PERSONALITY CHARACTERISTICS ASSOCIATED WITH PET OWNERSHIP: VALIDATING THE THEORETICAL PROPOSITIONS OF BORIS LEVINSON

DISSERTATION

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

For the Degree of

DOCTOR OF PHILOSOPHY

By

Jana Scoville Esparza, B.A., M.A.
Denton, Texas
August, 1990
The purpose of the present study was to provide validation for Levinson's theory about pets and human personality development. Levinson (1978) proposed that the personality development of individuals who have pets to which they are attached differs from that of those who do not have pets and that pets play an important role in facilitating the development of certain adaptive personality traits. In the present study, specific areas that were addressed included differences in certain personality characteristics between life-long pet owners who were strongly attached to their pets, life-long pet owners who were less strongly attached to their pets, and people who had owned pets for only a limited period of time in their lives. One hundred undergraduates completed the Pet Attitude Scale, the Tennessee Self Concept Scale, the Personality Research Form - Form E, the Hogan Empathy Scale, the Fundamental Interpersonal Relations Orientation - Behavior (FIRO-B), and the IPAT Anxiety Scale Questionnaire. No significant differences were found between the three pet owner groups in levels of affiliation with other people, impulse control, nurturance, succorance,
capacity for empathy, and anxiety levels. In addition, no significant differences were found between the three pet owner groups in interpersonal behavior characteristics or self-esteem. Concurrent validity was shown between membership in the different pet owner groups and positive attitudes toward pets as measured by the Pet Attitude Scale. As predicted, the most attached life-long pet owners reported more positive attitudes toward pets than the least attached life-long pet owners or the limited-time pet owners.
TABLE OF CONTENTS

LIST OF TABLES .................................................. iv

Chapter

I. INTRODUCTION .............................................. 1

Animals in Primitive Cultures
Theoretical Perspectives on the Human/Pet Bond
The Theoretical Writings of Boris Levinson
A Report on Current Pet Ownership
Therapeutic Uses of Pets
Studies Assessing Benefits of Pet Contact
With the Elderly
Studies Assessing Benefits of Pet Contact
With Children and Adolescents
Studies Assessing Benefits of Pet Contact
With Mentally-Ill Populations
Studies Assessing Benefits of Pet Contact
With Medically-Ill Populations
Studies Assessing Benefits of Pet Contact
With Normals

II. METHOD ....................................................... 42

Subjects
Instruments
Procedure

III. RESULTS .................................................... 54

IV. DISCUSSION .................................................. 63

APPENDICES .................................................... 73

REFERENCES .................................................... 86


# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Group Means and Standard Deviations For The Six Predictor Variables</td>
<td>54</td>
</tr>
<tr>
<td>2. Wilks’ Lambda and Univariate $F$ Ratio</td>
<td>55</td>
</tr>
<tr>
<td>3. Standardized Canonical Discriminant Function Coefficients</td>
<td>56</td>
</tr>
<tr>
<td>4. Pooled Within-Groups Correlations Between Discriminant Variables and Canonical Discriminant Functions</td>
<td>57</td>
</tr>
<tr>
<td>5. Test For The Assumption of Homogeneity of Variance</td>
<td>62</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Humans and animals have shared the earth since the beginning of time. Like that of all long-term mutual inhabitants, the relationship between humans and animals has been complex and multi-faceted, fluctuating between varying degrees of interdependence, compatibility, and conflict, continuously changing and evolving in complexity (Bustad, 1980).

From a psychological standpoint, humans generally believe themselves to be superior to and therefore to have dominion over their animal companions. Particularly with household pets such as dogs and cats, humans typically view themselves as the "masters" who have almost exclusive influence over their pet animals. What humans are less likely to consider is the possibility that the pets they keep in their homes have a profound influence on their psychological functioning as human beings (Savishinsky, 1983).

An attempt was made to find empirical support for the theoretical propositions of Boris Levinson, a clinical psychologist and one of the pioneers in the investigation of human/pet relationships. Levinson took the stance that pets provide positive, beneficial experiences for people,
and this viewpoint is that which was taken in the present study.

**Animals in Primitive Cultures**

From the perspective of evolution theory, relationships between humans and animals have existed since the time people evolved from apes (Okoniewski, 1984). The nature of their interaction, as well as the functions served by their relationship, have changed dramatically over time and across contexts. The human-animal bond has assumed numerous forms and patterns within historical, cultural, and societal parameters.

In primitive times, animals were absolutely essential to human life and were considered equals, partners, and sometimes even as superiors (Hines and Bustad, 1986). Many early inhabitants developed a strong alliance, even a symbiotic relationship, with animals. The most significant of these was with the dog (Bustad, 1980). Through the process of domestication, dogs and people became mutually dependent on each other. The dog's scent-tracking and attack abilities enabled humans to hunt other animals for food more easily. Other animals also helped people to obtain food and other basic essentials.

While the domestication of animals for food and labor likely coincided with their adoption as pets, the two roles should not be confused (Levinson, 1969). The animal domesticated for economic reasons was strictly a "servant"
for humans, while the animal who became a pet also provided friendship and companionship. Pets are unique because they alone, of all the animals over which humans exercise dominion, have shared intimacy as well as proximity with their owners (Savishinsky, 1983).

Psychologically, domestication marked the beginning of a symbiotic relationship between pets and humans in which a person supplied the material needs of the pet and the pet gratified the emotional needs of the owner (Levinson, 1969). Domesticating animals for pets thus demonstrated humankind's kinship with nature.

Theoretical Perspectives on the Human/Pet Bond

Levinson suggested that as long as people continued to associate closely with nature, they seldom experienced alienation from either themselves or their world (Levinson, 1969). In contemporary times, however, the kinship humans once felt with nature seemed to have vanished. According to Levinson, people in the fast-paced 20th century were lonely creatures. There were too many alienated individuals who were without fulfilling human companionship. Levinson suggested that people found themselves facing a psychological void when they lost the ability to identify with nature and animals. He theorized that reestablishing an emotional bond with the animate and inanimate world may have helped humans regain some emotional fulfillment. Levinson proposed that pets
represented a "half-way station" on the road back to emotional health. The simple addition of a pet to a lonely life, he suggested, has sometimes accomplished major changes. He advocated that having a pet that responded to one's care and attention may have meant the difference between maintaining psychological health or losing it.

The most widely accepted explanation of the bond that existed between humans and their pets was the psychoanalytic view that animals served as expressions of the unconscious self and therefore had symbolic importance for people (Brickel, 1985). As a consequence, animals were appealing to people because of the more natural, primitive world they represented. Relating to animals, and particularly pet ownership, were considered attempts to integrate the conscious and unconscious in a controllable manner, resolve inner conflicts, defend against external stressors, or symbolically resolve conflicts through dreams and fantasy.

In the language of Jungian theory (Jung, cited in Savishinsky, 1983), pets are an embodiment of the "shadow," the "half-tamed demon of our persona that we all have to live with and try to integrate into ourselves if we are to be whole." Jung (cited in Knight, 1983) also emphasized that "primitive man must tame the animal in himself and make it his helpful companion; civilized man must heal the animal in himself and make it his friend."
The earliest known paper to discuss the function of animals in the unconscious, written from a psychoanalytic viewpoint, stated that an enormous role is played by animals in neurotic symptoms, as well as in dreams, and this importance was realized by the position of this same material in other manifestations of unconscious processes (Heiman, 1956). According to Heiman, an animal sometimes permits a neurotic individual to maintain sublimation, a defense mechanism which allows a person to make a compromise between the demands of reality and internal needs. It has been suggested that the more difficult and ungratifying reality’s demands were perceived by a neurotic individual, the more intensely he or she would cling to a pet for gratification of unconscious needs.

As suggested by Simon (1984), a person’s relationship with his or her pet can provide useful information about unconscious processes. The pet/human relationship allows for almost total expression of human emotion. It also has allowed for a similar type of transference experience that is typical of human relationships but with certain important differences. The rules in the pet/human relationship are more relaxed than in human relationships. Also, the fact that the relationship is primarily nonverbal and controlled almost completely by the pet owner makes it possible for the owner to attribute a great deal to the animal that is actually based on his or her own fantasy
life. In relating to an animal, an individual has considerably more freedom to express important unconscious aspects of him or herself than in most human relationships. The pet's personality and behavior are usually ambiguous and malleable enough to provide a fertile field on which the pet owner can project his or her own inner life, thereby creating a representation of his or her unconscious needs. Heiman (1956) observed that through the mechanisms of displacement, projection, and identification, a pet may serve as a major factor in the maintenance of psychological equilibrium. For some individuals, the process of animating and personifying a pet reaches such extreme proportions that the condition of the real animal is no longer recognized. Such cases often reflect a highly narcissistic attachment in which the affection and adoration given the pet is actually affection directed at the self (Katcher, 1983). The intimacy experienced by the person in the pet's presence and the love felt as reflected from the pet is love directed toward the self. The pet is viewed as being a part of the self and therefore an inseparable companion. The animal provides a feeling of stability because it serves as a mirror to reflect love back at the self.

Rynearson (1978) asserted that a basic distrust of human attachment could lead to an intense displacement of attachment to a pet who is consistently receptive and
unconditional as a source and object of caring. Such displacement becomes pathological when it defensively focuses attachment on a figure that responds narrowly, thus diminishing mature human attachment and interaction.

The Theoretical Writings of Boris Levinson

While personality theorists have acknowledged the importance of both human and nonhuman features of the environment on human personality development, they have given little consideration to animal companions as making a unique contribution to the social and physical atmosphere in which the individual develops (Levinson, 1978). Boris Levinson has written extensively on this topic and has put forth a number of theoretically provocative and empirically challenging propositions.

Levinson’s discovery of the therapeutic potential of pets occurred quite by accident in the 1950s. One of his patients, a young boy exhibiting increasing symptoms of withdrawal, arrived several hours early for his first appointment (Levinson, 1969). Levinson’s dog, Jingles, greeted the patient, and affection between the two became readily apparent. Levinson believed that Jingles "broke the ice" and accelerated the therapeutic process significantly (Jeter, 1985). He subsequently used pets as co-therapists, facilitators in psychological assessment, and motivators for change in individual and family therapy as well as in residential treatment settings.
In his early writings, Levinson espoused the value of using pets as aids in therapeutic work with children. He noted that with some children, having a dog present in the initial meeting with the therapist can make therapy seem less threatening, thereby reducing the child’s anxiety. Establishing a beginning relationship with an animal is sometimes easier for children and can lead to a more comfortable, reassuring relationship with a therapist (Levinson, 1962). Levinson asserted that a pet animal serves the role of a catalytic agent, helping the child to regress, to accept him or herself, and to progress in self-understanding and improvement.

With regard to developmental influence, Levinson (1978) proposed that the personality development of individuals with animal companions playing a significant role in their lives differs from that of those who are without pets. He suggested that pet ownership facilitates the development of adaptive personality traits including a healthy self-concept, high self-esteem, a sense of competence, impulse control, and the capacity to love and empathize. Pets can also help retard deterioration during the aging process. Furthermore, Levinson asserted that relating to an animal in an empathic, considerate way is good preparation for relating to other people in a similar manner.

Levinson proposed that owning and caring for a pet during childhood promotes healthy personality development
in a number of different ways. A pet is considered an accepting creature that, unlike parents, has no ideals or expectations for the child to meet but instead offers unconditional acceptance and affection (Levinson, 1978). Such complete approval from a pet may therefore provide a child with a sense of worth which he or she might not sufficiently receive from others in the environment. Learning to handle a pet and teaching it to behave in an acceptable way can produce feelings of competence and mastery and can enhance a child’s self-esteem. In addition, stated Levinson, a child who has responsibility for the well-being and training of a pet must develop the capacity to delay gratification, to exercise patience, to fulfill responsibilities, and to recognize and sometimes defer to the needs of another.

