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Effects Of Pet Facilitation On Social Interactions And Cardiovascular Responses Among Institutionalized Elderly

Katherine Hubbard Burkhalter

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Effects of Pet Facilitation on Social Interactions and Cardiovascular Responses Among Institutionalized Elderly

by

Katherine Hubbard Burkhalter

A Thesis Submitted to the Faculty of Mississippi University for Women in Partial Fulfillment of the Requirements for the Degree of Master of Science in Nursing in the Division of Nursing Mississippi University for Women

August, 1985
Effects of Pet Facilitation on Social Interactions and Cardiovascular Responses Among Institutionalized Elderly

by

Katherine Hubbard Burkhalter

[Signatures]

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Dedication

This study is dedicated to the institutionalized elderly who participated so graciously in this research during the Spring of 1985. They offered a new surge of love and encouragement.
Acknowledgments

Gratitude must be expressed to the writer's major professor, Phyllis Werner, EdD for guidance, interest, encouragement, and scholarly tutorage. Also, counsel and helpful criticisms by other committee members, Rayma Skinner, PhD, B. J. Landis, Assistant Professor, and Mari Pat Curtis, Assistant Professor, are thoughtfully acknowledged. The graduate faculty made the work of this research an enjoyable experience.

Appreciative credits are due to several individuals who made significant contributions to the evolution and final development of this thesis. I wish to provide acknowledgments to the following individuals who contributed a great deal of time and effort to the quasi-experimental treatments:

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Betty Snow, LPN and ADN student at Shelton State Community College, who counted and recorded all heart rates.

Jerry Tidmore, DVM, who examined the rabbits and provided the Pet Certificate to the Alabama State Health Department.

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Abstract

This quasi-experimental study was designed to determine the psychosocial and physiological effects of pet-facilitated therapy upon a group of institutionalized elderly. The study population was comprised of 16 institutionalized elderly who were (a) oriented to person, place, and time; (b) mobile; and (c) physically able and willing to hold a live pet rabbit during 30 minutes of four group sessions. Researcher-designed tools and protocols were used in the study to record blood pressures, heart rates, and the number of social interactions during each group session.

The subjects were randomly assigned to an experimental or a control group. Each group had eight participating subjects. The experimental group held an assigned live pet rabbit during each group session.

Mean systolic and diastolic blood pressures, heart rates, and social interaction ratings were subjected to the t test. Values obtained led the researcher to reject the null hypothesis concerning the social interactions but fail to reject the null hypothesis concerning the cardiovascular responses. The researcher concluded from the data that
pet-facilitated therapy had no effect on cardiovascular responses. However, pet-facilitated therapy had a significant positive effect upon social interactions.
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Chapter I

The Research Problem

The resident population of the United States, 65 years of age or older, in 1979 was reported as more than 24.5 million people (United States Department of Commerce, 1981). Today, more than 11% of the population (nearly 26 million) are older than 65. By 2030, there will be about 55 million persons older than 65, constituting 20% of the total population. Those older than 75 will number as many as those older than 65 today, and the 85-and-older group will double in the next 75 years (United States Department of Commerce, 1981).

Today 9% of the elderly population use long-term care facilities at some time in a given calendar year in the United States. It has been predicted this trend will continue. The majority of long-term care facility use in the United States is for elderly with complicated or terminal medical conditions. The use of long-term care facilities has occurred because American society, the health care system, and family structures have changed faster than families can understand and plan for the care of their elderly members (Bustad, 1980).
The elderly who are placed in long-term care facilities with complicated or terminal medical conditions suffer the loss of rich and varied experiences which previously had been provided by and shared with family, friends, and neighbors. Such a life-style change alters the impact of social participation on the morale and life satisfaction of the elderly, thus potentiating social deficits and cardiovascular diseases (Friedmann, Katcher, Lynch, & Thomas, 1980; Katcher, Friedmann, & Beck, 1983). With the increasing number of institutionalized elderly and major physiological and psychosocial risk factors increasing susceptibility to cardiovascular disease and social maladaptive functioning, the health care system is faced with an increased demand for geriatric nursing services.

If services are not provided, the consequences can be dire. At this time, the mortality rate among elderly persons in nursing homes is considerably greater than in other care settings. Cardiovascular disease is the leading cause of death in this group (Friedmann et al., 1980). Mental health and psychosocial deficits which often occur with institutionalization produce general overall poor health status which in turn increases the risk for cardiovascular disease. Traditional social group therapies and the medical model approach for correcting social deficits and cardiovascular diseases of the institutionalized elderly have not been totally effective (Robb, 1983; Thompson,
Kennedy, & Igor, 1983). One noninvasive and inexpensive way to intervene by alleviating the psychosocial deficits arising from institutionalization and decreasing the impact of such deficits on cardiovascular health problems is pet-facilitated therapy.

Elderly in nursing homes have social needs which are, for the most part, unmet by the gerontic care providers. Pet-facilitated therapy may be one innovative type of care provided for better meeting the physical and social needs of the institutionalized elderly (Robb & Stegman, 1983). Utilizing theories of pet-facilitated therapy, care providers may shape programs which will provide an opportunity for human/animal interaction. Recognizing that animals have a significant addition to the social world of the institutionalized elderly, the gerontic care provider may include pet-facilitated therapy to meet the geriatric social and physical needs (Ory & Goldberg, 1983). Lines of health defense may be strengthened by manipulating the environment through pet-facilitated group interactions. Pet therapy is well within the realm of nursing since nursing focuses on man as an individual, family, or society and assists man to attain a maximal level of health through the use of purposeful interventions aimed toward strengthening adaptive mechanisms or decreasing stress factors (Neuman, 1982).
Pet-facilitated therapy may provide a means by which the elderly can strengthen their defenses to attain a maximal harmony and balance between their internal and external environments. Pets also provide the elderly with a desire to survive and function as a transitional object when teaching, cuddling, affection, and unconditional acceptance are indicated (Bustad, 1980; Levinson, 1961, 1969, & 1970). Strengthened defenses may enable the elderly to improve their social interactions, thus reducing their stress level, which in turn may reduce blood pressures and heart rates (Neuman, 1982; Venable, 1974).

Pets can provide a source of constancy in the lives of the elderly, providing them with a rationale to play, laugh, and exercise. Pets also provide the elderly with a sense of feeling safe, therefore, partially meeting their safety needs (Beck & Katcher, 1983).

Even though much attention has been called to the smiling faces of the institutionalized elderly holding a pet, well designed and experimentally controlled studies with subject populations of sufficient size to permit valid statistical interpretation is a critical need (Beck & Katcher, 1984). The institutionalized elderly are prime subjects for conducting such research. The Geriatric Nurse Clinician (GNC) must take a more vigorous role in improving the care of the institutionalized aged. By documenting pet-facilitated therapy as an intervention which builds stronger
lines of defenses and provides sensitive and imaginative recreational and social programs for the institutionalized elderly, the GNC can improve the quality of geriatric care.

This study may serve as a template for the GNC to interface gerontic nursing programs while programming a higher quality of life and enjoyment for the institutionalized elderly. By recognition of the effects pets have on the elderly, the GNC may design nursing care plans to assist the elderly with life-style alterations for living in long-term care facilities. Pets could become accessible resources and be incorporated into long-term nursing care. Therefore, by using rationales based on the researched therapeutic effects of pets, the GNC may integrate pets into gerontic nursing practice. The GNC may also advance the aims of pet facilitation by providing education and consultation to pet facilitation programs.

