conditions, and loss of a significant person or bereavement (Epstein, 1976). As Gaitz (1983) observed, the results point to an overwhelming need for acceptance, affection, and intimacy. His conclusion bears repeating: the presence of moderately high feelings of depression among the elderly "is often a reaction to reality, not a distortion of it" (Gaitz, 1983, p. 46).

Even in the best nursing homes the psychosocial aspects of care are generally secondary to the physical/medical aspects (Mercer & Kane, 1979). This state of affairs is reflected in the seemingly common administrative policy of not hiring psychologists to full-time staff positions in nursing homes and of employing

only one (1) social worker per approximately 100 beds (U.S. Bureau of the Census, 1978).

Ryden (1984) correctly pointed out that professional nurses who are qualified to give some help in the psychological aspects of residents' care are too often unable to provide the needed one-to-one intervention due to staffing patterns as well as the expectations of their role in nursing homes. This was the case both in terms of staff positions and staffing patterns at IMH, which was rated the third best nursing home in the Philadelphia area (Abrams, 1985), an honor that presumably reflects high-quality resident care.

For many of the same reasons listed in the preceding paragraphs in reference to the residents' significantly high level of depression, one might surmise that the nursing home residents' mean level of existential well-being would be low. This was, in fact, found to be true of the study sample.

The mean score of the sample on the EWB measure was 39.25. This is significantly lower than almost all the mean EWB scores collected and reported by Bufford, Bentley, Newenhouse, and Papania (1986) in their attempt to assess differences among samples on the dimensions of spiritual well-being. Specifically, the nursing home sample EWB mean is significantly lower than the means obtained on a sample of randomly selected medical outpatients (Hawkins cited in Bufford, et al., 1986) (t (134) =

7.92, $p < .001$, two-tailed) and a sample of "ethical Christians" as distinguished from born-again Christians (Durham cited in Bufford, et al., 1986) (t (79) = 4.57, $p < .001$, two-tailed). The nursing home mean is also significantly lower than that obtained on a sample of "orthodox Christian" sociopathic convicts (Agnor cited in Bufford, et al., 1986), t (73) = 5.48, $p < .001$, two-tailed. Interestingly, the only sample whose mean was not significantly different (t (71) = .767, $p > .05$) from the nursing home sample was made up of nonreligious sociopathic convicts (Agnor cited in Bufford, et al., 1986).

These comparisons suggest that the elderly nursing home residents who participated in the project experienced a significantly low level of existential well-being. Paloutzian and Ellison (1982) have determined that EWB is composed of two primary factors: life purpose and life satisfaction. Thus the level of life satisfaction and purpose of the nursing home sample is on a par with that of nonreligious sociopathic convicts. This is a sad statement and reflects poorly on the experience of being elderly and in a nursing home.

In summary, the study sample of this project was representative of nursing home residents, in general, in terms of its average age. It contained a much higher percentage of females than nursing homes served in 1976. The sample's mean length of stay in the nursing home was substantially longer than the median

length of stay in 1976 but approximately as long as 32.8% of all residents in nursing homes that same year. The sample was equal to a sample of college students in terms of its experience of loneliness and significantly more depressed than samples of college and middle-age women. The sample's level of existential well-being was significantly lower than all other groups except nonreligious sociopathic convicts. Potential explanatory factors for these findings were discussed.

The results are best generalized to other residents of the same nursing home, to intermediate care female residents over 80 years old in other comparable nursing homes (i.e. administered by a religious order or denomination), and to other female residents in other nursing homes who are comparable to the sample in terms of length of stay and psychosocial experience in terms of loneliness and depression.

Loneliness and the Mascot Model of the Human/Companion Animal Bond

Loneliness scores were significantly lower after the mascot dog was introduced when compared to the baseline loneliness scores: after 6 weeks of having the dog, the participants as a whole felt significantly less lonely. It appears that the mascot dog may have been effective in reducing loneliness.

It must be pointed out, however, that the premature termination of the second treatment condition rendered the

research design incomplete. This affects the inferences that can be drawn from the results. The planned use of a second introduction of the treatment strengthened the design by providing some needed control over the possible effect of history as a competing hypothesis in explaining obtained differences in the scores (Campbell & Stanley, 1963). History, as a threat to internal validity, refers to "the specific events occurring between the first and second measurement in addition to the experimental variable" (Campbell & Stanley, 1963, p. 5).

The premature termination of the second treatment condition, and subsequent incomplete design, resulted in poor control over the possible effects of history. Without the second treatment, mean ABLS score causal inferences are difficult to draw.

It is conceivable that some extraneous event occurred by chance to produce the significant decrease in loneliness scores. The presence of the investigator in the home for 2 hours 3 days a week during the treatment condition is another possible factor that may have contributed to the significant outcome. However, the inferences that follow are strong possibilities.

It was hypothesized that the presence of a dog would lead to lowered feelings of loneliness because (1) the subjects would report a high level of loneliness during the initial baseline period, and (2) the subjects would develop a relationship with their dog to fill the void of their inadequate and/or unavailable

human relationships. The results indicated that the sample did not experience a high amount of loneliness and did not seek to use "Lady" to fill their relational deficits.

In fact, although a majority of the subjects had pets both as children (72.9%) and as adults (58.3%), none of the subjects said they spent "a lot" of time interacting with their mascot. Indeed, 52.1% of the subjects said they spent no time interacting with "Lady" during the 6 weeks she was there. Despite the report that 41.7% of the subjects interacted with the dog "a little" a total of 81.3% said they felt no attachment to "Lady."

If indeed the presence of a mascot dog contributed directly to significantly lower feelings of loneliness among the residents, how or why did this happen? It certainly was not the result of the residents' using "Lady" as a substitute for human relationships.

One possibility is what Corson and Corson (1978) call the "social lubricant" theory of pet-facilitated therapy. Their research with pets and the elderly in institutions led them to conclude that pet animals act as "effective socializing catalysts" (p. 201), producing interactions among residents many of whom had tended to separate or detach themselves from others.

Although no data were collected to confirm this hypothesis, it is possible that apart from direct interactions with their mascot its mere presence among the residents generated a larger

than usual number of social contacts and interactions on the floor which acted to satisfy their relational needs. Accordingly, with the removal of the social stimulus of the dog, the residents would have reverted to their former isolation or separateness, with a consequent increase in self-reported loneliness during the second baseline period.