It was also suggested by Levinson (1978) that the process of personality growth is marked by developmental changes which are often painful and that feeling loved is essential during this growth process. However, adequate love from parents is not always available for a variety of reasons. Although not a substitute for loving parents, a pet can provide opportunity for overtly giving and receiving love and affection which a child needs for adequate growth and personality development. Pets have no inhibitions against showing love and affection and welcome such expressions from an owner. Pleasurable time spent
with a pet may help a child through times when he or she is feeling unloved or unlovable.

Perhaps most provocative was Levinson's proposition that owning and caring for a pet enhances the capacity for showing empathy. "Communicating with a non-verbal creature, be it infant or animal, requires empathy, an ability to imagine how another thinks and feels, a capacity for mentally stepping into the other's place and to some extent experiencing what he is experiencing" (Levinson, 1978, p. 1036). Interaction with a pet that cannot tell an owner in words how it feels or what it needs requires the child to be aware of and receptive to cues from the pet such as movements, facial expression, and sounds. Levinson believed this was good training for responsiveness to non-verbal communication from parents, siblings, and friends, and later from lovers and mates.

Finally, Levinson (1978) suggested that personality growth continues throughout life and into old age. For some elderly individuals, loneliness and the loss of one's role as a giver in society can lead to a deteriorating self-concept. The love of a pet, according to Levinson, can help keep an unstable personality together and provide new growth experiences. Interaction with animal companions can delay the process of degeneration and the onset of senility.
A Report on Current Pet Ownership

In 1983, Beck reported that Americans spend more than $4 billion dollars annually to feed their more than 48 million dogs, 27 million cats, 250 million fish, and 125 million assorted captive animals totaling 4.7 billion pet animals. More recent reports have estimated there are now 52 million dogs and 56 million cats living in American households (Toufexis, 1987; Murphy, 1987). Over 40% of Americans own one or two dogs, 20% own two cats, 15% own two birds, 12% own 25 fish, and 25% own an unknown number of various small amphibians, reptiles, and mammals (Beck, 1983). More current estimates are even higher, suggesting that 50-55% of American families own pets (Quackenbush and Glickman, 1984; Soares, 1985).

In April, 1984, Psychology Today magazine conducted the first national large-scale survey on the relationship between humans and pets. According to a comprehensive review of the survey’s findings reported by Siegal (1985), 13,000 of the magazine’s readers responded to questions which examined the feelings people have about their pets and differences between pet owners and non-pet owners. Demographic information obtained for pet owners who participated indicated the following: 83% were females and 17% were males; 58% were between the ages of 25 to 45, 20% were under age 25, and 22% were over age 45; 36% were single, 34% were married, and 17% were separated, divorced,
or widowed; 16% had a high school education or less, 52% had either attended or completed college, and 32% had either attended or completed graduate school; 8% reported a household income of less than $10,000, 40% earned $10,000 to $29,999, 32% earned $30,000 to $49,999, and 20% earned $50,000 or greater.

The survey also revealed some consistent differences between pet owners and non-pet owners (O'Leary, cited in Siegal, 1985). Pet owners reported feeling more positive than non-owners about themselves, their family lives, homes, health, and jobs. Both groups agreed that pets teach children responsibility, gentleness, and respect for life, and 97% of all respondents said children should grow up with a pet. Pet owners also said that pets were more important than friends, neighbors, and jobs.

Additionally, the survey revealed that pet-owning respondents believed pets significantly improved their family life (Siegal, 1985). Seventy-five percent reported their families enjoyed more fun and laughter after their pet became part of the family. Sixty-nine percent said they sought comfort from their pet when they felt depressed. Ninety-eight percent of pet owners said they owned their pets for pleasure or companionship, and this reason far exceeded all other reasons listed including protection, sport, and humanitarian motives. Nine out of 10 owners
reported that they regarded their pets as "human" or "almost human" family members.

Finally, the results of the survey suggested that living with pets is beneficial (Siegal, 1985). Pet owners reported more satisfaction with their lives and higher self-esteem than non-owners. Lastly, those respondents with pets were less likely to report feeling pessimistic or anxious about their lives.

**Therapeutic Uses of Pets**

A vast amount of folklore exists linking interactions with pets to improvements in mental and physical health for individuals of all ages (Robb & Stegman, 1983). The few empirical studies published to date could be described as exploratory, non-experimental or quasi-experimental in design, and lacking well-defined theoretical frameworks or conceptual models.

Recently, considerable interest has arisen in using animals therapeutically to improve the physical and mental health of people (McCulloch, 1986). Therapeutic programs are widespread and have been directed primarily toward people with specific health problems such as the physically handicapped, the deaf, the blind, the emotionally ill, the medically ill, disturbed children, and the elderly. In a review of the findings to date, Katcher (1982) concluded that there was sufficient evidence to suggest that pets could be a valuable means of benefiting health and morale.
in certain populations. Despite limited empirical data demonstrating directly measurable health benefits from contact with pets, there is some evidence that pets have important psychological and social functions. Most of the pet research to date, however, has involved primarily people with specific physical and emotional problems. Few studies have examined non-clinical populations and even fewer studies have attempted to explore differences between individuals who own pets and those who do not. The following is a review of the literature related to this area of interest.

Studies Assessing Benefits of Pet Contact With the Elderly

Pets seem capable of satisfying some important needs of the elderly (Bustad and Hines, 1983). Pets can reestablish order in elderly people's lives, help them to maintain contact with reality by supplying structure, and provide them with the opportunity for caring, concern, sacrifice, and intense emotional relationships. According to Bustad and Hines, when the elderly withdraw from active participation in daily human activities, the nonhuman environment in general and animals in particular can become increasingly significant to their well-being by providing the possibility for activity and involvement. Bustad and Hines noted that animals have a limitless capacity for acceptance, adoration, forgiveness, attention, and unconditional love.
Levinson (cited in Bustad and Hines, 1983) suggested that pets could be important allies with regard to what he considered the fragile defense structures of many elderly individuals and the role reversals they often experience because pets depend on their owners and provide a means of security. Pets can thus help the elderly adapt to changes in status and accept new roles. Pets can also induce elderly people to develop new interests and move out into the environment where they can interact with other people. Walking a dog, for example, is an excellent way to meet people. Furthermore, Levinson asserted that the self-concepts of the elderly as worthwhile individuals could be enhanced by the assurance that their pets need and love them.

Unfortunately, very little empirical data exist on the measurable effects of animal companionship on people, including the elderly. Riddick (1985), commenting on the state of research with non-institutionalized elderly populations, stated that the findings of systematic research efforts directed at measuring the influence of pets have been contradictory and inconclusive.

Mugford and M'Comisky (1975), in the first published report to investigate the therapeutic value of pets, made an important contribution to the literature on pets and the elderly when they evaluated the placement of budgerigars (Australian parakeets) with a group of elderly pensioners.
Subjective measures of health and morale were taken at the start of the study, and participants were then given either a bird or plant to care for. When participants were reevaluated five months later, a significantly greater level of favorable change was reported by the elderly pensioners given the budgerigars.

Another study (Riddick, 1985) examined the effects of placing fish aquariums with elderly individuals for a period of six months. Consistent with findings from some previous reports, the aquarium group showed significant positive changes in blood pressure, overall leisure satisfaction, and relaxation states. Unlike findings from other reports, no substantial changes were seen in happiness, anxiety, or loneliness. One possible explanation given by Riddick as to why this study’s findings were inconsistent with what others reported was methodological differences in terms of sample selection, instrumentation, and analysis. For example, different results may have been found if anxiety had been measured using a "state" rather than a "trait" measure of anxiety.

Jendro, Watson, and Quigley (1984) evaluated the effects of pets on chronically ill, confused geriatric patients in a long-term care setting. Participants had contact with puppies for one hour weekly for five weeks, and although they showed a significant increase in purposeful behavior during the times the puppies were
present, no changes in other psychosocial behaviors, determined by behavioral rating scales, were observed. The researchers noted that all the patients participating were cognitively impaired to the extent that they had been unable to participate in recreational or occupational activities due to an inability to follow simple instructions. In addition, pet contact for one hour weekly is probably not adequate for the development of a meaningful attachment to a visiting pet. Perhaps interacting with a pet to which one has a meaningful attachment would be more likely to affect psychosocial behaviors.

In a group of elderly nursing home residents, the effects of different forms of pet presentations (stuffed pets, videotaped pets, live pet dogs) on residents' sociability and health activities were compared over an eight week period (Hendy, 1984). Exposure to live pets was found to produce significantly more smiling and alertness in residents than the other forms of presentations.

Goldmeier (1986) found that among elderly women who lived alone, those who had pets reported higher morale and fewer feelings of "lonely dissatisfaction" than those who did not have pets. Among elderly women who lived with other people, no significant differences were found between pet owners and non-owners on the same characteristics. According to Goldmeier, these findings suggested that the
presence of pets was associated with a lower sense of lonely dissatisfaction in elderly women who lived alone but that pets may not be as important in this respect when there are other people in the environment. These researchers concluded that, at best, pets simply attenuated the sense of loneliness that many elderly individuals experienced from the lack of human companionship. No attempt was made to assess possible qualitative differences in the relationships the members of the two groups had with their pets. Perhaps the women who lived alone, because there were not other people in their home environment, developed stronger attachments to their pets and thus derived more benefits from their pet relationships.

Lawton (1984), in a review of the data from a 1968 national sample of elderly individuals, found no relationship between pet ownership and participants' scores on a geriatric morale scale. Instead, environmental determinants such as household structure (living alone versus living with others) and types of housing (single family versus multiple-unit dwelling, urban versus rural locale) were most strongly related to pet ownership. Pet ownership occurred more frequently in owner-occupied residences in smaller communities where other family was present.

Robb and Stegman (1983) investigated the hypothesis that associating with pets enhanced human coping ability as
manifested in particular indices of physical and psychosocial health including morale, social interaction, psychological symptoms, and number of diseases. In a group of elderly veterans receiving home health services, no significant differences were found between pet owners and non-pet owners on any of the health-related variables. To ascertain whether failure to control for strength of attachment of the owners to their pets might have accounted for the failure to find differences between the two groups, the owners were divided into "high-bond" and "low-bond" groups based on their responses to a question asking if they preferred people or pets. Although pet attachment was considered an important variable, the method used by these researchers is questionable with regard to accurately assessing level of attachment of the pet owners in the study.

In an effort to quantify psychological differences in personality characteristics between pet ownership and non-ownership among elderly individuals, Kidd and Feldmann (1981) compared self-ratings of owners and non-owners on an adjective checklist personality measure. The results indicated that the elderly pet owners viewed themselves as significantly more self-sufficient, dependable, helpful, optimistic, and self-confident than non-owners while non-owners tended to show less self-acceptance, self-centeredness, pessimism, and more dependency on others.
Kidd and Feldmann commented that while their findings showed there were beneficial personality characteristics associated with pet ownership, it was impossible to determine whether pet ownership per se produced such benefits or whether healthier personality types chose to own pets.