Interest for conducting this study has been motivated from recent observations of the difficulties health care providers have in meeting the psychological, sociological, physiological, and spiritual health needs among residents of several local long-term nursing care facilities in Tuscaloosa, Alabama. Isolation due to loneliness and depression continues to plague residents and care providers in long-term care facilities despite all the programmed recreational and social activities. The health care
providers continue to remain frustrated while planning and implementing programs to effect positive physiological and psychosocial outcomes in residential settings. Health care pioneers have used pets in interventions designed to improve the physical, mental, and social health of selected institutionalized elderly (Baun, Bergstrom, Langston, & Thomas, 1983), but there is very little research to indicate the effects of pets on the health of the institutionalized elderly. Therefore, the purpose of this study is to research the effects of pet-facilitated therapy on social interactions and cardiovascular responses among selected institutionalized elderly.

Research Questions

The major questions to be answered by this research include:

1. Is there a significant difference between the social interactions of institutionalized elderly subjects holding a live pet rabbit and the social interactions of institutionalized elderly subjects not holding a live pet rabbit?

2. Is there a significant difference between the cardiovascular responses of institutionalized elderly subjects holding a live pet rabbit and the cardiovascular responses of institutionalized elderly subjects not holding a live pet rabbit?
Chapter II

Theoretical Framework

The theoretical framework of this study was derived from the major concepts as presented by Neuman (1982). In the Neuman model, man is looked upon as an open system in contact with his environment. Man as an open system strives to maintain varying degrees of harmony and balance between the internal and external environment. Normal lines of defense protect the individual and represent his state of wellness and his usual level of adaptation. These normal lines of defense include physiological, psychological, sociocultural, and developmental variables. In Neuman's model, the degree to which an individual is able to build defense against possible reactions to a stressor or combination of stressors is referred to as a flexible line of defense.

Health is viewed as a continuum with movement between a state of optimum well-being and degrees of deviation. The health of man is dependent upon both the system as a whole and the ability of the system to interact with stressors. The impact a stressor has on the system of man depends on the intensity and duration of the stressor, as well as the significance the stressors has to the individual system.
Dependent upon man's reactions to stressors, primary, secondary, and tertiary prevention may be needed, so that man may either return to or maintain optimum well-being (Fawcett, 1984).

Neuman defines health or wellness as the condition in which all parts and subparts (variables) are in harmony with the whole of man. Disharmony reduces the wellness state. Internal and external environmental forces influence man at all times. A tendency exists in any system to maintain a steady state of balance among the various disrupting stressors within or upon it (Neuman, 1982).

Nursing focuses on man as an individual, family, or society. The goal of nursing is to assist man to attain a maximal level of health through the use of purposeful interventions aimed toward strengthening adaptive mechanisms or decreasing stress factors.

In this study, the institutionalized elderly will be the system of interest. The stressor under study is the decreased social interaction of institutionalization and its resultant detrimental impact on the cardiovascular system. To decrease the stress of reduced social interaction, the researcher proposed to purposefully intervene with pet-facilitated therapy. Both the normal and flexible lines of defense will be strengthened through pet-facilitated group sessions which will assist the selected institutionalized elderly to deal with physiological and psychosocial
stressors in order to achieve a higher level of harmony. This higher level of harmony will allow the institutionalized elderly to attain and maintain system stability.

This study experimentally tested the results of strengthening lines of defense through pet-facilitated therapy. The purpose of the study was to provide the Geriatric Nurse Clinician (GNC) with necessary information to identify, plan, implement, and evaluate therapy programs for teaching geriatric institutionalized clients noninvasive methods of reducing cardiovascular responses and improving social interactions through pet-facilitated group sessions.
Chapter III

Hypotheses

Theoretical Null Hypotheses

There will be no significant difference between the social interactions of institutionalized elderly subjects holding a live pet rabbit and the social interactions of institutionalized elderly subjects not holding a live pet rabbit.

There will be no significant difference between the cardiovascular responses of institutionalized elderly subjects holding a live pet rabbit and the cardiovascular responses of institutionalized elderly subjects not holding a live pet rabbit.

Theoretical Definitions

1. Significant difference: Using the t test, the level of significance is 0.05.

2. Social interactions: social behavior as measured by the Burkhalter Social Interaction Tool.

3. Institutionalized elderly: nursing home elderly residents who are oriented, mobile, and physically able and willing to hold a live pet rabbit.
4. **Live pet rabbit**: a healthy 4-week-old rabbit meeting the pet protocol of the participating agency.

5. **Cardiovascular responses**: as measured by blood pressure readings and heart rate determinations of subjects.

**Operational Hypotheses**

When institutionalized residents holding a live pet rabbit during 30-minute group sessions are evaluated using the Burkhalter Social Interaction Tool and the results are compared using the \( t \) test to the scores of institutionalized residents not holding a rabbit, there will be no difference at the .05 level.

When institutionalized residents holding a live pet rabbit during 30-minute group sessions are evaluated using the cardiovascular responses and the results are compared using the \( t \) test to the scores of institutionalized residents not holding a rabbit, there will be no difference at the .05 level.
Chapter IV

Review of the Literature

This selected review of the literature includes studies associated with animal-facilitated therapy with the elderly. The review of the literature will synthesize and summarize some of the documented benefits and problems of animal-facilitated therapy.

A copious amount of literature has been written on the therapeutic uses of animals in the behavioral sciences, especially in gerontology (Katcher & Beck, 1983). The first recorded use of animals in therapy was at the York Retreat in England. This retreat was founded in 1792 by the Society of Friends, a Quaker group. William Luke began his effort in response to the inhumane methods of the lunatic asylums of that day, by utilizing animals to help restore mental health (Jones, 1955). This nonpunitive treatment system, emphasizing acceptance and the natural surroundings of a "living environment," formed the basis of humane treatment standards which are still applicable today.

It was not until 1942 that organized activity in animal-facilitated therapy began in the United States. The Pawling Army Air Force Convalescent Hospital in Pawling, New York, served veterans convalescing from battle injuries or
emotional trauma and included a working farm, with livestock, horses, and poultry. The area also included extensive park land, where one could encounter animals in a natural setting. The animals were used to divert attention to constructive therapy efforts. This article reported that animals did have a positive effect upon the healing process, but there was no actual documentation of the effects of the animals on the convalescing veterans (Bustad, 1980).

Psychologist Levinson (1961, 1969, & 1970) was the first to report in detail the therapeutic benefits of contact with pets for children and adults in both inpatient and outpatient settings. Levinson advocated the use of pets for cases in which cuddling, affection, and unconditional acceptance were indicated. He believed that pets function as a transitional object, socially and interpersonally.

Levinson (1961, 1969, & 1970) built the use of companion animals into a self-conscious diagnostic and therapeutic technique. When he presented the results of using a dog as a co-therapist, there was a good deal of resistance to the concept. Since then many studies have indicated that direct contact with pets can be rewarding and restorative for those beset with troubles.

Since Levinson's studies, considerable momentum has developed in the adjunctive use of animals in therapy programs all over the world. It is apparent that pet therapy evolution and development will continue until
research necessary to document the benefits and hazards is completed (Beck & Katcher, 1984).

Presently, Americans own more than 1.2 trillion pets--dogs, cats, birds, horses, small mammals, reptiles, and fish. They spend more than $4 billion a year to feed the menagerie and another $4 billion on accessories such as leashes, collars, and cages. Yet, the nature of the relationship of people to their pets and the benefits that people derive from pet ownership are not clearly evidenced through research (Beck & Katcher, 1983).