It also seems reasonable to surmise that a group sense of ownership--or some form of passive relationship apart from a feeling of attachment--was beginning to develop in the sample when "Lady" was removed from the nursing home. The sense of loss or deprivation of something that had become familiar to them may have heightened their own lonely feelings through memories of other losses, even though participants did not report emotional attachment.

The question arises as to why the participants did not develop a relationship of strong emotional attachment to their mascot dog.

In the Introduction a summary definition of loneliness was proposed which stated, loneliness is a very unpleasant emotion of varying intensity usually occurring in response to a relational deficit of some importance to the individual the context of which can be either personal or social. The feeling of loneliness is accompanied by feelings of sadness and longing.

The elderly nursing home resident has many opportunities to experience loneliness. Having probably already experienced loss by death of a spouse, immediate family members, and/or other close relatives and friends, elderly nursing home residents are at risk of further loss. They may experience the hospitalization or death of a roommate; visits from family members may significantly decrease or end; relationships with significant staff members may change with the circumstances. Therefore, the elderly may be reluctant to make emotional attachments, even to a mascot. Their reluctance would be viewed as a means of protecting themselves against repeated new experiences of loss and loneliness.

In this study the subjects were aware that the permanence of the dog's placement was not guaranteed. The result can be conceptualized, although it may not have been so clearly conscious to the subjects themselves, as preferring to accept and live with loneliness rather than risk increasing it by emotional attachment.

Yet as Ellison (1980) pointed out there is frequently, despite one's presumed efforts to the contrary, an underlying sense of yearning and searching for a companion who can fill the emptiness and lift one's spirits. It is as if the lonely person is driven to seek relatedness despite the possible fear of loss and greater loneliness. For many people, Ellison states, the companion takes the form of an animal that becomes a source of affection and attachment, but as Ellison correctly analyzes, the

key to the effectiveness of a pet in directly reducing loneliness is the formation of a deep bond between person and pet.

The results of this study, however, as previously stated, indicated that such a bond did not develop between the subjects and their mascot dog, "Lady." Two additional factors stand out as potential explanations for this. The first possible factor is the time element. Conceivably, 6 weeks was too short a time period for the development of the kind of bond and attachment that was expected. In the Salmon, et al. study (cited in Cusack & Smith, 1984), the mascot dog lived in the facility for 6 months. The researchers, however, did not administer a self-report measure of loneliness to the patients.

The second possible factor is that the model may have been wrong. The relational deficits and/or needs inherent in loneliness may not be adequately satisfied by the one-to-group relationship of the mascot model. The alleviation of loneliness may require the specialness or uniqueness of a one-to-one relationship, which may be problematical in the one-to-group mascot model. In other words, the participants may have found it hard to develop a deep bond or attachment to "Lady" because she was not theirs alone but belonged to the entire 4th floor.

Having recognized the lack of bonding between residents and animal, it is important to reiterate that the mascot <u>did</u> have a positive impact.

To summarize, in the present study the exposure of a group of nursing home residents to a dog for 6 weeks was associated with significantly lower levels of loneliness. This occurred even though the 6-week exposure did not result in frequent interactions with or the development of an emotional attachment or deep bond between the dog and the group. The lowered levels of loneliness may have been the result of increased social interactions among the residents stimulated by the presence of an animal on their floor. Due to the incompleted design it is also possible that loneliness was reduced by some event or variable occurring simultaneous with the treatment and unknown to the author.

Depression and the Mascot Model of the Human/Companion Animal Bond

Subjects' depression scores, as hypothesized, were significantly lower at the end of the 6 weeks that the mascot dog, "Lady," lived on the floor. They returned to the original baseline level when measured again 6 weeks after the dog had been removed from the nursing home. This suggests that the use of a mascot dog in a nursing home may have lowered self-reported feelings of depression in these elderly nursing home residents.

The fact that a separate form of the DACL (form C) was used to measure treatment effects, while the two baseline measures used form A, poses interpretive problems. However, Lubin (1981) demonstrated that all seven lists of the DACL (forms A-G) were

equivalent. He reported that the intercorrelation between forms A and C was .86 using a female sample and .85 in a sample of males and females. Lubin concluded that his lists "can be considered parallel forms" (Lubin, 1981, p. 11).

The failure to complete the research design due to the unexpected premature termination of the second treatment raises problems of causal inference. As with the ABLS data, it is conceivable that the presence of the investigator in the home during the treatment or some extraneous event occurring by chance at the same time as the treatment was primarily responsible for producing the marked result (Campbell & Stanley, 1966).

Previous studies have also reported beneficial results for elderly persons exposed to pets. The benefits ranged from increased social interactions (Corson & Corson, 1978) to increased smiles and alertness (Hendy, 1984) to greater patient happiness and incentive to live (Salmon, et al., cited in Cusack & Smith, 1984). However, the present study is the first to use self-report measures for the subjects, to focus directly on the psychosocial conditions of loneliness and depression, and to document quantifiable positive results in terms of decreased feelings of depression.

The fact that significantly lower scores were demonstrated on a self-report measure of depression is an important finding, for two reasons. One, it advances the previous work from primarily

staff report to self-report and from behavioral observation/ interpretation to internal feeling state. That is an improvement in the research. Two, given that the study sample had a moderately high mean baseline depression score, was not highly interactive with the mascot, and was not strongly attached to the dog, these nursing home residents benefitted from having a mascot by experiencing a significant decrease in their feelings of depression. This finding provides a solid empirical basis for developing pet therapy programs in nursing homes where residents' depression is a major problem.

How did the presence of a mascot dog act to reduce self-reported depressed feelings in the study sample? This is an important question. Evidently it was not through the eliciting of active and strong resident-pet relationships, as the data on the amount of interaction and attachment clearly demonstrate. The answer seems to rest in the two factors that some research suggests are most responsible for creating or promoting depression in elderly nursing home residents--perceived loss of situational control over one's life, and institutional environment.

Mercer and Kane (1979) observed the "devastating psychological effects" (p. 93) on elderly nursing home residents when they finally and fully realized that they no longer had control over the decisions that affected their lives. Similarly, Ryden (1984) stated that for the elderly residents of

long-term-care facilities, "issues of autonomy are intensified" (p. 130). Significant loss of autonomy or situational control can eventually lead to a sense of powerlessness, helplessness, and depression in elderly nursing home residents.

The study sample combined a moderately high mean baseline depression score with a significantly low existential well-being score. This, taken together with residents' overall lack of active involvement with their mascot dog, would suggest that issues of autonomy and feelings of powerlessness and helplessness were as prevalent or significant with them as a group as they are in other nursing home populations. Yet their lowered depression score cannot easily be associated with or tied to the mascot dog's having given them a greater sense of autonomy and control over their own lives.