Potentially important information missing in all these empirical reports is information about the qualitative features of the relationship between pet owners and their pets. A pet owner’s relationship with his or her pet is complex, and the degree of attachment can range from weak (the pet being only mildly important) to very strong (the pet being extremely important). Level of attachment therefore seems that it would have a significant influence on the effects or characteristics associated with pet/human relationships. Most studies of pet ownership or pet contact either failed to address this variable or used unreliable methods to assess the quality and intensity of the pet/owner relationship.

Katcher and Beck (1983) stated that when considering the potential health benefits of pet ownership, it was likely that the owner’s attachment to the pet may possibly have been the most important variable mediating the pet’s influence on health or morale. According to Katcher and Beck, measures of how an owner feels about his or her pet may be as good of a predictor of the effects of the pet’s
presence on the health or well-being of the owner as observing their interactions. Unfortunately, no generally accepted measure of attachment exists.

Within a group of elderly women, Ory and Goldberg (1983), attempting to identify factors related to subjective well-being, examined the role of pet ownership as an independent predictor of perceived happiness. When the researchers controlled for sociodemographic variables, health, and social interaction factors, the mere presence of pets in the households was not associated with happiness. However, when pet owners who were very attached to their pets were separated from those who were not very attached, a significant relationship became evident between pet ownership characteristics and happiness. Ory and Goldberg assessed degree of attachment among their subjects by having owners rate attachment levels on a five-point scale ranging from "very attached" to "not at all attached."

Studies Assessing Benefits of Pet Contact With Children and Adolescents

Pets can play a significant role in the healthy emotional and physical development of children and adolescents. Robin, ten Bensel, Quigley, and Anderson (1983) suggested that by providing a source of love, companionship, and responsibility, pets could help ease the transition from childhood, through adolescence, to young
adulthood. According to the authors, pets were especially important to children and adolescents who are lonely, needy, emotionally disturbed, or delinquent. These young people frequently have poor self-concepts and have difficulty maintaining relationships, and pets can offer much-needed comfort and love during such difficult experiences.

It also seems that frequently among disturbed children, there is an intense need to master someone or something that does not talk back and accepts them regardless of who they are (Levinson, 1962). Disturbed children, according to Levinson, also need to be permitted to regress emotionally as far as possible without the object of their love berating them and creating a feeling of guilt. Pets can also fill these roles.

Levinson (1962) postulated that in many ways, the relationship between a child and a pet could be more beneficial than one between two human beings. A faithful dog, for example, can satisfy an owner’s need for loyalty, trust, obedience, and dependency. The dog can also serve the roles of companion, friend, admirer, confidante, playmate, or defender for a child. According to Levinson, when a child needs to love safely, without fearing a loss of the loved object and without risking rejection, the dog can meet this need. When a child desires a close, cuddly, affectionate, nonjudgmental relationship, the dog can
provide it. Lastly, the dog offers its owner complete approval and adoration. Although Levinson made reference to dogs in particular, other household pets could undoubtedly serve the same functions.

Levinson (1964) introduced the concept of using pets as aids in psychotherapy with children. He suggested there were two interrelated aspects of pet therapy. The first was using pets as aids in the clinician's office where they served as catalytic agents helpful in accelerating both the establishment of rapport between therapist and patient and the process of therapy. The second was placing pets in the homes of emotionally disturbed children where they tended to restore healthy communication among family members. Levinson added that pets were beneficial not only in homes whose emotional climate promotes conflict and impaired mental functioning but also in "average" homes where they may have served to promote positive mental health. Levinson also postulated that pets could be especially useful in institutions and hospitals where they greatly improved the often sterile environment by making it more warm and cheerful.

In an attempt to find out how adolescents felt about their pets, Robin, ten Bensel, Quigley, and Anderson (1983) administered questionnaires to more than 500 adolescent pet owners, some of whom lived in institutional settings (delinquents and psychiatric inpatients) and some of whom
attended regular public schools. Ninety-one percent of the total sample had owned a "special" pet at some time in their lives. The researchers hoped to determine if there were differences between the two groups in their relationships with their pets. Robin et al. (1983) reported that there was very little difference between the institutionalized group and the public school group in the percentage who had owned a special pet and in the feelings they had about their pet (72% of the total sample said they loved their pet very much). When the adolescents were asked to describe how they felt about their pet, general themes emerged such as the pet was a friend, a companion, and in some cases, "a best friend." A number of differences between the two groups was also found. Among regular school students, 27% indicated that their pet was "part of the family," but only 8% of delinquents and 6% of hospitalized youths indicated the same. Also, 17% of the delinquents said they talked over their troubles with their pets, while only 7% of public school students reported doing so. Several youths said that they turned to their pets for emotional support when they felt distressed and in need of comfort. Robin et al. (1983) considered the most significant finding differentiating the delinquent from the nondelinquent group to be the number of delinquents whose special pet was killed accidently or on purpose rather than dying of natural causes. While only 12% of the public
school group had lost a pet in this manner, 34% of the
delinquent group reported that their pet had been killed
either accidently or purposely. The researchers suggested
this discrepancy reflected the violence and chaos typical
of families of delinquent youths or it indicated a general
lack of care for pets and children. Robin et al. concluded
that based on their findings, pets seemed to be very
important to adolescents. Particularly in the lives of
disturbed and delinquent adolescents, pets played a special
role because they provided unconditional acceptance and did
not make demands or criticize.

McCullough (1986) examined the nature of relationships
between physically disabled children and their pets in an
effort to determine the effects that pet dogs and cats may
have had on the psychological health of children with
physical disabilities. Through the use of interviews
conducted with children and their parents, the following
characteristics were examined: level of self-esteem,
perceived degree of loneliness, level of independence,
degree of acceptance from others, and degree of family
cohesiveness. The main finding was that in some families,
pets played an important, positive role in the development
of psychological well-being in physically disabled
children. Pets were also valued as companions by both
children and parents and were considered helpful in the
development of self-esteem. Pet ownership as an aid to
gaining independence, gaining acceptance from others, and enhancing family cohesiveness was considered significant by some families. Overall, the results supported the role of pets in improving the lifestyle of physically disabled children.

With handicapped children who did not have pets of their own, Deatrick (1984) explored the assumption that participation in programs involving experiences with pets could significantly improve children’s self-concepts. Two programs were compared: one which provided the opportunity for each child to experience direct contact with a dog over an eight-week period, and one which provided classroom instruction about pets for the same time period. Change in self-concept was measured by pre- and posttest scores on a children’s self-concept scale and a behavior rating scale. The results suggested that direct contact with dogs had a significant effect on the children’s self-concepts but the directed learning experiences did not.

Another study investigated changes in the social behavior of institutionalized, behaviorally-disturbed, mentally retarded youths following experiences with either a pet or a plant (Jacobsen, 1984). The subjects were observed over an eight-week period during which they interacted with various pets or plants for 15 minutes per day. Changes in social behavior were evaluated by ward workers and classroom teachers using a behavioral
adjustment scale and a social interaction scale. The results indicated that inappropriate behaviors were not significantly affected by either treatment experience. Jacobsen suggested that future research use a more naturalistic setting rather than such controlled conditions for studying child/pet interactions. It could also be added that 15 minute time periods may not be sufficient for a meaningful, beneficial relationship with a visiting pet to be established.

After evidence found in their study of adult coronary heart disease patients indicated health benefits associated with pet ownership, Friedmann, Katcher, Thomas, Lynch, and Messent (1983) evaluated the effect of the presence of a pet dog on children's blood pressure and heart rates. They hypothesized that a pet could reduce the physiological arousal associated with interpersonal communication by making an experimental setting involving such communication less threatening. In their study, children were placed in a room and measures of blood pressure and heart rate were taken periodically while the children rested and again while they read poetry aloud. The children were evaluated under one of two conditions: in one condition a friendly dog was present in the room and in the other condition it was not. The results confirmed the hypothesis that the presence of a pet was associated with lowered blood pressure and heart rate both while the children rested and
while they performed a mildly stressful task (reading aloud). Friedmann et al. (1983) speculated that a pet’s presence changed a child’s perception of both the experimenter and the environment making them seem less threatening and more friendly.

Similar findings were reported by Peacock (1986) when she examined the effect of a pet dog’s presence during initial psychotherapy sessions with male adolescents. After the session, each adolescent completed a Likert-scale self-report measure designed to assess his perceived experience of the initial session with the therapist. The findings revealed that the dog’s presence enhanced adolescents’ feelings of relaxation during the hour. In comparison to those participants who did not have a dog present in the initial session, those who did reported a significantly higher level of enjoyment in talking about themselves and also made significantly fewer resistant statements.

Although none of these studies took into consideration the level of attachment the child or adolescent pet owner had to a pet, it is probable that attachment level, as well as other qualitative characteristics of the pet/child relationship, are important variables to consider in understanding the effects of childhood and adolescent experiences with pets.
Studies Assessing Benefits Of Pet Contact With Mentally-Ill Populations

Pets have been used as adjuncts to psychotherapeutic treatment since the 18th century (Corson and Corson, 1980). When pets are included in the therapeutic treatment of mentally-ill and medically-ill populations, the process is termed "pet-facilitated psychotherapy" or "pet-facilitated therapy." Based on the results of a 1972 survey of clinical psychologists in New York state, Levinson (cited in Corson and Corson, 1980) found that 33% of respondents used pets, primarily dogs, in their therapeutic interventions. In spite of the continued use of pets in therapeutic programs, empirical research in this area is extremely sparse.

Corson, Corson, Gwynne, and Arnold (1977) conducted a systematic study of the use of pet dogs and cats in treatment in a psychiatric hospital setting. The primary indication for using pet therapy was patients' unresponsiveness to traditional forms of treatment. According to Corson et al., with patients who were withdrawn, uncommunicative, and self-centered, all those who accepted the pets showed improvement in self-respect, independence, and responsibility. Furthermore, observation revealed that the pets served as catalysts to social interactions on the psychiatric ward. Introducing pet therapy exerted significant favorable effects on morale on
the ward and led to improved staff-patient interactions. Corson et al. emphasized that pet-facilitated psychotherapy was not meant "as a substitute for other forms of therapy but as an adjunct to facilitate the resocialization process" (Corson et al., 1977, p.62).

Beck, Seraydarian, and Hunter (1986) evaluated the effects of the presence of caged finches on a group of adult psychiatric inpatients with diagnoses ranging from paranoid schizophrenia to affective disorder. Thirty-minute group therapy sessions in a room containing caged finches were held daily for a period of 11 weeks. Attendance and participation in the group sessions were considered measures of therapeutic effectiveness, and patients were evaluated before and after the sessions using the Brief Psychiatric Rating Scale and the Nurses' Observation Scale for Inpatient Evaluation (NOSIE). In comparison to a matched group that did not have birds present in the room, the group that had birds present had significantly better attendance and participation and demonstrated significantly less hostility at the end of the project. The researchers suggested that the reduction in hostility may have reflected the general notion that animals were perceived as less hostile so patients felt more trusting when around animals. The researchers also noted that perhaps 11 weeks was not sufficient time for
other psychiatric symptoms in addition to hostility to be affected by the presence of the birds.

Another study (Thompson, Kennedy, and Igou, 1983) investigated the effects of pet contact on behavior change with adult patients in a chronic psychiatric unit. The participants had received diagnoses of either schizophrenia or severe organic mental disorder. The patients were exposed to an 18-hour group pet-facilitated psychotherapy procedure conducted in three 60-minute sessions per week for a period of six weeks. The procedure used was a semi-structured exercise which included pet care instruction, petting and handling, sharing the pet with other group members, and discussing feelings about the pet. A different animal was used each week including cats, dogs, and guinea pigs. Throughout the procedure, the therapist encouraged group members to share their knowledge of animals, previous experiences with pets, and feelings about the animal being handled. The objective was to create an atmosphere of trust and mutual disclosure in an attempt to stimulate feelings of caring and attachment in patients whose inability to form relationships was a basic feature of their disorders. Pre- and post-test scores on the Physical and Mental Impairment-of-Function Evaluation (PAMIE) scale revealed differential results depending on the patient's level of impairment. For only those patients with an "intermediate" level of impairment (scores between
12 and 33), significant improvement was seen in overall impairment symptoms. For the other patients involved, however, no significant changes in symptoms occurred.