Beck and Katcher (1983) define the word pet as being derived from an agricultural term for an animal reared or mothered by hand, implying that a pet is a child within the family. The use of the word as a verb meaning "to stroke, touch gently, or fondle" is derived from the concept that touch necessarily accompanies any mothering. Touch is an essential part of a relationship. Without touch, animal and human children will die or grow up stunted and emotionally deformed. Because petting and touching animals is such a simple pleasure, it is taken for granted.

Research reveals that pets have a positive influence on health, but it does not tell us how pets exert this effect (Beck & Katcher, 1983). These writers list nine ways pets can increase their owner's health and resistance to disease. These ways are:

1. Pets provide companionship.
2. Pets give us something to care for.
3. Pets provide pleasurable activity.
4. Pets are a source of constancy in our changing lives.
5. Pets make us feel safe.
6. Pets return us to play and laughter.
7. Pets are a stimulus to exercise.
8. Pets comfort with touch.
9. Pets are pleasurable to watch.

Those who cope best with old age are those who continue the daily acts of caring, especially the most satisfying acts—care rendered to living things, such as pets and gardens. If the animals people live with can have such therapeutic effect on health, how could the medical profession have ignored the value of animal companions for so long (Beck & Katcher, 1983).

Data on pet therapy have been collected through anecdotal reports and case histories, but few have had experimental controls capable of being generalized to the community setting. Corson and Corson (1978) evaluated pet-facilitated therapy systematically. Fifty emotionally disturbed patients indicated significant social interaction responses after the introduction of dogs on the ward. The responses were measured by recording patient-animal interactions and video recordings showing decreased intervals between response times to the animal. In
addition, five of the patients were studied in great depth and were described by Corson and Corson as greatly improved. The results of the study indicated that the use of dogs with emotionally disturbed individuals improved social interac-tions and psychological well-being.

Brickel (1979) assessed the therapeutic role of cat mascots on a hospital ward with 19 total-care elderly patients. The cat mascots were seen as augmenting ongoing staff efforts to elicit patient responsiveness through verbal interaction and reality therapy. As nonjudgmental companions, the mascots represented a catalyst and outlet for affection. The mascots allowed the patients to love and be loved, thus giving the patients and animals a most pleasurable feeling. In addition, the actual presence of the cats made the ward more homelike. The patients had someone to care for and translated this caring into specific daily activities. The tactile communication helped patients stay in touch with reality.

However, Robb and Stegman (1983) conducted a retrospective study measuring selected health-related effects with companion animals. The study sample consisted of 56 predominantly elderly veterans randomly selected from two strata—clients who did and did not live with pets—that comprised the census of a home care program. No significant differences were observed. These writers attributed the failure to corroborate earlier findings to (a) the paucity
of research-based information about human-companion animal relations required to develop a conceptual framework; (b) problems inherent in available measures for variables such as morale, control, mental status, and socialization; (c) consent procedures that serve to convert the sample from random to volunteer; and (d) the use of an essentially male population. Robb and Stegman (1983) also suggest the need for exploratory and descriptive studies before more controlled investigations can be justified.

Perhaps the most frequently cited experimental study said to document the ability of pets to benefit health and morale was Mugford and M'Comisky's (1975) trial placement of pet birds (budgerigars) with elderly subjects living in their own homes. The design of the study assigned subjects to a plant or bird group, balanced so that one-half of the subjects in each group had a television set in the home. There was another group that was observed but given neither a plant nor a bird. The subjects were interviewed with a 22-item questionnaire before bird placement and again after five months.

The number of subjects was insufficient for statistical comparison, but the investigators used individual questionnaire responses, instead of subjects, as independent observations. Mugford and M'Comisky's (1975) methodology generates spurious "significant differences" between experimental and control conditions indicating that the pet birds
had a positive influence on health and morale. The authors were, however, very circumspect in their conclusions. They reported only that the presence of budgerigars generally had a beneficial effect on the social and psychosocial conditions of the old people in the experiment. Others have cited the study as demonstrating that the presence of the birds made a significant improvement in the subject's health and morale (Brickel, 1979; Bustad, 1980).

Pet-facilitated studies have generally been conducted in clinical settings rather than in the subject's natural environment (Katcher & Beck, 1983; Siegel, 1962). In the few studies conducted in home settings, research workers demonstrated talking to and petting dogs lowered blood pressure below resting values whereas talking with other human beings generally raised blood pressure (Beck & Katcher, 1983; Katcher & Beck, 1983). In addition, studies with children in a home environment indicated that the mere presence of a dog alone resulted in lower blood pressure. These authors hypothesized that given positive desire for a pet, financial resources, and a positive environment, having a pet in the home would be a health enhancement to older people (Katcher & Beck, 1983).

In 1980, Friedman et al. reported that of the 64 men and 28 women admitted to the University of Maryland Hospital with a diagnosis of angina pectoris or myocardial infarction, 53 patients owned pets and 39 did not. Within
one year of admission to the intensive care unit, 11 of the 39 patients who did not own pets died, whereas only 3 of the 53 pet owners died. Extensive psychosocial data were collected as a part of these patient profiles. Factors such as environmental stress, extent of social contact, and economic status were examined. Pet ownership was the single most common factor to surviving patients.

Today, the effects of the environment on the elderly have been well documented. Based on the physical and mental competence of the individual, older persons may be reinforced positively or negatively by variables within their environment. Robb, Boyd, and Pristash (1980) assessed the effects of three environmental stimuli (a wine bottle, a plant, and a puppy) on the social behavior of chronically ill aged people residing in a veterans' hospital. Of the three stimulus objects, the caged puppy produced the most response in social behavior.

There have been some studies of animal-facilitated group therapy with psychiatric inpatients that had essentially no positive results. Thompson et al. (1983) used 10 experimental patients who were exposed to a variety of animals and 10 control patients. Standardized evaluation forms were completed by two independent raters who were blind to the treatment condition. When all subjects were included in the analysis, there were no significant differences between experimental and control patients. Robb
(1983) conducted a study of elderly patients in a long-term care center to measure selected health-related effects of humans resulting from association with companion animals. There were three groups: (a) patients exposed to dogs and their handlers for six weeks, (b) patients treated without pets, and (c) a control group. There were no statistically significant differences among the three groups on any of the health-related measures used.

Positive findings indicating an association between pets and better health frequently are quoted as justification for using pets therapeutically. However, survey studies of health and animal ownership reveal no consistent evidence that the health of pet owners is better than the health of those who do not own pets. Ory and Goldberg (1983) surveyed 1,500 older women in a rural Maryland county and found no overall relationship between pet ownership, health, and morale. Examination of other social variables indicate that in subjects with relatively high incomes, attachment to a pet is associated with increased morale. In subjects with relatively low incomes, however, pet owners have lower morale scores than subjects without pets.

Ory and Goldberg's (1983) data are partially confirmed by two other studies. The reports correlating health and pet ownership in Yolo and El Dorado Counties in California provide equivocal results. Some health problems are more frequent in homes without pets and others more frequent in
families with pets. Significantly, families with the combination of low income and pet ownership have higher prevalences of "frequent headache" in the 16- to 64-year-old group and "frequent sore throat" among children than low income families without pets (Franti, Kraus, & Borhani, 1974, 1980).