Regarding the second factor, the nursing home environment has been described as highly regimented (Mercer & Kane, 1979), as well as one of high constraint (Ryden, 1984). Ryden (1984) expressed it eloquently when she wrote:

> despite the commonly used appelation "nursing home", long-term-care facilities seldom resemble homes. Instead, they exemplify the medical model of care, transplanted from the acute care setting of the hospital. This model of care has historically been characterized by hierarchical,

> authoritarian organization that intensifies the constraints inherent in institutional living. (p. 130)

The typical result of exposure to such an environment for an elderly person already experiencing some decrease in autonomy is usually a sense of powerlessness and eventually depression (Ryden, 1984).

Salmon, et al. (cited in Cusack & Smith, 1984) conducted their 6-month study of the mascot model of pet therapy at a geriatric hospital. They introduced a dog on two long-term care wards to interact with 60 frail patients with an average age of 80 years. The researchers administered preliminary questionnaires which measured the expected reactions to and benefits of the dog to both staff and patients. After the 6-month study period a similar post-study questionnaire of experienced reactions and benefits was administered.

One of the findings from the pre-test questionnaire on expected benefits from the dog was that 78% of the patients and 64% of the staff thought having a dog live on the ward would make the hospital "more like home." The post-test questionnaire revealed that 91% of the patients and 88% of the staff felt that having a mascot dog had actually made the ward more like home. In fact, the largest increase from expected to experienced benefits for the patients was in the category "make the ward like home." This may be partly due to the fact that 91% of the patients also

felt their mascot dog had benefitted them by giving them something to talk about.

It could be said that the dog humanized the environment for the patients. As such, much interaction with, and strong attachment to the mascot would not be required to make the ward feel like home, though both could exist and seemingly did in the Salmon, et al. study.

In light of Ryden's (1984) work, the perception of "like home" would reduce feelings of depression that are related to the high constraint, authoritarian atmosphere of hospitals/nursing homes. A mascot dog appears to change the institutional environment in a positive direction.

It is believed that in the present study the same factors were probably at work, so that the mascot dog, "Lady," reduced the level of depression in the sample by humanizing the sterile, regimented environment of the nursing home. In other words, it is hypothesized that while the dog lived on the floor the environment/atmosphere there changed, or the subjects' perception of the environment changed to make it feel more like home. Presumably, the fact that a majority of the study sample grew up with pets and had them as adults added to the homelike feeling they had.

An important by-product of this may be that <u>any</u> changes in the environment of a nursing home (not just pets) which make the

residents feel it is more like home and less like a hospital would also be likely to decrease residents' feelings of depression. Thus in the interest of their residents' mental health, nursing home administrators should make every effort to identify and institute such changes wherever possible, including the use of some kind of pet.

Existential Well-Being, Loneliness, and Depression

As Paloutzian and Ellison (1982) might have predicted, existential well-being (EWB) scores were negatively correlated, as hypothesized, with baseline measures of loneliness (Abbreviated Loneliness Scale—ABLS) and baseline measures of depression (Depression Adjective Check List—DACL).

Paloutzian and Ellison (1982) found that the items that made up the EWB subscale loaded into two factors, one connoting life direction and one connoting life satisfaction. High scores in these areas would be expected to be associated with low scores on measures of loneliness and depression because by definition loneliness and depression are expressions of dissatisfaction and unhappiness with the present direction of one's life. In essence, then, existential well-being is an opposite construct and feeling to loneliness and depression.

Depression and loneliness can be considered parallel emotions, often associated. Paloutzian and Ellison (1982) found

that 81% of their subjects responded to loneliness by feeling depressed. Other researchers (Busse & Pfeiffer, 1977; Ellison, 1980; Gaev, 1976) have commented as well on the commonality of loneliness and depression. In fact, in the present study 8 of the 9 correlations between the measures of loneliness (ABLS) and depression (DACL) were significant. This underlines the essential commonality of the two emotions and supports the validity of the ABLS as a measure of loneliness in its correlation to a measure of depression.

In their research with a sample of college students, Paloutzian and Ellison (1982) reported a significant negative correlation between the EWB subscale and the ABLS ($\underline{r} = -.65$, $\underline{p} < .001$). The present study utilizing a sample of elderly nursing home residents found a similar negative correlation between the EWB subscale and baseline measures of the ABLS (EWB - B_1 ABLS $\underline{r} = -.413$; EWB - B_2 ABLS $\underline{r} = -.55$. This suggests that Paloutzian and Ellison's work on the validity of both the ABLS as a measure of loneliness and the EWB subscale as a measure of well-being has been confirmed using a different sample. The validity of the EWB subscale has also been strengthened and expanded by virtue of its predicted negative correlation with a well-established measure of depression, the DACL.

The Importance of Pet Selection and Staff Support in a Pet Therapy Project

This section examines the reasons for the nursing home's decision to terminate the project early. In addition it suggests changes which will help to insure the success of future mascot model pet therapy projects. As will be shown, the two most important factors in any pet therapy project are the selection of the pet and the support of the staff. The following subsections make up this section: pet selection, and staff support.

Pet selection. While every effort had been made to select an appropriate animal with respect to temperament, size, health, age, and training, and the dog had had experience with and had the recommendation of the Director of Nursing, in addition to appropriate testing on the premises, the unknown factors of its background proved catastrophic to its usefulness. It is therefore recommended for further research projects that in addition to the aforementioned, one additional factor be considered. The mascot dog of choice should be one whose past history is known and documented in terms of socialization experiences, temperament, and training.

For that reason a better selection for this type of project might have been either an ex-service dog or guide dog for the handicapped trained by an organization that provides such dogs, or one certified as a therapy dog through the organization Therapy

Dogs International. An example of the former is the California-based Canine Companions for Independence. According to Cusack and Smith (1984), these dogs are trained in three categories. The Social dog is trained to become a member of an institution, to interact with patients there, and in general to enhance the environment of the facility. The Service and Signal dogs are trained to be companions of physically disabled and hearing-impaired people, respectively, who live in their own homes. Therapy Dogs International (TDI), as described in Cusack and Smith (1984), is a worldwide volunteer organization that certifies dogs as therapy dogs. To become certified, in addition to exhibiting "exemplary social graces" (p. 216), the dog must have some level of obedience training documented by both a reputable dog trainer and the dog's owner. It must also have a current rabies vaccination. TDI dogs are also insured for property damage and liability anywhere in the United States through Therapy Dogs International.