**Studies Assessing Benefits of Pet Contact With Medically-Ill Populations**

Friedmann, Katcher, Lynch, and Thomas (1980) examined the effects of social factors on the survival of patients with coronary heart disease. Because pets, like human beings, serve as a source of companionship, the researchers also investigated the relationship between pet ownership and survival. Patients in a coronary care unit were interviewed about their social status and given an adjective checklist measure of psychological mood status. Friedmann et al. reported a one-year survival rate of 84% for the patients, 58% of whom were pet owners. When the researchers examined the relationship between pet ownership and one-year survival status, they found that while 28% of those patients who did not own pets had died during the year, only 6% of the patients who owned pets had died. Further analyses revealed that the association between pet ownership and survival was not related to exercise derived from walking the pets or to the severity of the illness. Friedmann et al. concluded that social factors such as pet ownership contributed significantly to explaining the variance in survival rates of coronary heart patients.
Locker (1986) explored cardiovascular response to verbalization (a mild stressor) in Type A and Type B individuals in the presence of a pet dog. While it was hypothesized that cardiovascular levels would be lower in the presence of a pet dog for both types of individuals, the results showed no significant differences in cardiovascular levels for Type A or Type B individuals in the presence or absence of a pet dog.

With adult veterans receiving home care health services for illnesses ranging from chronic pulmonary disease to cancer to coronary heart disease, Robb (1983) sought to determine if those who lived with pets differed from those who did not on selected psychosocial and physiological characteristics such as locus of control, morale, physical health, social resources, and perceptions of mental health. The participants were interviewed and given standardized rating scales such as the OARS Multidimensional Functional Assessment Questionnaire. Results indicated that people who lived with pets demonstrated significantly higher morale than those who did not. In addition, pet owners experienced slightly better mental health, a more internal locus of control, more social resources, and better physical health.

The following studies demonstrated beneficial effects on blood pressure and heart rate associated with pet contact; however, these studies used normal individuals
without any known medical problems, and findings may not generalize to other populations. The implications of such findings with regard to benefiting individuals with high blood pressure or coronary disease seem worthy of investigation.

Grossberg and Alf (1985) examined the effects of petting a dog on blood pressure levels and heart rates with normotensive adults. Initially, participants were administered an activity survey and a pet attitude scale. Each participant’s blood pressure and heart rate were then recorded as he or she rested, petted an unfamiliar dog, read, or engaged in conversation. The results indicated that while blood pressure and heart rate measures were significantly lower while the participants rested than during the other three conditions, blood pressure while petting the dog was also significantly lower than during reading or conversation.

In an effort to determine if attachment level influenced the physiological effects of petting a dog, Baun, Bergstrom, Langston, and Thomas (1984) compared heart rates, respiratory rates, and blood pressure levels of adult dog owners while they petted either their own dog (to which at least a moderate level of attachment had been established through prior measurement) or an unfamiliar dog or while they sat reading magazines. The results revealed significant differences over time in blood pressure between
petting a dog to which one had an attachment and petting an unknown dog. Changes in blood pressure when petting a dog to which a participant was attached paralleled the relaxation effects of quiet reading. No significant differences were found in participants' heart rates or respiratory rates between the attached and non-attached dog conditions.

Further evidence for the importance attachment to a pet had in influencing physiological changes associated with pet contact was provided by Jenkins (1986). With pet owners who were strongly attached to their pets (as demonstrated by high scores on a pet attitude scale), blood pressure levels were significantly lower while petting their dogs in their own homes than while reading in their homes. No significant differences were found in heart rates, however.

**Studies Assessing Benefits of Pet Contact With Normals**

Very few empirical studies have assessed the effects of contact with pets with normal populations. As a result, the literature dealing with personality differences between pet owners and non-pet owners is limited. Hyde, Kurdek, and Larson (1983) attempted to explore the relationship between pet ownership and self-esteem, social sensitivity, and interpersonal trust among college students. Based on the results of participants' performance on the Tennessee Self Concept Scale, the Hogan Empathy Scale, and Rotter's Interpersonal Trust Scale, the researchers found that pet
owners obtained higher scores on empathy and interpersonal trust than non-pet owners. There were no significant differences between the two groups on self-esteem. The researchers noted that perhaps stronger effects for pet ownership might have been obtained if the non-pet owner group had been further classified into those who never have and probably never will own pets and those who have previously owned pets but currently do not. It is also likely that taking into account the attachment level of the pet owners to their pets may have resulted in stronger differences between the pet owners and non-owners.

Another study (Paden-Levy, 1985) investigated the relationship between pet ownership and extraversion, neuroticism, and alienation with college students using the Eysenck Personality Inventory and the Alienation Scale. As hypothesized by Paden-Levy, the results demonstrated a negative association between pet ownership and neuroticism and between pet ownership and alienation. The relationship between ownership and extraversion was insignificant, however. Again, attachment level of the pet owners was not taken into consideration, and it could be speculated that this variable may have influenced the findings.

Friedmann, Katcher, Eaton, and Berger (1984) attempted the first large-scale comparison of the psychological and physiological status of pet owners and non-pet owners. College students were assessed for anxiety, depression,
Type A (coronary prone) behavior, androgeny, sensation seeking, mood, blood pressure, heart rate, and health status. The measures used by the researchers included the Profile of Mood States, Spielberger's State-Trait Anxiety Inventory, the Johns Hopkins Symptom Index, and the Jenkins Activity Scale. The results indicated no significant differences on the physiological and psychological measures between current pet owners, former pet owners, and those who had never owned pets. The results revealed a relationship between pet ownership and type of residence with apartment dwellers significantly less likely to currently own pets or to previously have owned pets. The researchers concluded that there was a need to account for demographic variables when studying personality differences between pet owners and non-owners.

According to Brown, Shaw, and Kirkland (1972), a popular opinion about pet owners is that "fanatical" animal lovers are people who have displaced their affection from people to pets. These researchers investigated the relationship between affection for dogs and affection for people among college students. The participants were divided into Low Affection, Moderate Affection, and High Affection groups based on their responses to a nine-item rating scale developed by the researchers to assess feelings toward dogs. The Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) was administered as
a measure of affection toward people. The results indicated that people who expressed little affection for dogs also tended to show little affection for other people and did not support the notion that people who had at least moderate affection for pets did so at the cost of affection for other people.

In a study by Cameron, Conrad, Kirkpatrick, and Banteen (1966) designed to assess personality correlates of pet ownership, adult pet owners' fondness for others and opinion about how well others liked them was assessed using a two-item self-report rating scale. The findings indicated a tendency for pet owners to report liking others less than non-owners. No findings were reported for how the two groups compared on estimates of how well they were liked by others. The authors of the study commented that due to the insensitivity of the instrument used and to the fact that they did not assess degree of attachment to pets among the pet owners, no firm conclusions were indicated.

Based on their research in the area of pet/human interactions, Peacock and McCulloch (1986) maintained that for some people, pets replaced the need for human relationships, but in general, the research indicated that pets acted as social catalysts to other human interaction and that people who liked pets also liked people. These overall findings supported the earlier assertions of
Levinson regarding interpersonal benefits accrued to pet owners.

Levinson's (1965) propositions about pet ownership has been summarized as follows: The personality development of individuals who have pets to which they are attached differs from that of those who do not have pets. Pets play an important role in facilitating the development of certain adaptive personality traits such as a healthy self-concept, good self-esteem, a sense of competence, impulse control, and the capacity to love and empathize. Pets can also help retard deterioration during old age. Lastly, relating to a pet in an empathic and considerate manner is good preparation for relating to other people in the same way.

While Levinson focused primarily on personality development occurring during childhood, he espoused the view that personality growth continues throughout adulthood. Therefore, while the beneficial influences of pet ownership may have the strongest effect and thus be most advantageous when the experience occurs during childhood, having a pet at any other time in life can still foster the healthy personality characteristics and other benefits that Levinson discussed.

The purpose of this study was to investigate empirically a number of Levinson's propositions about the association between pets and human personality development.
More specifically, areas that were addressed included differences in certain personality characteristics between people who had owned pets all their lives and people who had owned pets for a more limited period of time.

This study attempted to validate Levinson's theory by seeking to confirm the following six specific hypotheses: 1) no significant differences would be found between life-long pet owners who were strongly attached to their pets, life-long pet owners who were less strongly attached to their pets, and limited-time pet owners in their levels of affiliation with other people. In comparison to limited-time pet owners and life-long pet owners who were less strongly attached to their pets, life-long pet owners who were most strongly attached to their pets would 2) have significantly greater impulse control; 3) demonstrate significantly more nurturance; 4) show significantly less succorance; 5) have a significantly greater capacity for empathy; and 6) have significantly lower anxiety levels. Another hypothesis was that concurrent validity would be demonstrated between participants' membership in the "most attached life-long pet owner" group and positive attitudes toward pets. In addition, two other hypotheses were explored: Systematic differences would exist between the most attached life-long pet owners, less attached life-long pet owners, and limited-time pet owners in their interpersonal behavior characteristics and their self-
concepts. It was expected that the most attached life-long pet owners would show more healthy characteristics in these two areas of functioning.
CHAPTER II

METHOD

Subjects

One hundred undergraduate college students were recruited from various undergraduate psychology classes at a large eastern state university. The age of the sample ranged from 18 to 41. Fifty-nine percent of the sample was female (n = 55) and 41 percent was male (n = 38). Eighty-eight percent of the sample was White (n = 82) and 12 percent was Black (n = 11). Subjects were awarded extra credit points in psychology courses in exchange for their voluntary participation in the study.

Originally, each participant was to be assigned to one of three experimental groups: attached pet owners, non-attached pet owners, and non-pet owners. Pet ownership status was assessed on the basis of each participant’s response to the question, "Do you now or have you ever owned a pet?" For purposes of the present study, "pet" was defined to subjects as "a domesticated (household) animal that is kept as a companion and treated with affection." An unexpected finding of this study was that 99% of the sample had owned a pet for at least some period of time in their lives. Of these pet owners, all but one individual reported owning either a dog or a cat or both. Only one
subject reported owning a less traditional type of pet (e.g. fish, bird, reptile). As a consequence, a non-pet owner group could not be included in the present study. Instead, pet owners were divided into life-long pet owners and limited-time pet owners based on their reports of length of time of pet ownership. The life-long pet owners were further divided into a strongly attached group and a weakly attached group based on their response to the question asking them to rate their level of attachment to their pet on a five-point scale ranging from "very attached" to "not at all attached." This method of assessing attachment level was adopted from Ory and Goldberg (1983). In the present study, "very attached" was defined to subjects as "my pet is extremely important to me" and "not at all attached" was defined as "my pet is not at all important to me."