Lago, Knight, and Connell (1983) analyzed the responses of 137 interested clients of senior citizen centers and members of senior groups in a rural area of Pennsylvania. These authors found no differences between current pet owners, former owners, and those who never owned pets in measures of social functioning, functional health, or morale. Robb (1983) examined the same variables in patients in a veterans' hospital home-care program. There were 37 patients in the initial study and results indicated that among the different groups there were no significant differences in health, but morale scores were significantly higher among pet owners. When she enlarged her study group to 56, she found no differences among any measure between patients with and without pets (Robb, 1983).

To learn more about the value of pets for improving institutional environments, pet programs should incorporate several features into their research designs or evaluation procedures (Beck & Katcher, 1984). The first feature these writers discuss includes the need to account for expectancy and novelty. Both expectancy and novelty can powerfully
alter the human response to any stimuli. In general, pet projects are conducted under conditions of high expectancy, that is, with investigative crews communicating the definite expectation that pets will have powerful effects. This is precisely the kind of communication that generates placebo effects. The nonspecific improvement of morale associated with being given special attention is called the Hawthorne Effect (Roethlisberger & Dickson, 1939). Moreover, the judgments about the program are made during the time period when the pets are highly novel intrusions into the institution. With the exception of Robb (1983), investigators fail to test for changes in response to the pet over time.

Use of more than smiling faces as a measure is the second feature Beck and Katcher (1984) suggest be included into research designs for studying pet therapy. The tendency to equate smiling faces with therapeutic improvement has established a new visual cliche: the picture of a smiling grandparent clutching a loving animal. There is no doubt that animal visitation can make some older people smile; however, those smiles also can be elicited by other kinds of activities and events that do not have the costs of animal programs (Carmack, 1984; Horn & Meer, 1984; Michaels, 1982; Silden, 1983).

The third feature Beck and Katcher (1984) address in pet-facilitated research is the use of adequate controls. Since there is no consistent evidence that pets positively
influence health, the use of control procedures is both heuristically and ethically justified. However, the most serious deficit in the literature is the lack of adequately controlled studies (Beck & Katcher, 1984). These writers suggest that there are two types of control groups that need to be studied. One is the simple nonintervention control in which the patients who are provided with animal contact are contrasted with patients whose institutional regimen remains unchanged. The second, more powerful, procedure is a comparison of the influence of pets with some other procedure that augments social contact. This second type of control provides evidence about the relative effectiveness of pet therapy.

The fourth feature outlined by Beck and Katcher (1984) includes objective evaluation of research data. They report the failure to use controls is associated with a tendency to interpret data defensively. Such interpretation occurs because negative statistical tests are disregarded, nonsignificant trends in the data that support the value of pets are reported, statistical tests inappropriate for the sample sizes are used, one-tailed statistical tests to avoid reporting negative results are used, and positive findings on only a part of the original sample are reported. The tendency toward defensive evaluation of pet therapy extends to the way in which the literature is cited in the research publications. Beck and Katcher (1984)
report that there is little acknowledgement of the vast literature that discusses animal bites and diseases associated with pet-facilitated therapy. The possible conflict that arises between what is known about the association of animal abuse and the criminal personality is also not discussed in reports of animal placement programs in prisons and other specialized institutions. All of these inappropriate judgments in the use of evaluative data could be avoided if investigators would ask the question "Do pets have a therapeutic effect?" rather than "How can I demonstrate the therapeutic effect of pets?"

The final feature discussed by Beck and Katcher (1984) which needs to be included into research designs to learn more about the value of pets for improving institutional environments includes an analysis of costs and benefits. These writers report that the widespread enthusiasm about pet-facilitated therapy has all but obscured any serious questioning of its financial costs and possible risks. Part of the popularity of these programs is their lack of cost to the host institution. Almost all of the animals brought to various institutions for the elderly have been from animal shelters. Most humane societies agree that the programs would not exist if the institutions were expected to carry the actual costs. At the moment, there are no reported financial accountings for any of the programs to use as a guide for computing the cost of a pet program relative to
other kinds of therapy. There is a similar lack of accounting of risk. The reporting of existing programs is so fragmentary that there is no information about expected rates for bites, accidents, or zoonotic disease (Beck & Katcher, 1984).

Today, the literature which is being published on pet-facilitated therapy indicates more scientific investigations with the use of controls in the studies so that pet therapy can be evaluated in comparison to existing therapies. Beck and Katcher (1984) researched hypotheses that pets have therapeutic value, and focused on the kinds of research strategies used to test these hypotheses in order to determine if the strategies fit criteria usually used to answer other scientific and medical questions. These writers also considered the context surrounding research in the therapeutic value of pets to consider how the interested social parties, the humane societies, foundations concerned with humane treatment of animals, the pet industry, and the press influence the gathering and dissemination of research information.

Definitive experiments conducted on the therapeutic value of pets in which control groups have been used are few. Some results of studies show that pets have either no impact or produced relatively small therapeutic gains (Corson & Corson, 1978; Lawton, Moss, & Moles, 1984). Other studies reveal dramatic therapeutic results similar to those
noted in descriptive isolated case reports (Baun et al., 1983; Carmack, 1984; Curtis, 1982; Doyle, 1975; Frank, 1984; Horn & Meer, 1984; Meer, 1984; Michaels, 1982; Muschel, 1984; Silden, 1983).

In conclusion, authorities in the field suggest that there is a critical need for well-designed and controlled studies with subject populations of sufficient size to permit statistical interpretation of the data. But studies must contain an active control, i.e., comparison with another kind of therapy, so that pet therapy can be evaluated in comparison to existing therapies (Beck & Katcher, 1984).

Pets will not be the solution for the problems associated with aging. However, there are certain areas in which pets might be beneficial to some older individuals. The specific roles pets can have in the lives of older people include (a) companionship, (b) something to care for, (c) tactile communication, (d) something to keep one busy, (e) focus of attention, and (f) exercise (Brickel, 1980; Wilson & Netting, 1983).
Research Design

The research design employed in this study was quasi-experimental. The strategies of having an experimental group receive a treatment and a control group not receive a treatment enhanced the researcher's manipulation and control over the investigation. After the manipulation of the independent variable, conclusions were drawn. The design in Figure 1 shows that both groups had physiological data collected pre- and posttreatment. The experimental subjects were exposed to a live pet rabbit as the treatment. Figure 1 depicts the time frame for the study, the number of subjects participating in the study, collection of data pre- and posttreatment, and the treatment prescription for the experimental group.

Quasi-experimental research is defined by Chissom, McLean, and Hoenes (1980) as a scientific investigation in which observations are recorded and data are collected according to a set of well-defined criteria. A quasi-experiment contains the following three basic components:
Thirty minutes once a week for four weeks:

Institutionalized Elderly who meet the criteria of:
1. Consent to participate
2. Oriented to person, place, and time
3. Mobile
4. Physically able and willing to hold a live pet rabbit during 30 minutes of four group sessions

(N = 16)

---

Randomized Experimental Group
(N = 8)

Pretest → Treatment → Posttest
Before Group Session During Group Session After Group Session

1. Measure:
   a. Blood pressure
   b. Heart rate

2. Record number of social interactions

Randomized Control Group
(N = 8)

Pretest → Treatment → Posttest
Before Group Session During Group Session After Group Session

1. Measure:
   a. Blood pressure
   b. Heart rate

Figure 1. Quasi-experimental research design.
1. Manipulation or treatment. The researcher does something to the experimental group.

2. Control. The researcher plans a control group who does not receive the treatment. The control group is used as a comparison group.

3. Randomization. The researcher assigns subjects to a control or experimental group on a random basis. This was the plan in this study of the effect of pet-facilitated therapy.