Staff support. Staff support is the other important factor in pet therapy projects. To quote Salmon, et al. (cited in Cusack & Smith, 1984), "It was constantly apparent that the staff's desire to have a dog in the wards and their commitment to making the programme work were vital to its success" (p. 28).

The procedures for this project were designed with the importance of staff support in mind. The protocol (see

Appendix F) was a written expression of the support of the activities, nursing, and security directors, as well as the head administrators and the author. Details of the care of the dog were believed to be both workable and acceptable.

The protocol worked and the staff support was maintained through the first 6-week treatment condition. Although procedures were reviewed, found acceptable, and communicated to the staff prior to "Lady's" return, both the protocol and staff support broke down very early in the second treatment condition. Why?

Staff support was eroded, as seen in the previous listing of the staff problems, primarily as a result of two failures: (1) a failure to carry out agreed-upon responsibilities, and (2) a failure to communicate the subsequent unexpected changes and negative feelings to the project coordinators until it was too late to save the project from early termination.

Future pet therapy projects could solidify and maintain staff support by implementing some relatively simple procedures.

In contrast to the procedure followed in the present study, the pet therapy researcher would do well to meet with all staff members who would be involved in the project prior to implementing the pet therapy and then periodically throughout the project. The researcher should solicit the concerns, problems, and observations of the staff as well as their suggestions and feedback. This

should promote a partnership mentality and good rapport between researcher and staff.

In addition, whenever possible the principal investigator should be present and active at the facility at least 5 days a week during the time the pet mascot is there, including one weekend day, and for several hours a day spanning two shifts, in order to detect and solve any problems that develop. Receiving quick and caring responses to problems will keep staff morale up and may further create some enthusiasm for the project.

This section has identified and analyzed the problems this project experienced that led directly to its premature termination, and has suggested solutions that would enhance the likelihood of success of future projects. The primary problem was that the dog had certain deficiencies of temperament or character. The other major problem was the loss of staff support due to a failure to carry out agreed-upon responsibilities and a breakdown in staff-project coordinator communication.

Therefore, pet therapy projects should utilize an ex-service or guide dog or a dog specifically certified as a therapy dog. Also, the primary investigator should maintain open communication with the staff, should be actively present at the facility, and should act quickly to solve problems that develop.

The following section examines the theological aspects of the human/companion animal bond.

Theological Aspects of the Human/Companion Animal Bond

This section will address role of animals and the role of humans in meeting the social/emotional needs of a person or persons.

Rimbach (1982) believes animals are so prominently reflected in the Old Testament writings because the human/animal bond enriched the life and culture of the people. The many references to animals are used to convey a wide range of messages and meanings to the readers, underlining how much the natural, living environment was a part of their daily lives. Numerous references compare human feelings and those ascribed to animals, and use animals to instruct humans.

As Rimbach points out, throughout the biblical references to animals there is a sense that animals and humans enjoy a kind of symbiotic relationship, humans being the stewards of creation including animals and their environment (Genesis 1:24-31).

To examine competently the issue of the role of animals and humans in the ability to meet the social/emotional needs of human beings from a biblical framework one must first recognize the essential difference they carry as created beings. As Archer (1982) rightly notes, "When God created Adam and Eve in His own image (Gen. 1:27), He breathed something of His own Spirit into them (Gen. 2:7) in a way that He had not done to any previous

order of creation" (p. 64). That is, human beings are set apart from the animal world by their inward make-up of soul and spirit. They are conscious of the Divine source of life, while animals are not considered to be so conscious.

Focusing more specifically on the social/emotional needs of human beings and God's will for meeting them, Genesis 2:4-17 gives the account of the creation of man and his placement in the garden of Eden, "the ideal environment for his development" (Archer, 1982, p. 59).

In verse 18 of chapter 2 is found the very first intimation and indication of a human social/emotional need, recognized and responded to by God as follows: "It is not good for the man to be alone; I will make a helper suitable for him." (All scripture quotations are taken from the New American Standard Bible, 1960.) Archer (1982) believes this verse "clearly implies that Adam. . . had begun to feel a certain lonesomeness and inward dissatisfaction" (p. 59) in the incomparable God-planted paradise of Eden. Adam had a "need of companionship" (Archer, 1982, p. 69).

Apparently his work in the garden and a personal relationship with the Lord God did not completely meet his social/emotional need for companionship. The phrase helper "suitable for him" suggests primarily correspondence or likeness between the man and his helper/companion (Guthrie & Motyer, 1970).

After stating that it was not good for the man to be alone, God brought "every beast of the field and every bird of the sky" (Gen. 2:19) to the man "to see what he would call them." Archer (1982) sees this God-given task of classifying every species of animal and bird in the garden as requiring time and a "good deal of study" (p. 60). This close-up examination and naming of each living creature failed to identify "a helper suitable" for the man among the cattle, the birds, and "every beast of the field" (Gen. 2:20). In other words, the companionship the man experienced with the animals and birds was unsatisfying (Archer, 1982).

This passage from Genesis 2 clearly teaches that the woman and not any of the animals is man's complement and truest companion, essential to the perfection (in a figurative sense) of his being. By extension it can be concluded that God intended that the social/emotional needs that human beings experience should be most fully and completely satisfied through the caring companionship of other human beings.

It should be pointed out, however, that the companionship may not have to be part of a conjugal relation or involve a member of the opposite sex to be effective. The Bible gives these same sex examples: the relationships of Ruth and Naomi in the book of Ruth, David and Jonathan (1 Sam. 18:1-4; 19:1-7; 20), Jesus and John (John 13:23; 19:26-27; 21:20-25), Jesus and Lazarus (John

11:1-5), and Paul and Timothy (Acts 16:1; 19:22; 1 Cor. 4:17; 2 Tim. 1:2).

Animals, by virtue of their lack of humanness, are unable to be companions to human beings in the truest sense of the word. However, the Bible does indirectly portray instances in which animals appear to sustain a person who is bereft of human companionship.

Perhaps the clearest example is that of sheep with a shepherd. Probably the most well-known shepherd is David (1 Sam. 16:11; 17:15, 34-40). He wrote Psalm 23 in which the Lord is described as the psalmist's shepherd, drawing no doubt on his own experiences as a shepherd.

Rice (1910) describes the shepherd as "gentle with his flocks" (p. 159), caring, and "bold in defending them from the wild beast" (p. 159). Thus was David in 1 Samuel 17:33-35. Jesus, also, said of himself, "I am the good shepherd; the good shepherd lays down his life for the sheep" (John 10:11). The shepherd leads his sheep to safe and fertile pastures, quiet brooks, and protects them from the cold of winter and the heat of summer.