**Instruments**

The Pet Attitude Scale (PAS). The Pet Attitude Scale (PAS), devised by Templer, Salter, Dickey, Baldwin, and Veleber (1981), is an 18-item scale designed to measure the favorableness of an individual's attitude toward pets. Each item has seven alternative responses ranging from "strongly agree" to "strongly disagree." High scores indicate a favorable attitude toward pets. The PAS has been found to be stable and internally consistent, with all of the items correlating at least .50 with the total scale.
A Chronbach’s Alpha coefficient of .93 and a test-retest reliability rating of .92 have been reported by the scale’s authors. A principal-components factor analysis, also conducted by the scale’s authors, has revealed three factors of the PAS: "love and interaction," "pets in the home," and "joy of pet ownership," and these account for 84.6%, 8.6%, and 6.9% of the variance, respectively. Templer et al. (1981) reported that the PAS has been shown to successfully discriminate between kennel workers and social work graduate students, with kennel workers obtaining higher mean scores. Because there were no reported normative data for the PAS (D. Templer, personal communication, July 20, 1988), the scale was administered to 32 undergraduate college students in an undergraduate psychology class to obtain normative data appropriate for use with the college sample that was used in the present study. A list of the Pet Attitude Scale items and the directions in which they are keyed appear in Appendix A.

The Pet Attitude Inventory (PAI). Developed by Wilson, Netting, and New (1987), the Pet Attitude Inventory (PAI) was intended to measure pet ownership attitudes and attachment levels. It was intended primarily to provide descriptive information about pet ownership (C. Wilson, personal communication, May 5, 1988). The inventory has two forms, one for pet owners and one for non-owners, and contains forced-choice questions, some of which allow
subjects to respond in a category labelled "other." Both forms share seven demographic questions. The pet owner form has 50 additional questions, while the non-owner form contains 17 additional questions. The PAI has been shown to have content validity. Selected items from the PAI were included in the demographic information form completed by participants in the present study. These items pertained to types of pets owned, responsibility for pet care, length of time of pet ownership, and reasons for owning a pet. These items were included to provide descriptive information about pet ownership. Copies of both forms of the Pet Attitude Inventory appear in Appendix B.

The Tennessee Self Concept Scale (TSCS). Developed to assess how an individual perceives him or herself, the Tennessee Self Concept Scale (TSCS) (Fitts, 1965) consists of 100 self descriptive statements which a subject uses to portray him or herself. Each item has five alternative responses ranging from "completely false" to "completely true." Numerous aspects of the self-concept are measured including perceptions of one's physical self, moral and ethical self, family self, and social self; self-criticism; self-satisfaction; behavior; identity; self-esteem; and variability from one area of self perception to another.

The TSCS is available in two forms: (a) the Counseling Form and (b) the Clinical and Research Form. Both forms contain
identical items but use different scoring and profiling systems. The Clinical and Research Form was used in this study.

The test-retest reliability coefficients of all major scores range from .67 (Total Variability Score) to .92 (Total Positive Score) (Fitts, 1965). The TSCS has been shown to be successful in discriminating between psychiatric and normal subject groups and between different diagnostic groups of a psychiatric population. In the present study, the TSCS was used to obtain profile information about participants' self-concepts.

The Personality Research Form (PRF). The Personality Research Form (PRF), developed by Jackson (1984), was originally based on Murray's (1938) need theory of personality. The PRF is designed to yield a set of scores for personality traits relevant to the functioning of individuals in a wide variety of situations. The test is available in six formats, and Form E, the form of choice for a broad range of applications, was used in this study. Form E is preferable to the other formats because psychometrically, it was constructed to have minimal interscale redundancy. Normative data for male and female college students exists for Form E.

Form E of the PRF consists of 352 items comprising 20 16-item personality variable scales: (a) Abasement, (b) Achievement, (c) Affiliation, (d) Aggression, (e) Autonomy, (f) Change, (g) Cognitive structure, (h) Defendence, (i)
Dominance, (j) Endurance, (k) Exhibition, (l) Harmavoidance, (m) Impulsivity, (n) Nurturance, (o) Order, (p) Play, (q) Sentience, (r) Social recognition, (s) Succorance, (t) Understanding; and two 16-item validity scales: (a) Desirability and (b) Infrequency.

Reliability ratings for all scales, derived from a college sample, range from .50 (Play scale) to .91 (Harmavoidance scale) (Jackson, 1984). Validity coefficients for the 20 PRF clinical scales, also using a college sample, range from .16 (Understanding scale) to .64 (Order scale) for behavior ratings and from .23 (Defendence scale) to .76 (Order scale) for self ratings. In the present study, participants' scores on four of the clinical scales from the PRF (Affiliation, Impulsivity, Nurturance, Succorance) were used as measures of each participant's affiliation level, impulse control, nurturance capacity, and succorance level. Succorance is defined as seeking the sympathy, advice, and reassurance of others and is considered the opposite of nurturance. Scores on the validity scales were also checked to ensure that the participants' test results were not influenced by attempts to respond in a socially-desirable way.

The Hogan Empathy Scale (HES). The Hogan Empathy Scale (HES) (1969) was devised to measure the concept of "empathy," defined as "the intellectual or imaginative apprehension of another's condition or state of mind"
Empathy has been shown to predict a wide range of phenomena related to social acuity, interpersonal sensitivity, role-taking, and a broad moral perspective (R. Hogan, personal communication, May 11, 1988). High scores on the HES indicate high levels of empathy. Females typically score from one to two points higher than males on this scale (Hogan, 1969).

In its original form, the HES consisted of 64 items taken from both the California Personality Inventory and the Minnesota Multiphasic Personality Inventory. The scale was constructed to predict Q-sort derived empathy ratings. In the samples used in its development, the average correlation between the scale and Q-sort derived empathy ratings was .62, while in an independent sample of medical school applicants, this figure was .39 (Hogan, 1969). In a second study by Hogan (1969) of the original scale's validity, the reliability coefficients of composite ratings ranged from .68 to .86. Reliability of the scale, determined by a test-retest correlation after a two month interval using college students, was .84. Using a military sample, this figure was .71.

The revised version of the Hogan Empathy Scale consists of 38 true/false statements abstracted from the California Personality Inventory. The revised scale was used in the current study. It was reported to correlate .90 with the original 64-item version (R. Hogan, personal communication,
May 27, 1988). The HES was used in the present study to determine participants' empathy levels. A copy of the scale's items appears in Appendix C.

**The Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B).** The Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B), developed by Schutz (1967), is a 54-item questionnaire designed to measure an individual's behavior toward other people in the areas of "inclusion," "control," and "affection." These dimensions may be defined as follows: (a) **inclusion** - "the interpersonal need to establish and maintain a satisfactory relationship with people with respect to interaction and association"; (b) **control** - "the interpersonal need to establish and maintain a satisfactory relationship with respect to control and power"; (c) **affection** - "the interpersonal need to establish and maintain a satisfactory relationship with others with respect to love and affection" (Schutz, 1967). The FIRO-B was designed not only to assess individual characteristics but also to facilitate the prediction of interaction between people. To accomplish this second objective, two aspects of behavior in each dimension are assessed: the behavior an individual "expresses" toward others (e) and the behavior he or she "wants" others to express toward him or her (w). The FIRO-B therefore comprises six scales: Expressed and Wanted behavior in the areas of Inclusion, Control, and Affection.
The FIRO-B contains only six basic questions (Ryan, 1977). Each is repeated with slight variations nine times, comprising a total of 54 items. For each item, individuals choose one of six responses ranging from one extreme to the other (e.g. "usually" to "never"). Acceptance/rejection cut-off points vary for each item and have been established by extensive empirical research.

When interpreting an individual's scores on the FIRO-B, the following steps have been recommended (Ryan, 1977).

1. Note the dominant high and low points in the profile—scores on the FIRO-B range from 0 to 9 with both high and low scores representing extremes having interpretive significance.

2. Note the exact position of the score within the 0-9 range—the intensity of the score modifies the strength and applicability of the behavioral descriptions for high and low scores in each area. For example, 0-1 are considered extremely low scores while 8-9 are extremely high scores.

3. Consider the general orientation within each area—an individual's orientation within the areas of inclusion, control, and affection is revealed by the interaction of the "expressed" and "wanted" behaviors. The greater the discrepancy between the two scores, the greater the probability of conflict between the expressed and wanted behaviors.
4. Note the interaction among the three areas—the way an individual behaves in one area may help or hinder the interpersonal stance assumed in other areas.

Test-retest reliability coefficients, after a one month period using college students, ranged from .71 (wanted-control) to .82 (expressed-inclusion) with a mean coefficient of .76 (Schutz, 1967). Content validity of the FIRO-B has been established, and the test has been shown to successfully discriminate between different occupational groups. The FIRO-B was used in the present study to obtain profile information about participants' interpersonal behavior.

The IPAT Anxiety Scale Questionnaire (IPAT). Developed by Cattell and Scheier (1963), the IPAT Anxiety Scale Questionnaire (IPAT) was designed to measure an individual's "free-floating" manifest anxiety level. The scale has been used not only for initial diagnosis but also in follow-ups for charting progress or change in level of anxiety. The IPAT consists of 40 questions, each having three alternative answers (e.g. "yes," "sometimes," and "no"), which are distributed among five anxiety-measuring factors or components. These five factors are: (a) defective integration, lack of self sentiment, (b) ego weakness, lack of ego strength, (c) suspiciousness or paranoid insecurity, (d) guilt proneness, (e) frustrative tension or id pressure. The 40 test items may be divided
into those which reflect overt, symptomatic, conscious anxiety and those which indicate more covert, hidden anxiety. A single total anxiety score based on all 40 items was obtained with high scores indicating high levels of anxiety.

Construct validity for the total IPAT scale is estimated at .85 to .90 (Cattell and Scheier, 1963). The average correlation between individual items and total test score was almost .40, while the multiple correlation between all items and the total score exceeded .92. Test scores on the IPAT have been shown to successfully discriminate between normals and high anxious samples. The anxiety cases, averaging a raw score of 45, were almost 20 full points higher on the Scale than normals (the total possible score range is 80 points). A test-retest reliability rating, after a 2-week interval using college students, was .87. A Chronbach’s Alpha coefficient of .84, using a normal adult sample, has also been reported by the scale’s authors. In the present study, the IPAT was used to assess participants’ anxiety levels.

Procedure

Subjects were instructed to read and sign an informed consent form stating the purpose of the study and guaranteeing confidentiality of their test data and their anonymity as participants. Seven subjects had to be dropped from the study due to either incomplete test data
or because their age exceeded the traditional college age range of 18 to 25 years. The remaining 93 comprised the sample for the present study. After completing a demographic information form, which included selected items from the Pet Attitude Inventory, subjects were administered six tests in the following order: the Pet Attitude Scale, the Tennessee Self Concept Scale, the Personality Research Form-Form E, the Hogan Empathy Scale, the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B), and the IPAT Anxiety Scale Questionnaire. The tests were group-administered. Standardized scoring procedures were used for all the tests. The last ten participants were given an additional measure to gain more specific information about their ownership of pets.
CHAPTER III

RESULTS

The most attached life-long pet owners comprised 54% ($N = 50$) of the sample, the least attached life-long pet owners included 20% ($N = 19$) of the sample, and the limited-time pet owners comprised 26% ($N = 24$) of the sample. The one subject who had never owned a pet was included in the limited-time pet owner group. The group means and standard deviations of scores on the six predictor variables (affection, impulsivity, nurturance, succorance, empathy, and anxiety) obtained for the sample are presented in Table 1.