**Variables**

The independent variable for this study was the pet provided to each experimental subject during four sessions. The dependent variables were the cardiovascular responses and the number of social interactions. Controlled variables included place of residence; mobility; orientation to person, place, and time; and physical ability and willingness to hold a live pet rabbit. Intervening variables included personality, motivation, and feelings about direct contact with pet rabbits.

**Setting, Population, and Sample**

The geographic location for this study was a west central county of Alabama. The county has a population of 137,541 (United States Department of Commerce, 1981). Of this number, 99,634 live in an urban area, while 37,907 live in a rural area of this 1,333-square mile county. There are
13,354 residents who are 65 and older: 1,355 are black males, 2,188 are black females, 3,958 are white males, 5,835 are white females, and 18 are of other races. Representation of all age groups with varied educational and socioeconomic backgrounds exists. The mean income for this Alabama county is $16,309 with the most usual type of employment occurring in industrial settings.

The medical facilities include two medical centers, a general hospital, a care unit, three mental institutions, a district health department, and a community mental health center which is available for consultation and treatment on a sliding scale basis, as well as providing the public with a crisis line. There are five long-term nursing care facilities with a total bed capacity of 950.

The accessible population for this study was elderly residents from a privately owned nursing home in Tuscaloosa, Alabama. This nursing home has a bed capacity of 165 and is a state approved long-term skilled nursing care facility. Of the 165 residents, 40 are males and 125 are females; 139 are white and 26 are black. There are only 20 residents who are under 65 years of age.

There are 26 Licensed Practical Nurses (LPN) and 50 nursing assistants employed who work at the direction of a registered nurse. A rotating professional nurse consultant is available for staff development and problem solving. The social services are managed under the direction of an
Activity Coordinator, a recreational therapist, and an Activity Assistant. Nutritional services are directed by a Registered Dietitian. Various community churches coordinate religious and vesper services on a scheduled routine basis.

The majority of the residents are either Medicaid or Medicare clients. However, there are some one-party paying residents. All of the residents have private physicians who supervise their medical care. An administrative staff of six coordinates all of the business and financial aspects of operating the facility.

The sample for this study was 16 residents who met the following criteria: oriented to person, place and time; mobile; and physically able and willing to hold a live pet rabbit during 30 minutes of four group sessions. The 16 subjects were systematically assigned to an experimental and control group by assigning a number according to the order in which they agreed to participate. Odd numbers were assigned to the control group and even numbers were assigned to the experimental group.

Data Gathering Process

The researcher contacted the administrator in person to introduce and explain the study. Agency consent was obtained on the Nursing Home Memorandum of Agreement (see Appendix A).
The Activity Coordinator provided a list of all residents who met the selection criteria. This group of residents received a copy of the Cover Letter of Consent (see Appendix B) and had it read and explained. A period for discussion followed. The first 16 residents who met the stated criteria and agreed to participate comprised the sample. Before signed consent was obtained from the subjects, a signed Letter of Consent from each resident's sponsor was obtained. The Letter of Consent was mailed to each subject's sponsor requesting a signature of consent. Self-addressed and stamped envelopes were provided for the sponsors to return their signatures by mail. The subjects' written agreement to participate in the study was then obtained on the Participant Consent Form (see Appendix C).

Approval from each subject's attending physician was obtained on the Physician's Approval for the Pet Program as specified by the nursing home (see Appendix D). The facilitation for obtaining each physician's signature was processed by attaching the approval form on the front of each subject's medical chart.

The established agency pet Protocol for the Visiting Pet Program was precisely followed (see Appendix E). A local veterinarian inspected and managed the health status of each pet rabbit and submitted a Pet Certification to the
nursing home administrator prior to the first experimental session (see Appendix F).

Two Licensed Practical Nurses (LPN) and one Activity Coordinator served as research assistants. Research Assistant's Training and Evaluation was conducted by the researcher for all three research assistants (see Appendix G). During the training period, the LPN research assistants were provided a copy of the Protocol for Measuring and Recording Cardiovascular Responses (see Appendix H). One assigned LPN measured and recorded all blood pressures. Another assigned LPN counted and recorded all the heart rates. The Activity Assistant, who observed and recorded all the social interactions, was provided a copy of the Protocol for Observing and Recording Social Interactions (see Appendix I) during her training period. These training periods required approximately 30 minutes each. After the training periods, the degree of skill performance was evaluated to establish rater reliability. The researcher evaluated three subjects for cardiac response at the same time as the LPNs. The researcher also evaluated three group situations with the Activity Assistant. The group ratings were compared. Thus, the researcher obtained reliability coefficients of greater than .5 from all three research raters.

Six-week-old Flemish Giant rabbits were rented from a local commercial rabbit producer in Tuscaloosa, Alabama.
The rabbits were too young to be weaned but old enough to be separated from the mother rabbit for three hours at a time. A week before the study commenced, the young rabbits were petted and handled daily, every two to three hours, by the producer. The researcher transported the same pet rabbits to and from the nursing home in a ventilated box and assumed total responsibility for the rabbits including properly disposing of all soiled towels used in the experimental group. Cleaning the hands of each experimental subject was supervised by the researcher. Each subject's hands were washed as specified in the pet protocol. The experimental room also was cleansed according to the pet protocol.

The preassigned group session room for the study contained nine straight-back chairs or wheel chairs arranged in a semicircle position. Subjects sat in an assigned seating arrangement. The social interaction observer and recorder were peripherally located in hearing and visual distance of each subject.

The experimental and control group met each week on the same day, with the control group meeting first each week. After presession cardiovascular responses were measured and recorded for the control group (see Appendix J), group discussion was facilitated by the researcher explaining that the purpose of the group was to offer subjects time to share memorable past life experiences. If there were no
responses, the researcher restated the purpose. At no time did the researcher call on individual subjects to interact. If there were no responses in the control group, the group sat in silence. During each session of the control group, the observer systematically recorded each social interaction made by each subject as described in the Protocol for Observing and Recording Social Interactions (see Appendix I). At the end of each control group session, cardiovascular responses were again measured and recorded on the Postsession Cardiovascular Response Record (see Appendix L).

The experimental group met in the same room immediately after the control group. Cardiovascular responses were measured and recorded utilizing the Presession Cardiovascular Response Record (see Appendix J). The experimental group was informed that the purpose of the group was to offer subjects time to share memorable past life experiences. At this time a towel was spread over the laps of each subject and a live pet rabbit was placed upon the towel. Each subject was provided the same rabbit each session. If there were no social interactions, the researcher restated the purpose of the group. At no time were subjects individually called upon to interact. If there were no responses, the group sat in silence. During each group session, the observer recorded each social interaction made by each subject, recording the results on the
The study was conducted during May and June, 1985. The control group met at 1:00 p.m. in the preassigned room and the experimental group met at 2:00 p.m. on the same day in the same room.

**Instrumentation**

The tools utilized in this study were researcher-designed because no appropriate tools were found in the review of literature. Presession and postsession flow sheet recording forms were used to record the blood pressures and heart rates for both the control and experimental groups (see Appendices J and L, respectively). A social interaction flow sheet was used to record the number of social interactions made by each subject during the control and experimental group sessions (see Appendix K).