The shepherd knows each of his sheep by name and if one is missing he diligently searches until he finds it or finds out what became of it (Matt. 18:12-13; Rice, 1910). He is also a paramedic who dresses the wounds and sets the broken bones of his flock.

The shepherd also trains his sheep to come at his call (John 10:3-5) and will take a newborn lamb and carry it inside his coat since it would be too feeble to follow its mother (Rice, 1910).

Certainly the shepherd gives his all to the sheep. As Rice (1910) points out, the shepherd is "secluded from society" (p. 159) and lives with his flock without any of the "comforts of social life" (p. 159). Rice intimates that the shepherd receives, or looks for, companionship from some of his flock. That relationship can be seen as the prototype for the human/companion animal bond.

One of the most basic themes of the scriptures is that although humans are Divinely designed to best meet the social/emotional needs of other humans, by their own sinful nature they are also capable of the most severe neglect, uncaring attitudes and cruelty in their interpersonal relationships. In stark contrast, an intelligent pet is widely perceived and experienced to be characterized by unfailing loyalty and affection to whomever it has established a bond.

In sum, a good, mutual, sincere relationship between two human beings is the best way for each to experience the joy of both meeting someone else's needs (being needed) and having one's needs met (needing). The premise underlying the primary hypothesis of this project, however, is that when human relationships are either unavailable or unsatisfactory,

human/companion animal relationships may fill the void, providing both the perception and experience of being needed (meeting another's needs) and needing (having one's own needs met).

This may be especially relevant to the nursing home environment. It is projected that the number of elderly people in the United States will have more than doubled by the year 2030, resulting in a total population of over 50 million elderly persons (Butler, 1980). If the percentage of elderly in nursing homes continues to increase at a rate of 1% per decade, as projected based on current statistics, 5 million elderly people will then be living the remainder of their lives in a nursing home.

Given the picture of a nursing home as far more like an acute care hospital setting than a home environment (Ryden, 1984), understaffed primarily by poorly trained, nonprofessional personnel, oftentimes dispensing low-quality physical care (Kane & Kane, 1978), with negligence most pronounced in the psychosocial aspects of care (Mercer & Kane, 1979), the future as well as the present for nursing home residents is likely to be bleak and discouraging. This is particularly so for the significant number of cases in which families and friends cease to care enough to provide daily or frequent contact.

This section has shown that companion animals are, from a biblical perspective, a poor substitute for consistent human, caring, loving, and understanding relationships in meeting the

social/emotional needs of the elderly nursing home resident. However, the results of this study suggest that human/companion animal interaction can reduce self-reported feelings of depression in that population. Thus positive human/companion animal interactions can be better than no interactions at all and better than very poor human-human interactions. Continued research is needed, however, to further document the extent of actual benefits experienced by nursing home residents through the mascot model of the human/companion animal bond. Directions for future research are suggested in the following section.

Directions for Future Research

Beck and Katcher (1984) reported that between the years 1981 and 1984 there were five major conferences with proceedings published devoted to papers on the human/companion animal bond. A significant number of the papers addressed the therapeutic uses of pet animals. Under the auspices of the Delta Society, national and international conferences on the human/companion animal bond have continued to be held approximately twice a year. These conferences encourage research in the area of human-animal interactions while providing a setting for presentation of the results.

While the human/companion animal bond is still a vital subject of research, Beck and Katcher's (1984) conclusion remains

unchanged: "there is a critical need for well designed and controlled studies with subject populations of sufficient size to permit statistical interpretation of the data" (p. 420).

Hendy (1984), investigating the effects of a pet visitation program in a nursing home, concluded that live pets were effective in increasing desirable behaviors (smiling and alertness) in nursing home residents. However, she believed the results also suggested "that people (especially non-residents) may be even more effective toward this end" (p. 433). She also raised the possibility that "the pet and people effects are additive" (p. 433).

In light of the conclusion from Genesis 2 that a human being is best suited to meet the social/emotional needs of another human being, future research may profitably focus on the human element in human/companion animal interactions. For example, having a pet animal (a mascot animal) live in a nursing home may result in increased visitation to the nursing home by nonresident family members, especially children. Future research, then, might compare the effects of a mascot nursing home pet on the average number of visitors per month to the facility with the average number per month before the mascot pet.

Following Hendy's (1984) idea of the possibility of the additive effects of people and pets on the psychosocial well-being of elderly nursing home residents, it would be valuable to compare

the effects of the following conditions: pets alone (mascot model or unsupervised pet visitation in a day room), pets plus people (supervised pet visitation in which nonresident visitors walk the pets throughout the day room while conversing with the residents), and people alone (volunteers visiting with residents in the day room).

Most pet therapy research involving nursing home residents including Hendy (1984) and Salmon, et al. (cited in Cusack & Smith, 1984), has relied on behavioral observation techniques to measure the effects of the pet on the individuals. This has led to the "tendency to equate smiling faces with therapeutic improvement" (Beck & Katcher, 1984, p. 418). Future research must make greater efforts to utilize self-report instruments, as the present study did, in order to focus on internal feeling states, relying on the residents themselves to know and honestly report what they are feeling.

More research on the mascot model of the human/companion animal bond is needed to determine fully its effects on a nursing home population. In particular, the question of its effect on residents' feelings of loneliness through the development of resident-pet bonding or attachment has not been adequately answered. Increased exposure of the residents to the mascot is needed, similar to the 6-month period employed by Salmon, et al. (cited in Cusack & Smith, 1984).

The relationship between existential well-being or spiritual well-being, loneliness, and depression in elderly nursing home residents should be further investigated. It would be worthwhile to distinguish in terms of overall loneliness, depression, and existential or spiritual well-being scores, between nursing homes administered and/or staffed by religious groups or denominations and those which are not.

Conclusion

The thesis of this study was that the introduction of a well-mannered, friendly pet dog into a nursing home would be an effective means of decreasing self-reported levels of loneliness and depression among residents.

The results indicate that loneliness scores significantly decreased when the mascot dog was living on the floor with the residents. Its removal from the floor was associated with a significant increase in loneliness scores. Depression scores were also significantly reduced when the dog was living on the floor, increasing significantly when the dog was removed from the floor. However, the time-series design allows the possibility of plausible competing hypotheses, especially history, accounting for observed significant differences.