Table 1

Group Means and Standard Deviations For The Six Predictor Variables

<table>
<thead>
<tr>
<th></th>
<th>Most Attached Life-Long Owners</th>
<th>Least Attached Life-Long Owners</th>
<th>Limited-Time Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Affect</td>
<td>10.60</td>
<td>3.53</td>
<td>9.84</td>
</tr>
<tr>
<td>Impuls</td>
<td>7.32</td>
<td>3.40</td>
<td>7.21</td>
</tr>
<tr>
<td>Nurt</td>
<td>12.14</td>
<td>2.70</td>
<td>10.37</td>
</tr>
<tr>
<td>Succ</td>
<td>9.36</td>
<td>3.04</td>
<td>8.26</td>
</tr>
<tr>
<td>Empath</td>
<td>21.12</td>
<td>3.97</td>
<td>20.53</td>
</tr>
<tr>
<td>Anx</td>
<td>35.98</td>
<td>10.12</td>
<td>36.11</td>
</tr>
</tbody>
</table>
The shapes of the distributions of the predictor variables were all normal. A test of the assumption of equality of group covariance matrices using Box's M indicated that this assumption was met, Box's M = 60.45, F(42, 10018.7) = 1.27, p < .11.

In the present study, prediction of pet ownership status was attempted using a multivariate multiple discriminant function analysis using the mean vectors of the six discriminant (predictor) variables. Before discriminant functions could be generated, the Wilks' lambda statistic was computed to determine if the three pet owner groups differed significantly on the set of six predictor variables. The Wilks' lambda value and corresponding F value for each of the six predictor variables appear in Table 2.

Table 2
Wilks'Lambda and Univariate F Ratio

<table>
<thead>
<tr>
<th></th>
<th>Wilks'Lambda</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affection</td>
<td>.9904</td>
<td>.44</td>
<td>.65</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.9967</td>
<td>.15</td>
<td>.86</td>
</tr>
<tr>
<td>Nurturance</td>
<td>.9175</td>
<td>4.04</td>
<td>.02</td>
</tr>
<tr>
<td>Succorance</td>
<td>.9825</td>
<td>.80</td>
<td>.45</td>
</tr>
<tr>
<td>Empathy</td>
<td>.9953</td>
<td>.21</td>
<td>.81</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.9912</td>
<td>.40</td>
<td>.67</td>
</tr>
</tbody>
</table>
Because the three pet owner groups were not found to differ significantly on the overall set of six discriminant (predictor) variables, the discriminant function was found not to be useful in predicting group membership. In other words, the predictor variables of affection, impulsivity, nurturance, succorance, empathy, and anxiety did not, as a set, discriminate among the most attached life-long pet owners, least attached life-long pet owners, and limited-time pet owners.

Two canonical discriminant functions were generated. Chi square analyses were computed for each of the two derived discrimination functions. Both were found to be insignificant and therefore not successful in predicting group membership. The standardized canonical discriminant function coefficients are listed in Table 3.

Table 3

<table>
<thead>
<tr>
<th></th>
<th>Function 1</th>
<th>Function 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affection</td>
<td>.0017</td>
<td>.2600</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.2416</td>
<td>-.3568</td>
</tr>
<tr>
<td>Nurturance</td>
<td>1.0618</td>
<td>-.1485</td>
</tr>
<tr>
<td>Succorance</td>
<td>-.1143</td>
<td>.7263</td>
</tr>
<tr>
<td>Empathy</td>
<td>-.2490</td>
<td>.3623</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.2703</td>
<td>-.4815</td>
</tr>
</tbody>
</table>
The pooled within groups correlations between the six discriminant (predictor) variables and the discriminant functions are presented in Table 4. The variables in Table 4 are ordered by the size of the correlation within the discriminant functions.

Table 4
Pooled Within-Groups Correlations Between Discriminant Variables and Canonical Discriminant Functions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Function 1</th>
<th>Function 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurturance</td>
<td>.8997</td>
<td>.3451</td>
</tr>
<tr>
<td>Affection</td>
<td>.1300</td>
<td>.6200</td>
</tr>
<tr>
<td>Succorance</td>
<td>.3255</td>
<td>.5556</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.1920</td>
<td>-.4873</td>
</tr>
<tr>
<td>Empathy</td>
<td>.0230</td>
<td>.4777</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.1472</td>
<td>-.2206</td>
</tr>
</tbody>
</table>

Tables 3 and 4 indicate that the only predictor variable reliably related to group membership is nurturance. Given that 53.7% of the subjects in this study were the most attached life-long pet owners, one could successfully predict group membership 53.7% of the time by ignoring all predictor variables and simply predicting membership in the most attached life-long pet owner group. The 55.9% success rate obtained with the best discriminant function is only slightly better than that obtained by chance.
Next, univariate ANOVA’s were computed for each of the six predictor variables separately. Of the six ANOVA’s computed, only one revealed a significant difference between the groups on the variable of nurturance, $F(2, 90) = 4.05, p < .02$. A post-hoc analysis was conducted to determine where the significant differences lie among the groups on the predictor variable of nurturance. The harmonic means of the sample sizes of the groups were compared. The Student-Newman-Keuls procedure revealed that, as predicted, the most attached life-long pet owners scored significantly higher on the nurturance variable than the limited-time pet owners ($p < .05$). Although the most attached life-long pet owners also scored higher than the least attached life-long pet owners on the nurturance variable, this difference was not statistically significant. Although the magnitude of the difference between the most attached life-long pet owners and the least attached life-long pet owners on the variable of nurturance was larger than that obtained between the most attached life-long pet owners and the limited-time pet owners, the difference was not significant because the Student-Newman-Keuls procedure uses the number of scores in each group in its comparisons, and the least attached life-long pet owners simply did not have enough members ($N = 19$) for the difference to be significant.
Two additional hypotheses were explored in the present study. The first was that systematic differences would be found between most attached life-long pet owners, least attached life-long pet owners, and limited-time pet owners in their interpersonal behavior characteristics. Independent one-way ANOVA's were computed on the means of the three pet owner groups for the three interpersonal behavior dimensions of control, inclusion, and affection. No significant differences were found between the three pet owner groups on any of the three interpersonal behavior characteristics.

A second exploratory hypothesis was that systematic differences would be revealed between the three pet owner groups in their self-concepts. Independent one-way ANOVA's were computed on the means of the three pet owner groups for the self-concept dimensions of self-esteem, self-criticism, and inconsistency from one area of self-perception to another. No significant differences were found between the three pet owner groups on any of the three self-concept characteristics.

Because the three pet owner groups did not contain an equal number of subjects, Cochran's C test and Bartlett-Box F test were computed to ensure homogeneity among the group variances on the six discriminant (predictor) variables. Homogeneity of variances among groups on all six variables was indicated.
Another hypothesis of this study was that concurrent validity would be demonstrated between participants' membership in the pet owner groups and positive attitudes toward pets as measured by the Pet Attitude Scale. Intuitively, it was expected that the most attached life-long pet owners would obtain the highest scores on the Pet Attitude Scale. A one-way ANOVA was used to analyze the differences among the groups on the Pet Attitude Scale measure. This comparison demonstrated that there was a significant difference, $F(2, 90) = 12.07, p < .0001$, between the groups in their scores on the Pet Attitude Scale.

A post-hoc analysis using the Student-Newman-Keuls procedure indicated that, as hypothesized, the most attached life-long pet owners obtained significantly higher scores on the Pet Attitude Scale than the other two pet owner groups ($p < .05$).

To test for homogeneity of variance among the three pet owner groups on the Pet Attitude Scale scores, the Cochran's $C$ test and Bartlett-Box $F$ test were used, and they indicated there was significant heterogeneity of variance, $F_{\text{max}}(2, 90) = 2.95, p < .007$. While the rejection of the assumption of homogeneity of variances for the ANOVA procedure is considered problematic in some instances, it is not considered a problem in this instance as the ANOVA is sufficiently robust and because the $F_{\text{max}}$
does not exceed a value of four or five. Of interest was the finding that the variance was inversely related to the mean, suggesting a "ceiling effect." Indeed, the highest score obtainable on the Pet Attitude Scale was 18, and the range of scores for the most attached life-long pet owners was 12 to 18. It is reasonable to expect that the most attached life-long pet owners might have obtained even higher scores if it were possible to do so.

To further investigate the relationship between the Pet Attitude Scale scores and the pet owners' attachment levels, a $t$-test was used to compare the means of the most attached life-long pet owners and the least attached life-long pet owners on the Pet Attitude Scale. The results of the $t$-test indicate a significant difference in Pet Attitude Scale score means between the most attached and least attached life-long pet owners, $t(49.6) = 4.99$, $p < .001$.

An $F$-test computed on the Pet Attitude Scale scores for the two life-long pet owner groups revealed that the homogeneity of variance assumption had been violated, $F = 2.37$, $p < .004$. However, this heterogeneity of group variances is again considered indicative of a "ceiling effect" regarding the most attached pet owners' scores on the pet attitude measure. The results of the $t$-test and the corresponding $F$ test are presented in Table 5.
Table 5

Test For The Assumption of Homogeneity of Variance

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>t</th>
<th>df</th>
<th>2-tail prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most Attached</td>
<td>16.38</td>
<td>1.20</td>
<td>2.37</td>
<td>4.99</td>
<td>49.59</td>
<td>.000</td>
</tr>
<tr>
<td>Life-Long Owners&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Least Attached</td>
<td>34</td>
<td>14.62</td>
<td>1.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life-Long Owners&lt;sup&gt;2&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup><sub>N = 58</sub>

<sup>2</sup><sub>N = 34</sub>
CHAPTER IV

DISCUSSION

Support for Levinson's theory about the association between pets and human personality development was not found in the present study. No significant differences were found between life-long pet owners who were strongly attached to their pets, life-long pet owners who were less strongly attached to their pets and limited-time pet owners in levels of affiliation with other people, impulse control, nurturance, succorance, capacity for empathy, and anxiety levels.

Two additional exploratory hypotheses were not supported in the present study. No significant differences were found between the three pet owner groups in interpersonal behavior characteristics or self-esteem.

Another hypothesis explored in the present study was that concurrent validity would be shown between membership in the different pet owner groups and scores on the Pet Attitude Scale. As predicted, the most attached life-long pet owners reported more positive attitudes toward pets than the least attached life-long pet owners or the limited-time pet owners. This finding also confirms an association between both length of time of pet ownership and attachment level and positive attitudes toward pets.
The finding that the variance in scores for the three pet owner groups was inversely related to the group means suggests a "ceiling effect" on the Pet Attitude Scale scores for the most attached life-long pet owners.

Given that current estimates of pet ownership suggest that 50-55% of American families own pets, it was expected that a reasonable proportion of a sample of college students would have grown up in homes without pets. However, of the 100 undergraduate college students who were recruited as participants in this study, only one of them reported never having owned a pet. While it is possible that the college sample used in this study was a biased sample, it is also possible that the 50-55% estimate of current pet ownership in American homes does not accurately reflect the proportion of individuals who have owned a pet at some time during childhood or adolescence.

Given this unanticipated and overwhelming preponderance of pet owners, it became necessary to divide the sample into different groups than that which was originally intended. Because Levinson and a number of other personality theorists view personality development as an ongoing process that continues throughout adulthood, it seems reasonable to expect there might be an association between length of time a person owns pets and certain personality variables. The participants in this study were
therefore divided into individuals who currently own and always have owned pets (life-long owners) and those who do not currently own or have owned pets for only a limited period of their lives (limited-time owners). Attachment level, which has been found to be an important variable in previous studies involving pet contact, was used to divide the life-long pet owners into the most attached and least attached groups.