The Social Interaction Record was researcher-designed to measure behavioral and facial expression responses (see Appendix K). Behavioral responses on this tool included (a) Audible comment—any use of language made and heard by observer; (b) Touching others—extending hands in physical contact with another group member; (c) Attentive to others—offering self to receive responses from another group member; and (d) Leaving group—physically removing
self from the group. Facial expression responses included
(a) Smiling—eyes brightening and corners of the mouth
curving slightly upward, (b) Frowning—any facial
contractions giving evidence of displeasure, (c) Laughing—
any sounds made in expressing pleasure, (d) Crying—any
sounds or evidence of expressing displeasure, and
(e) Nonexpressive—appearing withdrawn by showing no
evidence of responding to group (see Appendix K). A Heuer
trackstar stop watch was used to precisely measure three
60-second observation periods for each subject during each
session. Each social interaction recorded was assigned
a value of one point and then the number of social inter­
actions recorded for each subject was totaled for each
session.

All of the instruments had been field tested by the
researcher utilizing two community elderly persons who were
not included in the study. A trial of role playing the
experiment allowed for instrumentation organization.
Reliability coefficients greater than .5 were obtained from
all three research raters.

Data Analysis

The data were tabulated and analyzed. The t test was
utilized to determine significant differences between the
experimental and control groups. As is customary, the 0.05
evel of significance was used to statistically test all the
hypotheses (Chissom et al., 1980; Huck, Cormier, & Bounds, 1974).

Assumptions

1. The sample of oriented, mobile, elderly who are able and willing to hold a live pet rabbit are representative of the institutionalized population in the nursing home and has no characteristics that will prohibit changes in social interactions and cardiovascular responses upon an effective experimental treatment.

2. Social interactions are measurable.

3. Heart rates and blood pressures are accurate measurements of cardiovascular responses.

4. Professional health-care providers have the ability to implement the prescribed study interventions after receiving an introduction and overview to the study including a training period with written protocols to follow.

Limitations

This study is limited by the following:

1. The results cannot be generalized to noninstitutionalized elderly.

2. The results cannot be generalized to institutionalized elderly who are disoriented, immobile, and physically unable and unwilling to hold a live pet rabbit.
3. The results cannot be generalized to those under 65 years of age.

4. The results cannot be generalized to other geographic or culturally oriented groups.
Chapter VI

Results and Discussion

The purposes of this quasi-experimental study were to determine if social interactions, a measure of behavioral responses and facial expressions, were affected by pet-facilitated therapy and to determine if cardiovascular responses, a measure of blood pressure and pulse, were affected by pet-facilitated therapy. Cardiovascular responses were measured pre and post sessions for the control and experimental groups. During sessions for the control and experimental groups, social interactions were measured. The treatment consisted of holding a live pet rabbit during group sessions.

The subjects were 16 institutionalized elderly who were oriented to person, place, and time; mobile; and physically able and willing to hold a live pet rabbit during 30 minutes of four group sessions. Subjects were randomly assigned to either the experimental or control group. Each subject had blood pressure and pulse rates measured prior to each session and at the conclusion of each session. Social interactions were evaluated by a trained observer during the four group sessions.
The demographic characteristics of the 16 subjects are shown in Table 1. The 8 experimental subjects ranged in age from 74 to 90, with all except one being females. There were 7 whites and one black subject, and 7 were widowed while one had never been married. The level of education ranged from grades 2 to 9. Seven claimed a Protestant faith and one claimed no particular faith. Two of the 8 experimental subjects seldom had visitors while the other subjects had from one to 5 visitors each week. Only 2 of the 8 subjects had weekly prescribed activities. Six of the experimental subjects were taking two or more daily cardiovascular medications, while 5 subjects required nightly sleeping medication. Six subjects claimed an occupation of homemaker, one had been a farmer, and one a salesperson. Seven of the 8 experimental subjects stated they had had pets in their homes during childhood, and all 8 subjects admitted loving pets.

The control subjects ranged in age from 54 to 95, with 5 females and 3 males. There were 6 whites and 2 blacks in the control group with half of the group being widowed and the other half never having been married. The level of education ranged from grade 3 to one having completed college. All claimed a Protestant faith. Five of the 8 subjects rarely had any visitors while 3 had from one to 3 visitors each week. Only 2 subjects were involved in weekly prescribed activities. Five of the 8 control subjects were
<table>
<thead>
<tr>
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<th>Race</th>
<th>M/S</th>
<th>Ed (Grade)</th>
<th>Rel</th>
<th>No. of Visitors</th>
<th>Activities</th>
<th>Cardio-Drugs</th>
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taking one to 3 daily cardiovascular medications, while 3 were prescribed no daily cardiovascular medications. However, 5 of the 8 required a nightly sleeping medication. There were 2 professional people in this group, a nurse, and a teacher; the others were farmers, cooks, and homemakers. Four stated that they did not remember having pets in their homes during childhood, and 2 stated they did not love pets.

**Hypothesis One**

The researcher hypothesized that there would be no significant difference between the social interactions of institutionalized elderly subjects holding a live pet rabbit and the social interactions of institutionalized elderly subjects not holding a live pet rabbit. To test Hypothesis One, the $t$ test was used. Social interaction average scores were 10.77 for experimental group versus 1.74 for the control group ($t$ value = -7.26). Since the $t$ value was significant at the .05 level indicating the experimental group showed more social interaction than the control group, the researcher rejected the null hypothesis. A summary for these results may be found in Table 2.

**Hypothesis Two**

The researcher hypothesized that there would be no significant difference between the cardiovascular responses of institutionalized elderly subjects holding a live pet
Table 2

*t Test Summary Table for Social Interaction Average

<table>
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<tr>
<th>Measure</th>
<th>N</th>
<th>$\bar{X}$</th>
<th>SD</th>
<th>t</th>
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<tbody>
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<td>10.7700</td>
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<td>8</td>
<td>1.7437</td>
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</table>

*p < .05.

rabbit and the cardiovascular responses of institutionalized elderly subjects not holding a live pet rabbit. The researcher subtracted presystolic, prediastolic, and prepulse rates from postsystolic, postdiastolic, and postpulse rates to obtain change scores. A summary of change scores may be found in Table 3. These change scores were subjected to the t test. Since the t values (-.11 for systolic blood pressure, .65 for diastolic blood pressure, and .15 for heart rate) were not significant at the .05 level, the researcher failed to reject the null hypothesis. A t-test summary for cardiovascular responses may be found in Table 4.

Additional Findings

It is worthy to note that there were some difficulties utilizing the researcher-designed Social Interaction Record. Both positive and negative behavioral responses and
Table 3
Summary of Cardiovascular Responses (Systolic, Diastolic), Heart Rates and Social Interactions

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Systolic Average</th>
<th>Diastolic Average</th>
<th>Heart Rate Average</th>
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<tr>
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Table 4

$t$ Test Summary Table for Cardiovascular Responses

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<th>SD</th>
<th>t</th>
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Facial expressions were recorded with a value of one and then the final score totaled. Calculation adjustments to account for positive scoring of negative behavior had to be made to effectively measure positive social responses.

It was observed that the activity of getting to the group sessions required physical exertion. This physical exertion may account for the elevated blood pressures in both groups on presession testing and reduction of blood pressures in both groups on postsession testing.
Chapter VII
Summary, Conclusions, Implications, and Recommendations

This quasi-experimental study was designed to determine the psychosocial and physiological effects of pet-facilitated therapy upon a group of institutionalized elderly. The study population was comprised of 16 institutionalized elderly who were (a) oriented to person, place, and time; (b) mobile; and (c) physically able and willing to hold a live pet rabbit during 30 minutes of four group sessions. Researcher-designed tools and protocols were used in the study to record blood pressures, heart rates, and the number of social interactions during each group session.