With both loneliness and depression, existential well-being was found to be a significant covariate, while the pet interaction

covariates were not significant. As predicted in a secondary hypothesis, significant negative correlations were found to exist between existential well-being and both loneliness and depression.

The findings relating to loneliness and the mascot model of pet therapy suggest that the residents did not seek to develop a relationship with their mascot dog. Two possible factors in this apparent failure were the time element (a 6-week exposure may have been too short) and the model (the one-to-group mascot model may not be adequate).

Feelings of loneliness were significantly reduced, however, suggesting the possibility that the mascot acted as a social catalyst that generated resident-resident interactions, thus reducing lonely feelings.

The findings relating to depression and the mascot model of pet therapy are important because significantly lower depression scores were experienced despite a moderately high mean baseline depression score, initially, and despite residents' not being highly interactive with or strongly attached to the dog. This finding may provide an empirical basis for developing mascot model pet therapy programs in nursing homes where residents' depression is a major concern.

Analysis of the results suggests that the mascot helped make the environment more like a home for the residents, resulting in lowered depression scores. A potentially important by-product of

this finding is that any changes in the environment that make it feel more homelike to the residents would be likely to decrease depression.

Analysis of the reasons for prematurely terminating the project suggests the importance of pet selection and staff support as the two factors essential to the success of a pet therapy project. Among other things, the "right" mascot dog is one for which an acceptable history of socialization experiences, temperament, and training is known and documented. An ex-guide dog or one that has been certified as a therapy dog through Therapy Dogs International is recommended.

A number of specific measures were recommended to maintain staff support for a pet therapy project: making certain that responsibilities are carried out, as agreed, and that communication between staff and investigator is kept open.

The theological aspects of the human/companion animal bond were explored. From Genesis 2 it was clear that God's plan from creation was that animals were not suitable companions for human beings. Only a human being could meet the social/emotional needs of another human being to the fullest. However, there was some evidence that in the absence of satisfying and caring human relationships, animals may provide some of a person's companionship needs.

It was recommended that future research focus more on the human element, investigating the use of animals in a nursing home to increase the number of visitors. It was also suggested that research compare the effects of pets alone, people plus pets, and people alone conditions on loneliness and depression. Research was also recommended to investigate measures of loneliness, depression, and existential or spiritual well-being according to the variable of the nursing home being administered by a religious or secular group.

Finally, it must be remembered that through the turn of the century, the number of elderly people in nursing homes may reach 5 million. We have a moral obligation to not forget them nor allow them to suffer the pain of unnecessary loneliness and depression during their final years due to lack of caring, satisfying relationships, and companionship. We must use any and every means, including companion animals, to insure that elderly nursing home residents experience a quality of emotional life commensurate with their value before God.

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APPENDIX A

ABBREVIATED LONELINESS SCALE II

Please circle the choice that best indicates how often each of the following statements describes you in general:

O = Often S = Sometimes R = Rarely N = Never

		Yes / No
1.	I feel like the people most important to me understand me.	O S . R N
2.	I feel lonely.	O S . R N
3.	I feel like I am wanted by the people/ groups I value belonging to.	O S . R N
4.	I feel emotionally distant from people in general.	O S . R N
5.	I have as many close relationships as I want.	O S . R N
6.	I have felt lonely during my life.	O S . R N
7.	I feel emotionally satisfied in my relationship with people.	O S . R N

APPENDIX B

DEPRESSION ADJECTIVE CHECK LIST

FORMS A AND C

APPENDIX C

SPIRITUAL WELL-BEING SCALE

APPENDIX D

EXISTENTIAL WELL-BEING SUBSCALE

For each of the following statements circle the choice that best indicates the extent of your agreement or disagreement as it describes your personal experience:

SA = Strongly Agree D = Disagree

MA = Moderately Agree MD = Moderately Disagree

A = Agree SD = Strongly Disagree

1. I don't know who I am, where I came from, or where I'm going. SA MA A D MD SD
2. I feel that life is a positive experience. SA MA A D MD SD
3. I feel unsettled about my future. SA MA A D MD SD
4. I feel very fulfilled and satisfied with life. SA MA A D MD SD
5. I feel a sense of well-being about the direction my life is headed in. SA MA A D MD SD
6. I don't enjoy much about life. SA MA A D MD SD
7. I feel good about my future. SA MA A D MD SD
8. I feel that life is full of conflict and unhappiness. SA MA A D MD SD
9. Life doesn't have much meaning. SA MA A D MD SD
10. I believe there is some real purpose for my life. SA MA A D MD SD

APPENDIX E

DEMOGRAPHIC QUESTIONNAIRE

Please supply the following information:

1. How old are you? _____
2. Are you a male or female? _____
3. What is your current marital status? _____
4. How long have you lived at this facility? _____
5. Please rate your general health over the last three months on a scale of 1-10 with 1 being excellent and 10 being completely terrible. _____
6. Did you have a pet as a child? _____
7. If so, what kind(s)? _____
8. Did you own a pet(s) as an adult? _____
9. If so, what kind of pet(s)? _____
10. How long did you have the pet(s)? _____
11. Have there been any periods of time when you were without a pet as an adult? _____ How long? _____
12. Do you like the idea of having a pet dog at this facility? _____
13. How much time have you spent with the dog while it was here?

    _____ none at all

    _____ a little

    _____ a pretty good amount

    _____ a lot

14. How attached did you get to "Lady" while she was here?

_____ not at all

_____ a little

_____ more than a little but not a lot

_____ a lot but not completely

_____ very

APPENDIX F

IMMACULATE MARY HOME RESEARCH PROJECT PROTOCOL

PROTOCOL

PET THERAPY STUDY

PURPOSE: To study the human/companion animal bond popularly known as Pet Therapy and its effect on the mental health and attitudes of those exposed to regular interaction with pets.

MODEL: Mascot--one pet (dog), interacting with a group of people (4th floor residents and staff).

METHODOLOGY: 6-week Design Periods

BASELINE #1 - NO PET

1/1/85 - 2/10/85 Data collected - (patient questionnaires)

2/7/85 - 2/8/85 (Thursday-Friday)

TREATMENT #1 - PET

2/11/85 - 3/24/85 Pet brought to I.M.H. on 2/11/85 and remains at I.M.H. on a 24-hour basis until 3/24/85

Data collected 3/21/85 - 3/22/85

(Thursday-Friday)

BASELINE #2 - NO PET

3/25/85 - 5/5/85 3/25/85--Pet taken away from I.M.H. and remains away until 5/5/85.