In an attempt to gain more specific information about the length of time of pet ownership and to gain increased variability among the sample, the last ten participants were asked to provide additional information about the pets they have owned. Initially, the definition of a pet provided in the demographic information form (i.e. "a domesticated (household) animal that is kept as a companion and treated with affection") was read aloud to the participants with the added explanation of "household" signifying the pet actually lived in the house and "treated with affection" meaning the pet could be caressed, held, or played with. As a result of this clarification of the definition of a pet, participants only included pets in the categories of dogs and cats. Next, the ten participants were asked to list for each year of their life the name and type of the pet or pets owned. This enabled each participant to be assigned a "Pet Year" score equal to the
summed number of years of ownership for every pet owned. For example, if a subject owned one dog for five years and one cat for three years, they were given a "Pet Years" score of eight (one pet X five years + one pet X three years). If a subject owned both one dog and two cats for a period of eight years each, they received a "Pet Years" score of 24 (three pets X eight years).

Pearson r correlations were computed for the final ten participants on all the variables of interest used in this study, including the "Pet Years" variable. A significant positive correlation was obtained between scores on the Pet Attitude Scale and impulsivity (r = .22, p < .02), scores on the Pet Attitude Scale and the self-concept dimensions of self-criticism (r = .17, p < .05) and self-esteem (r = .18, p < .04). While the impulsivity and self-criticism correlations were in the opposite direction from that expected, the self-esteem correlation was in the anticipated direction. An enormous positive correlation was obtained between "Pet Years" and the interpersonal behavior dimension of affection (r = .81, p < .002).

A number of methodological problems were associated with this study. A primary problem was with the way a "pet" was defined to subjects as "a domesticated (household) animal that is kept as a companion and treated with affection." Given that the participants were allowed
to read this definition to themselves and were given no additional information or clarification, a number of participants apparently failed to understand that, for the purposes of the present study, a pet should be an animal that is adaptable to living in the house. Some subjects included animals such as horses and goats. Also apparently not well understood by the participants was the condition that, for the purposes of this study, a pet should be capable of providing companionship and receiving affection. Some subjects included animals such as spiders and mice. Despite this lack of clarity in the definition of what type of animal could be considered a pet, all but one of the 92 subjects who owned pets reported owning a traditional type of pet such as a dog or cat (domesticated and affectionate) although many also reported less traditional types such as birds or fish. To improve this method of assessing pet ownership, further clarification of what constitutes a pet is needed. With the final ten subjects in this study, the additional verbal clarification did seem to improve the reliability of the method. Another improvement might be to assess pet ownership using an individual method like an interview rather than by group assessment.

A second methodological problem involves the manner in which subjects were recruited for this study. A sign-up list was posted on campus advertising the need for
undergraduates "to participate in a research study about personality and pet ownership." Although the advertisement stated that students need not be pet owners to participate and furthermore, although an additional notice was added that "people who have never owned a pet are especially needed" approximately halfway through the study, it is possible that only individuals who are pet owners or who have an interest in pets would volunteer for such a study. A better method for recruiting subjects for a pet study might be not to advertise that the study has anything to do with pets. Another common concern when using volunteers as subjects is the possibility that certain types of individuals are more likely than others to participate in a study, thereby biasing the sample.

The primary objective of this study to use a multivariate multiple discriminant function analysis to predict pet ownership status was unsuccessful. The most attached life-long pet owners, least attached life-long pet owners, and limited-time pet owners did not differ significantly on the mean vectors for the discriminant (predictor) variables of affection, impulsivity, nurturance, succorance, empathy, and anxiety. Given that 53.7% of the subjects were members of the most attached life-long pet owner group, the 55.9% success rate obtained with the best discriminant function is only slightly better
than that obtained by simply ignoring all predictor variables and estimating membership in the most attached life-long pet owner group.

While, as a set, the six predictor variables (affection, impulsivity, nurturance, succorance, empathy, and anxiety) failed to differentiate between the pet owner groups, univariate analyses of each of these variables did reveal a significant difference between the pet owner groups on the variable of nurturance. The most attached life-long pet owners obtained significantly higher nurturance scores than the limited-time pet owners. This finding confirms an association between both length of time of pet ownership and attachment level and nurturance capacity.

The attempt to increase differentiation among the pet owner groups by the addition of the "Pet Years" variable (the summed number of years of ownership for every pet owned) was successful. Actually, the "Pet Years" variable was found to have more variability among subjects than any of the other variables of interest in this study. An improvement for future studies about pet ownership would be to include a variable of this nature to better define the extent and duration of contact with pets.

When correlations were computed among all the variables of interest in the present study, some unexpected
associations were found. Positive attitudes toward pets were significantly related to high levels of self-esteem, impulsivity, and self-criticism. A highly significant relationship was also found between "Pet Years" and the interpersonal behavior dimension of affection. This last finding seems to support the notion that people who have increased contact with pets do not demonstrate less affection for other people.

While the overall results of this study do not provide support for Levinson's theoretical propositions, the results do seem to indicate that owning a pet that one is attached to is related to one's capacity to be nurturant. The results also suggest a relationship between the extent and duration of contact with pets and level of self-esteem, impulsivity, and self-criticism.

The findings from the present study cast doubt on some of the previous studies found in the literature. Of those studies which reportedly compared pet owners with non-pet owners, it is uncertain how the non-pet owners who participated were selected. Perhaps many of those participants classified as non-pet owners had actually owned pets during some previous period in their lives. The difficulty encountered in this study in locating people who had never owned pets makes it seem unlikely that non-pet owners would have been readily available to previous
researchers in this field of interest.

Further research in the area of pets and human personality development is needed to gain validity for the benefits associated with pet contact proposed in the literature. Further research is also needed to determine what, if any, personality differences exist between people who own pets and people who do not. Future studies might focus on differences between different types of pet owners such as those who own pets simply for companionship and those who own pets for sport or show.

Given the numerous types of animals that might be considered pets, it seems likely that differences might exist between pet owners who have more traditional kinds of pets such as dogs or cats and those who own more unusual types of pets such as reptiles or those less typically considered domesticated such as farm animals. The range of creatures that might be considered pets seems almost unlimited and perhaps no standard definition of what constitutes a pet can be determined. What is considered a pet may vary considerably from one individual to another. Perhaps exploration into how people define a pet or characteristics common to all types of pets would help clarify this dilemma.

Another possible area of focus is exploring how the experience of pet ownership is perceived and communicated
within a family. While some theorists might speculate that a liking for pet animals is an innate characteristic, other theorists might view such a tendency as something inherited from a parent or instilled in a child by a parent through modeling. A well-defined theory about liking for pets does not currently exist. Perhaps the development of a sound theory about how attitudes toward pets develop is the essential key to clarifying this area of research.
APPENDIX A

THE PET ATTITUDE SCALE
PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

- 74-79, THE PET ATTITUDE SCALE
- 81, THE PET ATTITUDE INVENTORY
- 83-85, THE HOGAN EMPATHY SCALE
Pet Attitude Inventory for Non-Pet Owners

USE THIS FORM IF SUBJECT DOES NOT OWN A PET NOW

Subject's Name or Code Number ______________________________________
Address or Interview Site __________________________________________
Pet Ownership Category _____________________________________________
Interviewer's Code ________________________________________________
Date of Interview _________________________________________________

Directions: Circles the appropriate response. Please complete all questions. Do not leave questions unanswered. Notations in parentheses are instructions for the interviewer.

Demographic Information

"I'd like to ask you a few background questions."

1. I can be circled without asking. What is your sex?
   1. Female
   2. Male

2. What is your race?
   1. Black
   2. White
   3. Hispanic
   4. Native American
   5. Asian
   6. Other, specify ____________________________

3. On your last birthday, how old were you?
   (Write in)

4. How would you rate your health at present?
   1. Excellent
   2. Good
   3. Fair
   4. Poor

Pet Survey

"Now I would like to ask you a few questions about pets."

1. Have you ever had a dog, cat, or bird? (If NO, skip to question #5.)
   1. Yes
   2. No

2. When was the last time you had a pet?
   1. Less than one year
   2. 1-5 years
   3. 6-10 years
   4. Greater than 10 years

3. What kind of pet did you have last?
   1. Bird
   2. Cat
   3. Dog
   4. Other, specify ____________________________

4. What happened to your pet?
   1. Died
   2. Gave it away (Reason: ____________________________)
   3. Ran away (disappeared)
   4. Other ____________________________

5. How much does it bother you that you do not have a pet?
   1. A lot
   2. A little
   3. Not at all
6. What are your reasons for not having pets now? (Circle ALL that apply.)
   1. I am allergic to animals.
   2. I can't keep a pet at my present residence.
   3. I couldn't afford the cost of a pet.
   4. I couldn't physically handle the demands of taking care of a pet.
   5. I don't enjoy animals.
   6. I don't want to be bothered having to care for a pet.
   7. Other household members are allergic to animals.
   8. Other household members do not like animals.
   9. Other ____________________

6a. Which of those reasons circled above is your MOST important reason for NOT having a pet? (If "2," go to #6b; if "3," skip to #6c; if any other response given, skip to #7.)

6b. If the situation were changed and you could have pets in your apartment or house, would you want a pet? (If YES, skip to #7. If NO, skip to closing remarks.)
   1. Yes
   2. No

6c. If you could afford the cost of a pet, would you want one? (If YES, go to #7. If NO, skip to closing remarks.)
   1. Yes
   2. No

7. Do you have any reasons for getting a pet in the near future? (Circle ALL that apply.)
   1. A family member or friend wants to give me a pet.
   2. I enjoy (love) animals.
   3. I have always had a pet.
   4. I have more time now to care for a pet.
   5. I need something to care for.
   6. I want a pet for protection.
   7. I would like a pet to keep me busy.
   8. I would like some more companionship.
   9. Other ____________________

7a. Which of those circled would be your MOST important reason? (If no reasons stated, skip to closing remarks.)
   ____________________ (Enter number from above.)

8. What kind of pet would you consider?
   1. Bird
   2. Cat
   3. Dog
   4. Other, specify ____________________

9. How much could you afford to spend on a pet per month?
   1. Less than $10.00
   2. $10.00-$20.00
   3. Over $20.00

10. Do you have any worries or concerns about caring for a new pet? (If NO, skip to #11.)
    1. Yes
    2. No

10a. If YES, what are your major concerns? (Circle ALL that apply.)
     1. Housetraining it.
     2. I would get too attached to it.
     3. It would cause me to fall or trip.
     4. It would get sick and I would not be able to get it medical care.
     5. It would make too much noise.
     6. It would tear things up.
     7. Something might happen to me and no one would care for it.
     8. Other ____________________

10b. What is your MOST important concern? (Enter number from above)

11. If it is possible, would you consider letting us place a pet with you on a trial basis?
    1. Yes
    2. No

Closing Remarks: "Thank you for taking part in this project. Your cooperation has helped to make it a success and will help us add to the knowledge about people and their pets. Do you have any questions that you would like to ask me?"
Pet Attitude Inventory for Pet Owners

Directions: Circle the appropriate response. Please complete all questions. Do not leave questions unanswered. Notations in parentheses are instructions for the interviewer.

Demographic Information

“I’d like to ask you a few background questions.”

“Do you have a pet now?” (If YES, continue. If NO, use PET ATTITUDE INVENTORY FOR NON-PET OWNERS).