The subjects were randomly assigned to an experimental or a control group. Each group had 8 participating subjects. The experimental group held an assigned live pet rabbit during each group session. Mean systolic and diastolic blood pressures, heart rates, and social interaction ratings were subjected to the t-test. Values obtained led the researcher to reject the null hypothesis concerning the social interactions but fail to reject the null hypothesis concerning the cardiovascular responses. The researcher concluded from the data that
pet-facilitated therapy had no effect on cardiovascular responses. However, pet-facilitated therapy had a significant positive effect upon social interactions.

Conclusions and Implications

The present study was carried out in a long-term nursing home among randomly selected elderly residents. Further research should be done in other communities and in other health-care settings to evaluate the effectiveness of pet-facilitated therapy.

From the statistical analysis of data, the researcher concluded that pet-facilitated therapy does have a significant effect on social interactions as the experimental group showed significantly more social interactions than the control group. This finding supported the findings of Beck and Katcher (1983), Carmack (1984), Frank (1984), Katcher et al. (1983), Mugford and M'Comisky (1975), Robb and Stegman (1983), and Siegal (1962). An implication for practice is for the Geriatric Nurse Clinician (GNC) to become more innovative and include pet-facilitated therapy in geriatric plans of care.

The statistical analysis of data led the researcher to conclude that cardiovascular responses are not affected by pet-facilitated therapy. This finding supported the findings of Beck and Katcher (1984).

In future research conducted on pet-facilitated therapy and cardiovascular responses, it would be interesting to
design a study for measuring cardiovascular responses during group sessions, instead of only the pre and postmeasurement design as in this study. A measurement during sessions would test whether the activity of getting to the group session and the resting period during group session influenced cardiovascular responses. Therefore, the cardiovascular posttest results would more directly support whether pet-facilitated therapy influenced cardiovascular changes.

This researcher suggests that a larger sample size would more strongly support specific practice recommendations. Further investigation into the use of pet-facilitated therapy with the elderly is needed to stimulate social and recreational activities.

The measuring devices were constructed by the researcher to collect data for this study. A revision of the Social Interaction Record so that negative and positive social interactions are scored differently would eliminate confusion with response tabulation. Therefore, special adjustments were required by the researcher before data analysis could be completed. Refinement of the Social Interaction Record is paramount for future research.

**Recommendations**

The following recommendations are made, based upon the findings from this study:
Nursing Practice

1. Awareness by GNC that pet-facilitated therapy positively influences psychosocial responses among institutionalized elderly.

2. Implementation of pet-facilitated group sessions in nursing homes by GNCs will improve social and recreational deficits of the elderly.

3. Awareness by GNCs that long-term institutionalization of the elderly compounds psychosocial deficits and that pet-facilitated interventions can alleviate these problems.

4. Designing of nursing care plans to assist the institutionalized elderly with lifestyle alterations for living a higher quality of life in long-term care facilities.

5. Advancement of the aims of pet-facilitation by providing education and consultation to pet-facilitated programs.

6. Awareness that pet-facilitated interventions can improve the quality of life of the institutionalized elderly by meeting more psychosocial needs inexpensively and noninvasively.

Research

1. Replication of this study with a larger sample size over a longer period of time.
2. Conduction of a similar study with designs for measuring cardiovascular responses during group sessions to adjust for the rest effect upon blood pressures and heart rates.

3. Revision of Social Interaction Record.

4. Establishment of reliability after refinement of the researcher-designed tools.

5. Conduction of a similar study on community-based elderly because 95% of all older persons reside in the community.
Appendix A

Nursing Home Memorandum of Agreement

Title of Study: Effects of Pet Facilitation on Social Interactions and Cardiovascular Responses Among Institutionalized Elderly

Name of Institution: ____________________________

Study discussed with and explained to: ____________________________

Name of Representative ____________________________

Involvement in Study: 

___ Cooperation: Consent from subjects

___ Participation: Two LPNs and one Activity Assistant

Comments:

After a training period of approximately 30 minutes, one LPN will measure and record all the blood pressures of 16 subjects before and after group sessions on the first four Fridays during the month of May, 1985. The second LPN will count and record all the heart rates of 16 subjects before and after group sessions on the first four Fridays during the month of May, 1985.

After a training period, the Activity Assistant will observe and record all the social interactions during both group sessions on the first four Fridays during the month of May, 1985. This will require approximately one hour during the study period.

Date: ____________________________

Agency Representative: ____________________________ (Signature of Representative)

Researcher: ____________________________ (Signature of Researcher)
Appendix B

Cover Letter of Consent

Dear Sponsor and Resident:

My name is Katherine Hubbard Burkhalter, a Registered Nurse and a graduate student at Mississippi University for Women in Columbus, Mississippi. I am conducting a research study on improving social interactions and cardiovascular responses among nursing home residents. I solicit your consent to participate in this study.

Participation will include attending a group session for 30 minutes one time a week for four weeks. Group sessions will meet at 1:00 p.m. and 2:00 p.m. on Fridays, before and during the month of May, 1985. After each group session, blood pressure and heart rates will be measured. Live pet rabbits will be used in some of the sessions. Some residents may be asked to hold a young pet rabbit in their laps during the group sessions.

Participation will be entirely voluntary. Residents may withdraw from the study at any time. Residents will receive no loss of service if they choose not to participate or if they withdraw. All information will be confidential. Data will be analyzed as a group, and anonymity will be maintained. The results of the study will be written for a master's thesis. Upon request, a summary of the findings will be made available. Residents will be asked to sign the attached Participant Consent Form. After your signature has been obtained, the attending physician's signature will be obtained also.

If you have any further questions, I may be contacted at 339-2636. Thank you for your cooperation.

Sincerely,

Katherine Hubbard Burkhalter
Researcher
I HEREBY RELEASE KATHERINE HUBBARD BURKHALTER AND GLEN HAVEN HEALTH CARE FACILITY FROM ANY UNTOWARD EVENTS THAT MAY OCCUR DURING THE PET-FACILITATED ACTIVITY.

__________________________  ________________________
Sponsor's Signature         Date
Appendix C

Participant Consent Form

I understand that Katherine Hubbard Burkhalter, a graduate student in Nursing at Mississippi University for Women in Columbus, Mississippi, is conducting a research study on social interactions and cardiovascular responses among nursing home residents.

I have had the study explained to me, and I understand that I am expected to attend four group sessions for 30 minutes once a week. I also understand that I may be asked to hold a live pet rabbit in my lap during group sessions. I understand that participation is entirely voluntary.

I understand that all information obtained will be confidential and my identity will not be revealed. I also understand that I may withdraw at any time.

________________________
Resident

________________________
Researcher

________________________
Date
Appendix D

Physician's Approval for the Pet Program

_________________________________ has my permission to
participate in a study entitled "Effects of Pet Facilitation
on Social Interaction and Cardiovascular Responses Among
Institutionalized Elderly." All necessary precautions will
be taken to prevent injury or infection of the patient.

_________________________________ Date: ____________
(Physician's Signature)                      

_________________________________ Date: ____________
(Researcher's Signature)
Appendix E

Protocol for the Visiting Pet Program
Sponsored by
Alabama Veterinary Medical Association

In recognition of the nature of nursing home living and hospitalization, the Alabama Veterinary Medical Association has developed a program in which pets certified by participating veterinarians will visit nursing homes on a scheduled basis. These visits are designed not only to allow the residents to establish a rapport with the pets, but also to establish a relationship with people and activities outside the physical confines of the nursing home.