Data collected 5/2/85 - 5/3/85

(Thursday-Friday)

TREATMENT #2 - PET

5/6/85 - 6/16/85	Pet re-introduced on 5/6/85 and remains at I.M.H. on a 24-hour basis until 6/16/85 Data collected 6/13/85 - 6/14/85 (Thursday-Friday)

SPECIFICS

2/1/85	Dog examined by vet at SPCA and received shots.

CALENDAR

2/6/85	During lunch on Wednesday, 4th floor social worker Eileen McLaughlin (EML) will announce Mark Reed's (MR) arrival on Thursday, 2/7/85 to administer questionnaires.
2/7/85 - 2/8/85	Mark Reed and Eileen McLaughlin visit patients and administer questionnaires. Mark will bring identifying dog tag and dog license.
2/8/85	During lunch Dr. Bergman and Eileen McLaughlin announce dog's arrival on Monday to 4th floor residents and staff.
2/11/85	Dog brought to I.M.H. by Helen Murrin (along with food, water bowl, collar and afghan sleeping mat).

3/1/85	Mark Reed takes dog to the SPCA vet for her second set of shots and returns dog to I.M.H. same day.
3/21/85 - 3/22/85	Mark Reed and Eileen McLaughlin visit patients and administer questionnaires to 4th floor residents.
3/25/85	Dog removed from I.M.H. and sent to John Kennedy Kennels in Warrington, Pa. to be boarded for six weeks.
3/25/85	Fourth floor residents are informed by Eileen McLaughlin and Dr. Herbert Bergman that the dog will be away from I.M.H. for an indefinite period.
5/2/85 - 5/3/85	Mark Reed and Eileen McLaughlin administer questionnaires to 4th floor residents.
5/6/85	Dog brought back to I.M.H.--residents and staff informed at lunch of dog's return.
6/13/85 - 6/14/85	Mark Reed and Eileen McLaughlin administer questionnaires to 4th floor residents.
6/16/85	End of experimental period.

DOG CARE

FEEDINGS: Activities personnel will feed the dog at about 4:30 p.m. each day, Monday through Saturday. Nursing staff will feed the dog on Sunday. Food will be kept on the 4th floor.

WALKING: Guard will walk the dog each shift.

SUPERVISION: Will be by the Nursing Supervisor on each shift.

MATERIALS: Brush, leash, towel, etc. will be kept in a box at the North Wing nurses' station.

RULES FOR DOG

1. Not allowed in Dining Room or Kitchen.
2. Free to roam on 4th floor only.
3. Dog can not go off 4th floor to other areas unless accompanied by aide or activities staff.
4. NO resident is allowed to take the dog off the floor.
5. Dog is to sleep at night in the center TV lounge--NOT allowed to sleep in patients' rooms at night.
6. Dog is to be fed in center TV lounge.
7. Dog is not allowed in shower rooms while residents are being bathed.
8. Dog is not allowed in residents' rooms while care/treatments are being done.

9. Employees/residents are not to feed dog table scraps, etc.

Mark Reed will be at I.M.H. three times each week: Tuesday and Thursday evenings and Saturday during the day. He will be available by phone at the following numbers:

HOME: 623-8919 WORK: 296-6928

APPENDIX G

INSTRUCTIONS GIVEN RESIDENTS FOR ABBREVIATED LONELINESS SCALE

This questionnaire, as you can see, consists of just seven statements. I want to find out how often you felt that way over the last 6 weeks; that is, since (January 1, February 11, March 25, depending on what data collection segment it was). The four choices are "often," "sometimes," "rarely," and "never." Okay. I'll read them out loud and you follow along. Ready? Number one, ... How often did you feel like that in the last 6 weeks: "often," "sometimes," "rarely," or "never"?

APPENDIX H

INSTRUCTIONS GIVEN RESIDENTS FOR DEPRESSION ADJECTIVE CHECK LISTS

This questionnaire is simply a list of 32 words that describe feelings or emotions a person might experience. I will say the words slowly out loud to you while you follow along on your copy. If the word I say describes how you have been feeling most of the time over the past 6 weeks, say "Yes." If it doesn't describe how you have been feeling, say "No." We'll go through the list that way until all 32 words have been said. If you are not sure of the meaning of a word, please ask me, okay? Okay. Let's begin with "_____." In the last 6 weeks, that is, since (January 1, February 11, March 25, depending on what data collection segment it was), have you generally felt "_____"? (This process was repeated for words 2-32, although once it was clear the resident understood the instructions the process was shortened to only saying the word.)

APPENDIX I

COPY OF MEMO FROM ASSISTANT DIRECTOR OF NURSING DETAILING PERCEIVED PROBLEMS WITH MASCOT

Immaculate Mary Home
HOLME CIRCLE AND WELSH ROAD
PHILADELPHIA, PENNSYLVANIA 19136
(215) 335-2100

May 14, 1985

ATTENTION: DR. CORDA MARIE

There have been increasing problems with "LADY" since her return. The care of and the montoring of "LADY'S behavior is falling increasingly to nursing personell especially 7-3:30, which is a busy shift.

Some of the problems we have encountered are:

1) On 7-3 and 3-11 "LADY" continues to stay most of her time under the chart desk and spends little time with residents. Having had a dog of my own for 13 years this leads me to believe "LADY" is looking for a non-threating area and a place of security.

2) "LADY" has begun to bark, not only at males but also at females. She has gone from barking to actually growling and advancing toward some people. This was especially true over the weekend (5/12/85) when she had to be removed from the floor twice.

3) Residents on the 4th floor are not that interested in having a dog.

4) On 3-11 shift and weekends, which are especially busy for nursing, Bob, (the gurard) states he can not help with walking the dog due to physical problems. This places the total burden of LADY'S care on nursing staff when he is on duty.

5) If "LADY" has an accident - nursing has been told that this is their problem. E.H.S. does not want to help clean up after the dog. If we are to have a pet I feel all Departments must accept some responsibility for its care.

6) I feel we are being unfair to "LADY." As one of the charge nurses put it, "she needs a family to love her and to love in return." The general consensus of opinion of nursing staff is that "LADY" is not happy here and deserves better than we can offer her.

After speaking with staff, reviewing what has been reported to me, and my own observations, I am recommending that "LADY" be found a good home and removed from the facility.