1. (Can be circled without asking) What is your sex?
   1. Female
   2. Male

2. What is your race?
   1. Black
   2. White
   3. Hispanic
   4. Native American
   5. Asian
   6. Other, specify __________

3. On your last birthday, how old were you?
   (Write in)

4. What is your marital status?
   1. Divorced/Separated
   2. Married
   3. Never Married
   4. Widowed

5. What is the highest level (in years) that you completed in school?
   1. 0–6 years
   2. 7–9 years
   3. 10–11 years
   4. High School Graduate
   5. College, 1–3 years
   6. College Graduate
   7. Postgraduate

6. In what kind of housing do you live?
   1. Single Family
   2. Apartment
   3. Trailer
   4. Townhouse/Condo
   5. Institutional Setting (e.g., nursing home)
   6. Other __________

7. How would you rate your health at present?
   1. Excellent
   2. Good
   3. Fair
   4. Poor

Pet Survey

“Now I would like to ask you some questions about pets.”

1. Did you grow up with pets?
   1. Yes
   2. No

1a. If YES, what kinds of pets?
   1. Birds
   2. Cats
   3. Dogs
   4. Other __________

2. When did you first have responsibility for the care of a pet? (If answer is NEVER, skip to #3.)
   1. Childhood (1–12 years)
   2. Adolescence (13–18 years)
   3. Young Adulthood (19–30 years)
   4. Middle Age (31–61 years)
   5. Old Age (62 and older)
   6. Never

2a. What kind of pet was it?
   1. Bird
   2. Cat
   3. Dog
   4. Other __________

2b. How attached were you to this pet?
   1. Very attached
   2. Attached
   3. Not very attached
2c. What happened to this pet?
1. Died
2. Gave it away (Reason: ____________ )
3. Ran away (disappeared)
4. Other ____________

2d. Was this pet replaced?
1. Yes
2. No

3. At what stage of your life did you have pets? (Circle all that apply.)
1. Childhood (1-12 years)
2. Adolescence (13-18 years)
3. Young Adulthood (19-30 years)
4. Middle Age (31-61 years)
5. Old Age (62 years and older)

4. Do you have any dogs, cats, or birds now? (If NO, use PET ATTITUDE INVENTORY FOR NON-PET OWNERS.)
1. Yes
2. No

5. How many do you have now? (If ONLY ONE PET, skip to #7.)
   ___ Birds
   ___ Cats
   ___ Dogs

6. If you have more than one pet now, which one are you most attached to? (If respondent won't choose a favorite, ask which animal they have had the LONGEST. The rest of the questions should be asked only about this pet.)
1. Bird
2. Cat
3. Dog

7. What is the name of this pet? ____________

8. Why did you give it this name?
1. Don't know why I named it that
2. First name that came to mind
3. It looked like its name (e.g. Spot because it had spots)
4. Named it after a friend or relative
5. To explain a characteristic (e.g. He was always getting in trouble, so I named him Trouble)
6. Was already named when I got it
7. Other ____________

9. Have you ever had another pet with this name?
1. Yes
2. No

10. Is _________ male or female? (If pet is a bird, skip to #12.)
   1. Female
   2. Male
   3. Don't know

11. Is _________ neutered (fixed)? (This question applies to both male and female pets. If NO, go to #11a.)
   1. Yes
   2. No
   3. Don't know

11a. If NO, what was the primary reason? (If questions are about the pet they have had LONGEST, skip to #13.)
   1. No reason
   2. Don't like the idea
   3. Makes them fat
   4. Makes them lazy
   5. Never allowed outside
   6. Too expensive
   7. Too much trouble
   8. Other ____________

12. (Ask this question only of owners with more than one pet.) Of the pets currently owned, is this pet the one you have had the longest?
   1. Yes
   2. No

13. How long have you had this pet?
   1. Less than one year
   2. 1-5 years
   3. 6-10 years
   4. More than 10 years

14. How old is your pet now?
   1. Less than 1 year old
   2. 1-5 years old
   3. 6-10 years old
   4. More than 10 years old

15. How did you get this pet? (What was the source of this pet?)
   1. Adopted from animal shelter/pound
   2. Born to a pet I already owned
   3. Bought the pet myself (or by my spouse)
   4. Gift to me
   5. Stray (just showed up)
   6. Other ____________

16. How attached are you to your pet?
   1. Very attached
   2. Attached
   3. Not very attached
17. How often does your pet stay inside your house or apartment? (If "1" or "2", skip to #19)
   1. Always stays inside
   2. Frequently inside
   3. Seldom comes inside
   4. Never allowed inside

18. If pet seldom or never comes inside, do you have a fenced-in yard?
   1. Yes
   2. No

19. Who usually takes the most care of this pet?
   1. Friend or relative not living in household
   2. Other household member
   3. Yourself

20. How much time (on an average daily basis) do you spend doing something with or for your pet, such as grooming it, petting it, walking or feeding it? (This does not mean just being in the same room.)
   1. One hour or less
   2. More than one hour

21. Is the time spent in these activities:
   1. Enjoyable?
   2. Not enjoyable?
   3. Sometimes enjoyable, sometimes not enjoyable?

22. Does touching your pet:
   1. Make you feel better?
   2. Make no difference in how you feel?
   3. Make you feel worse?

23. When you physically feel bad, does your pet:
   1. Make you feel better?
   2. Make no difference in how you feel?
   3. Make you feel worse?

24. When you are feeling sad, does your pet:
   1. Make you feel better?
   2. Make no difference?
   3. Make you feel worse?

25. If you were to take a trip, would you most likely
   1. Board the pet
   2. Find someone who would care for the pet in their home
   3. Have someone come in to care for the pet
   4. Take the pet with you
   5. Other __________________

26. Do you worry about your pet's future if something happened to you?
   1. Yes
   2. No

27. If you were hospitalized, who would take care of your pet?
   1. Family
   2. Friend (includes neighbors)
   3. No one
   4. Other __________________

28. If you could find someone who would care for your pet in a loving manner, would you give it up?
   1. Yes
   2. No
   3. Don't know

29. Do you talk to your pet? (If YES, go to #29a.)
   1. Yes
   2. No

29a. If YES, WHEN do you talk to your pet (Circle all that apply):
   1. When I am upset.
   2. When I am happy.
   3. When there is no one else to talk to.
   4. Other __________________

29b. How often do you talk to your pet?
   1. A lot
   2. A little

29c. Does your pet respond when you talk to it?
   1. Yes
   2. No

30. Do you confide in your pet? (If YES, go to #30a.)
   1. Yes
   2. No

30a. If YES, do you confide in your pet more easily than a person? (If YES, go to #30b.)
   3. Yes
   4. No

30b. If YES, why?
   5. Does not judge me.
   6. Does not talk back to me.
   7. Loves me regardless of what I say.
   8. No one else to talk to.
   9. Other __________________

31. Have you met new people because of your pet?
(For example, do you talk to your neighbors when you are out walking your dog?) (If YES, go to #31a.)
   1. Yes
   2. No

31a. If YES, how many different people within a month's time? __________________ (Number of people)
32. Do you talk with other people about your pet? (For example, if someone is visiting your house is your pet a topic of the conversation?)
   1. Yes
   2. No

33. How much companionship does your pet give you?
   1. A lot
   2. A little
   3. None

34. If your pet died, would you get another pet?
   1. Yes
   2. No
   3. Maybe

35. Is owning your pet a burden? (If NEVER, skip to #36.)
   1. Always
   2. Sometimes
   3. Never

35a. If ALWAYS, or SOMETIMES, why?
   1. Costs too much
   2. Is a nuisance
   3. Hard to get to veterinarian for medical care
   4. Tears things up
   5. Other ____________

36. What is your reason(s) for having a pet? (Circle ALL that apply.)
   1. I enjoy (love) animals.
   2. I wanted a pet for protection.
   3. I wanted some companionship.
   4. I wanted something I could take care of.
   5. I wanted something to keep me busy (occupy the time).
   6. I was given this pet.
   7. Other ____________

36a. Which is MOST important? ___ (Enter number from above)

Closing remarks: “Thank you for taking part in this project. Your cooperation has helped to make it a success and will help us add to our knowledge about people and their pets. Do you have any questions you would like to ask me?”
APPENDIX B

THE PET ATTITUDE INVENTORY
The Pet Attitude Scale Items

Key

+ 1. I really like seeing pets enjoy their food.
+ 2. My pet means more to me than any of my friends.
+ 3. I would like a pet in my home.
- 4. Having pets is a waste of money.
+ 5. Housepets add happiness to my life (or would if I had one).
- 6. I feel that pets should always be kept outside.
+ 7. I spend time every day playing with my pet (or would if I had one).
+ 8. I have occasionally communicated with a pet and understood what it was trying to express.
- 9. The world would be a better place if people would stop spending so much time caring for their pets and started caring more for other human beings instead.
+ 10. I like to feed animals out of my hand.
+ 11. I love pets.
- 12. Animals belong in the wild or in zoos, but not in the home.
- 13. If you keep pets in the house you can expect a lot of damage to furniture.
- 15. Pets are fun but it's not worth the trouble of owning one.
+ 16. I frequently talk to my pet.
- 17. I hate animals.
+ 18. You should treat your housepets with as much respect as you would a human member of your family.
APPENDIX C

THE HOGAN EMPATHY SCALE
Hogan Empathy Scale

These pages contain a series of statements. Read each one, decide how you feel about it, and then mark your answer in the space provided. If you agree with a statement or feel that it is true about you, answer TRUE (T). If you disagree with a statement or feel that it is not true about you, answer FALSE (F).

1. A person needs to "show off" a little now and then. __
2. I liked "Alice in Wonderland" by Lewis Carroll. __
3. I would like to be a journalist. __
4. Clever, sarcastic people make me feel very uncomfortable. __
5. I usually take an active part in the entertainment at parties. __
6. The trouble with many people is that they don't take things seriously enough. __
7. I feel sure that there is only one true religion. __
8. I am afraid of deep water. __
9. I must admit I often try to get my own way regardless of what others may want. __
10. I have at one time or another in my life tried my hand at writing poetry. __
11. Sometimes I think of things too bad to talk about. __
12. I would like the job of a foreign correspondent for a newspaper. __
13. People today have forgotten how to feel properly ashamed of themselves. __
14. I prefer a shower to a bathtub. __
15. I like poetry. __
16. I always try to consider the other fellow's feelings before I do something. __
17. Sometimes without any reason or even when things are going wrong, I feel excitedly happy, "on top of the world." 

18. I like to be with a crowd who plays jokes on one another. 

19. I am sometimes cross and grouchy without any good reason. 

20. My way of doing things is apt to be misunderstood by others. 

21. I usually don't like to talk much unless I am with people I know very well. 

22. I can remember "playing sick" to get out of something. 

23. I like to keep people guessing what I'm going to do next. 

24. Before I do something I try to consider how my friends will react to it. 

25. I like to talk before groups of people. 

26. I am a good mixer. 

27. Only a fool would try to change our American way of life. 

28. My parents were always very strict and stern with me. 

29. Sometimes I rather enjoy going against the rules and doing things I'm not supposed to. 

30. I think I would like to belong to a singing club. 

31. I think I am usually a leader in my group. 

32. I like to have a place for everything and everything in its place. 

33. I don't like to work on a problem unless there is the possibility of coming out with a clear-cut and unambiguous answer. 

34. It bothers me when something unexpected interrupts my daily routine.
35. Most of the arguments or quarrels I get into are over matters of principle.

36. I have a natural talent for influencing people.

37. I don't really care whether people like me or dislike me.

38. It is hard for me just to sit still and relax.
REFERENCES


connection (pp. 300-308). Minneapolis: Center to Study Human-Animal Relationships and Environments.


Relationships between pet ownership and self-esteem, social sensitivity, and interpersonal trust. 
Psychological Reports, 52, 110.