To further the establishment of this meaningful association, the Bureau of Licensure and Certification of the Alabama Department of Public Health has agreed to allow animals to enter nursing homes. This must, however, be done under certain specific protocols which are designed to protect patients, pets, and pet owners.

The specific requirements are as follows:

1. Each patient or patient's responsible party must agree to participate. Those who do not wish to participate will be assured that they will not have contact with the pets.

2. Veterinarians using the "Protocol for Veterinarians Pet Owners" adopted by the Alabama Veterinary Medical Association will certify the pets to participate.

3. The Infection Control Committee will continually monitor the program, conduct special studies to assure that the program is not a generative source of nosocomial infections, and assure the nursing home administrator that no endangering sequelae are created by the program.

4. It is desirable to establish a control and monitoring program to evaluate the response of individual patients to this activity. Specific
emphasis should be on the psychosocial and therapeutic benefits derived from this program.

5. The administrator will provide a written notice of participation in the program to the Bureau of Licensure and Certification of the Alabama Department of Public Health.

6. Records should be maintained to provide data in the event that the program becomes a pilot study on the medical and psychotherapeutic impact of animal/pet therapy in geriatric care.

7. The attending physician for each individual patient must certify that the program is not medically contraindicated.
Appendix F

Pet Certification

Name of Institution: ________________________________

Date: ______________________________

Researcher: Katherine Hubbard Burkhalter, Ed.D.

Title of Study: Effects of Pet Facilitation on Social Interaction and Cardiovascular Responses Among Institutionalized Elderly

Pets: Eight 4-week-old Flemish Giant Rabbits

Producer: Festus Deal, Tuscaloosa, Alabama

Veterinarian: Jerry Tidmore, D.V.M.

Certification Statement:

The eight rabbits have been examined and found to be clean, healthy, free of infectious diseases and parasites. The rabbits' claws have been clipped, and each rabbit is suitable for pet-facilitated therapy.

The Visiting Pet Program Protocol, sponsored by Alabama Veterinary Medical Association which is designed to protect patients, pets, and pet owners, will be followed by the researcher during the four-week study.

Signed: ______________________________  Date: ________________
(Examining Veterinarian)

Signed: ______________________________  Date: ________________
(Researcher)
Appendix G

Research Assistant's Training and Evaluation

Cardiovascular Responses

Training for the LPN who is assigned to measure and record all of the 16 subjects' blood pressure will be scheduled prior to the study. The Protocol for Measuring Cardiovascular Responses (see Appendix H) will be followed precisely. The LPN will measure and record a blood pressure and after five minutes the researcher will measure and record the same blood pressure utilizing the same sphygmomanometer and stethoscope. After the training period, evaluation will be made by taking three of her measurements and comparing them with the same subjects' measurements made by the researcher. If the reliability coefficient is below .5, another LPN will be trained and evaluated to measure and record the blood pressure, utilizing this same procedure for establishing reliability.

Training for the LPN who is assigned to count and record all of the 16 subjects' heart rates will be scheduled prior to the study. The Protocol for measuring Cardiovascular Responses (see Appendix F) will be followed
precisely. The LPN will count and record a heart rate, then the researcher will count the same heart rate. After the training period, evaluation will be made by taking three of her counts and comparing them with the same subject's counts made by the researcher. If the reliability coefficient is below .5, another LPN will be trained and evaluated to count and record all the heart rates utilizing this same procedure for establishing reliability.

Social Interactions

Training for the Activity Assistant who is assigned to observe and record all of the 16 subjects' social interactions will be scheduled prior to the study. The Protocol for Observing and Recording Social Interactions (see Appendix I) will be followed precisely. Since individual interpretation differences may occur with this scoring instrument, the training period for this assignment will involve establishing reliability by requiring the Activity Research Assistant to score at least three subjects in three groups. The researcher will observe and record the same three subjects in the same three different groups. After the training period, evaluation will be made by comparing her three sets of scores to the three sets of scores which the researcher obtained. If the reliability coefficient is below .5,
another research assistant will be trained and evaluated to observe and record all the social interactions utilizing this same procedure for establishing reliability.
Appendix H

Protocol for Measuring Cardiovascular Responses

**Blood Pressure Measurement**

The assigned LPN research assistant will:

1. Use the specified study, new calibrated, standard sphygmomanometer and stethoscope.

2. Measure the blood pressure while the subject is sitting in a straight chair with both feet flat on the floor.

3. Measure the blood pressure using the subject's right arm.

4. Measure the blood pressure within 30 minutes before each group session and record results in the Presession Cardiovascular Response Record.

5. Measure the blood pressure while the subject is in the sitting position, immediately after the group session.

6. Record blood pressure results on the Postsession Cardiovascular Response Record.

**Heart Rates**

The assigned LPN research assistant will:

1. Count the pulse while the subject is sitting in a straight chair with both feet flat on the floor.
2. Count the pulse at the right wrist radial location.
3. Count the pulse for a full 60 seconds within 30 minutes of group session.
4. Record the pulse on the PreSession and PostSession Cardiovascular Response Record.
Appendix I

Protocol for Observing and Recording

Social Interactions

The assigned activity research assistant will:

1. Assist subjects to sit in assigned seats during each group session.

2. Observe and record the number of interactions the first subject demonstrates during a period of 60 seconds.

3. Observe and record the number of interactions the second subject demonstrates during a period of 60 seconds. Follow this pattern systematically until all subjects have been observed. Repeat the systematic pattern of observing on 60-second intervals until each subject has been observed three times during each 30-minute session. Observation time will equal 24 minutes in each session.

4. Definition of social interactions:

**Behavioral Responses:**

Audible comment: any audible statement made by a subject and heard by the observer.

Touching others: hands extending in physical contact with another group member.
Attentive to others: offering self to receive responses from another group member.

Leaving group: physically removing self from the group.

**Facial Expressions:**

Smiling: eyes brightening and corners of the mouth curving slightly upward.

Frowning: any facial contractions giving evidence of displeasure.

Laughing: any sounds made in expressing pleasure.

Crying: any sounds or evidences expressing displeasure (not necessarily a show of tears).

Nonexpressive: withdrawn appearance by showing no evidence of responding to any part of the group.

Comments: space provided for the observer to write in any other significant behaviors observed from any subject, such as dropping rabbit, hitting another subject, rabbit biting or clawing subject, etc.
APPENDIX J

Presession Cardiovascular Response Record

Group

Dates: 1. ___ 3. ___
2. ___ 4. ___

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<th>No.</th>
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# APPENDIX K

**Social Interaction Record**

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</tbody>
</table>

**Behavioral responses**

- Audible comment
- Touching others
- Attentive to others
- Leaving group

**Facial expressions**

- Smiling
- Frowning
- Laughing
- Crying
- Nonexpressive

**Comments on significant behavior**

Group: _______________________
Session: _____________________
Date: ________________________
### Postsession Cardiovascular Response Record

**Group**

**Dates:**
1. 
2. 
3. 
4.

<table>
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<th>No.</th>
<th>Name</th>
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<th>Right radial Heart rate</th>
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April 24, 1985

Ms. Katherine Burkhalter
Division of Nursing
Campus

Dear Ms. Burkhalter:

This is to inform you that the Committee on the Use of Human Subjects in Experimentation has recommended that your research proposal be accepted, and I have approved it.

Sincerely,

James T. Murrell
Vice President
for Academic Affairs

JM:wr

cc: Dr. Preston McKee, Chairperson
Human Subjects Committee

Dr. Annette Barrar
Division of Nursing
References