Elenore Myers, R.N. ADON

APPENDIX J

INSTRUCTIONS GIVEN RESIDENTS FOR THE EXISTENTIAL WELL-BEING SCALE

This questionnaire consists of just 10 statements. The statements have to do with how you feel about your life. I will read each statement to you. All you have to do is tell me whether you agree or disagree with the statement and how strongly you agree or disagree. The six possible responses are: disagree, agree, moderately agree, moderately disagree, strongly disagree, and strongly agree. I will repeat each of the choices for you after each statement. Any questions? Let's begin.

APPENDIX K

DEFINITIONS OF TERMS

Definitions of Terms

1. Human/Companion Animal Bond—the term used to refer to the relationship between people and their pets.
2. Mascot Model of the Human/Companion Animal Bond—refers to the use of one animal for the benefit and enjoyment of a group of people. The animal, in an institutional setting, may be owned and primarily cared for by the institution although residents may participate in its care. Where appropriate, and within certain limits, the animal is free to roam the facility to interact with any and all interested residents.
3. Pet-Facilitated Psychotherapy—refers to the intervention of providing pet animals with targeted populations in order to bring about psychosocial benefits. The most common name for this intervention is pet therapy.
4. Existential Well-Being—an attitude involving a sense of meaning and purpose in life apart from any particular religious element (no reference to God). Existential Well-Being is measured by the EWB subscale of the Spiritual Well-Being Scale.

APPENDIX I

CURRICULUM VITAE

VITA

Mark Edward Reed
Tel: 215/623-8919

25-8 Valley Road
Drexel Hill, PA 19026

EDUCATION

Doctoral Candidate in Clinical Psychology at Western Conservative Baptist Seminary, Portland, Oregon. Dissertation to be completed and Ph.D. degree conferred by the end of the fall semester 1986. Proposed dissertation title: The mascot model of human/companion animal interaction: Its effects on levels of loneliness and depression among residents of a nursing home.

M.A. in Clinical Psychology (6/81), Western Conservative Baptist Seminary, Portland, OR, 1979-1981.

B.A. in Psychology (6/75), Rutgers College, New Brunswick, NJ, 1973-1975.

Undergraduate Coursework: Indiana State University, Terre Haute, IN, 1970-1972.

SUPERVISED INTERNSHIPS

The Devereux Foundation (APA Approved), Devon, PA, Sept. 1984 - Aug. 1985, full-time. Training took place on the Mapleton campus at Hedges Treatment Center (residential) and Mapleton Psychiatric Institute (inpatient) units. Provided individual and group psychotherapy for severely disturbed adolescents, involving a wide range of DSM-III diagnoses, with schizophrenic diagnoses predominant. Administered and wrote weekly admission psychological evaluations which emphasized projective techniques, particularly the Rorschach. Wrote treatment plans and progress notes. Was assigned on-call responsibilities. Participated in clinical team meetings, intake admission meetings, and consultations with teachers and child care workers. Supervisors: Gunther Abraham, Ph.D. and Pamela Pressley Abraham, Psy.D.

Clackamas County Family Court Services, Oregon City, OR, Oct. 1983 - June 1984, 16 hours/week. Conducted intake interviews and provided short-term marriage and divorce counseling for voluntary couples. The focus was on mediation of agreements, conflict management, and the development of cooperative parental relationships in marriage or divorce. Also participated in ongoing mediation research. Supervisor: Stan Cohen, Ph.D., certified by AAMFT.

PROFESSIONAL EXPERIENCE

Psychologist, Devereux Foundation, Devon, PA, Sept. 1985 - June 1986, part-time. Provided individual school adjustment counseling and therapy to Pennsylvania day school students at Devereux's Hall/Manor High School as part of the P.A.S.E. (Prevocational, Affective, Social Education) program. Conducted monthly parent support meetings. Evaluated and interviewed prospective candidates for day school placement, making recommendations for acceptance or nonacceptance. Supervisor: Ellen Green, M.A.

Consulting Psychologist for the private practice of Drs. William and Victoria Neely, West Chester, PA, Sept. 1985 - Present, part-time. Provide complete psychological testing and written evaluations for children and adolescents referred, primarily, for alleged sexual or physical abuse. Supervisor: Victoria Petro Neely, Ph.D.

SUPERVISED PRACTICUM EXPERIENCE

St. Mary's Home For Boys, Beaverton, OR, April 1983 - June 1983, 12 hours/week. Developed and implemented Anxiety Management Training program for use with emotionally disturbed children. Administered and wrote assessments of intellectual and emotional functioning using the WISC-R, TAT, and Rorschach. Participated in intake and exit staffings, case conferences, treatment plan meetings, and family therapy. Supervisor: Loyal Marsh, Ph.D.

Dammasch State Hospital, Wilsonville, OR., Jan. 1983 - March 1983, 16 hours/week. Interviewed patients for inclusion in, and co-conducted group therapy with supervising psychologist. Provided individual ego-supportive therapy for two of the higher functioning patients. Wrote three psychological reports which utilized data from the MMPI. Participated in case conferences and multidisciplinary treatment teams. Supervisor: Michael Christenson, Ph.D.

APPENDIX M

RAW DATA

Key of Raw Data by Columns

1 = Subject

2 = Sex

3 = Baseline #1 ABLS

4 = Baseline #1 DACL

5 = Treatment ABLS

6 = Treatment DACL

7 = Baseline #2 ABLS

8 = Baseline #2 DACL

9 = EWB

10 = Years living in Nursing Home

11 = Wants Mascot Dog in Facility

12 = Time Spent With Mascot Dog

13 = Attachment to Mascot Dog

14 = Owned Pet as a Child

15 = Owned Pet as an Adult

01,1,11,04,17,08,13,06,42,7.0,2,1,1,1,1,
02,1,27,21,26,22,24,26,26,5.0,2,1,1,1,2,
03,2,15,10,15,14,11,03,46,1.5,2,2,1,1,1,
04,2,21,12,16,07,24,22,37,5.0,1,2,1,1,1,
05,1,12,15,18,15,18,21,42,9.0,1,2,1,1,1,
06,1,21,11,16,06,21,21,31,2.0,2,1,1,1,2,
07,1,12,16,11,10,12,02,43,1.0,1,2,1,1,1,
08,2,1. 06,12,04,11,02,54,2.0,2,1,1,1,2,
09,1,16,05,11,05,15,03,36,3.0,1,2,2,1,2,
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11,1,12,14,22,14,13,10,40,9.0,2,1,1,1,1,
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45,1,10,08,08,10,10,04,46,6.0,2,1,1,2,2,
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47,1,12,14,11,06,20,06,42,2.5,2,2,1,1,1,
48,1,10,05,12,12,09,09,41,9.5,2,3,2,1,1,