THE EFFECTS OF A UNIT DOG ON CHILDREN AND ADOLESCENTS
IN A RESIDENTIAL TREATMENT CENTER

Thesis
Submitted to
The College of Arts and Sciences of the
UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for
The Degree
Master of Arts in Psychology

by
Manjot Kaur Dhooper

UNIVERSITY OF DAYTON
Dayton, Ohio
December, 1997
APPROVED BY:

John R. Korte, Ph.D.
(Chairperson, Thesis Committee)

David W. Biers, Ph.D.
(Thesis Committee Member)

Carolyn Roecker, Ph.D.
(Thesis Committee Member)

Concurrence:

F. Thomas Eggemeier, Ph.D.
(Chairperson, Department of Psychology)
ABSTRACT

THE EFFECTS OF A UNIT DOG ON CHILDREN AND ADOLESCENTS IN A RESIDENTIAL TREATMENT CENTER

Name: Dhooper, Manjot Kaur
University of Dayton, 1997

Advisor: Dr. John R. Korte

The present study examined the effects of a unit dog on children and adolescents living in a residential treatment center. More specifically, the study looked at how dogs living with children on their residential unit affect their therapeutic progress in terms of their attitudes and behaviors. Participants were assessed and observed individually. At the start of the study, the participants completed a series of questionnaires. In addition, each participant was observed with the dog alone for a total of 12 minutes by two observers who then completed a checklist on the interaction. Moreover, a staff member completed a behavior checklist on each of the participants. Then for approximately four months, the participants were involved in the daily care of the dog on their unit. After the four months, each participant was assessed and observed again.

The results of the present study provided mixed support regarding the effects that a unit dog has on children and adolescents who live in a residential treatment center. On the one hand, consistent with prediction, the children who had a positive attitude toward pets in general showed greater initial attachment to their unit dog. The children with
greater attachment to their unit dog demonstrated fewer problem behaviors after 4 months. Moreover, the children who lived with a dog on their unit assessed themselves as displaying fewer problem behaviors after 4 months, especially those children who lived on the younger male residential unit.

On the other hand, contrary to prediction, neither the empathy scores of the children who lived with a dog on their unit for 4 months nor the children who did not have a dog on their unit changed significantly. The children with a close relationship to a pet at home engaged in fewer positive behaviors toward their unit dog after 4 months, at least during the observation period. The children who lived with a dog on their unit were assessed by staff members as displaying more problem behaviors after 4 months. Moreover, the children who did not have a dog on their unit assessed themselves as displaying more problem behaviors after 4 months.
ACKNOWLEDGMENTS

I would like to express my appreciation to Dr. John R. Korte, my advisor, for directing my thesis and for providing me with his valuable time, energy, expertise, and patience. I would also like to thank Dr. David W. Biers and Dr. Carolyn E. Roecker for serving on my thesis committee and for offering me assistance and guidance. I would particularly like to express my gratitude to Dr. Biers for serving as my advisor in Dr. Korte’s absence.

I would like to acknowledge the children and staff of St. Joseph Children’s Treatment Center for their participation in the study. I would especially like to thank Ms. Michele Gilkison for serving on my thesis committee and Mr. Charles Wolford for his assistance with the data collection. I would also like to acknowledge the Iams Company for providing the three dogs for the study, as well as donating the food and offering the veterinary care for the animals.
# TABLE OF CONTENTS

TITLE PAGE................................................................. i

APPROVAL PAGE......................................................... ii

ABSTRACT........................................................................ iii

ACKNOWLEDGMENTS..................................................... v

LIST OF TABLES............................................................. viii

CHAPTER

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

Benefits of Pets for Adults................................................. 3
Benefits of Pets for Children.............................................. 4
  Non-clinical Populations............................................... 4
  Clinical Populations.................................................... 6
The Present Study........................................................... 7

II. METHOD................................................................. 8

Participants................................................................. 8
Pets................................................................................. 9
Instruments................................................................. 9
  Child Behavior Checklist............................................ 9
  An Index of Empathy for Children and Adolescents...... 11
  The Pet Attitude Scale.................................................. 12
  The Companion Animal Bonding Scale......................... 12
  “My Pet” Inventory..................................................... 13
  Behavioral Observation Checklist, Observer Questionnaire 13
  Behavioral Observation Checklist, Staff Questionnaire..... 14
  Child Questionnaire................................................... 15
  General Staff Questionnaire........................................ 15
Procedures............................................................................................................. 15
Initial assessment.................................................................................................. 15
The use of dogs as an adjunct to therapy.............................................................. 16
Final assessment.................................................................................................. 16

III. RESULTS........................................................................................................... 18

Analyses of Hypothesized Relationships.............................................................. 18
Additional Analyses.............................................................................................. 27
Qualitative Data..................................................................................................... 36

IV. DISCUSSION....................................................................................................... 40

Hypotheses............................................................................................................. 42
Additional Analyses.............................................................................................. 45
Future Research..................................................................................................... 47
Conclusion.............................................................................................................. 48

APPENDIX

A. An Index of Empathy for Children and Adolescents........................................ 50
B. The Pet Attitude Scale....................................................................................... 52
C. The Companion Animal Bonding Scale........................................................... 54
D. “My Pet” Inventory........................................................................................... 55
E. Behavioral Observation Checklist, Observer Questionnaire............................ 57
F. Behavioral Observation Checklist, Staff Questionnaire (A).............................. 59
G. Behavioral Observation Checklist, Staff Questionnaire (B).............................. 61
H. Child Questionnaire (A).................................................................................... 62
I. Child Questionnaire (B)..................................................................................... 64
J. General Staff Questionnaire............................................................................... 65
K. Informed Assent................................................................................................. 66
L. Debriefing Form................................................................................................ 67

REFERENCES.......................................................................................................... 68
LIST OF TABLES

1. Means and Standard Deviations of Empathy for Children Who Lived With or Without a Unit Dog, Initially and After 4 Months............................................................19

2. Analysis of Variance of Empathy for Children Who Lived With or Without a Unit Dog, Initially and After 4 Months.................................................................20

3. Intercorrelations Between Children’s Relationship with Pet at Home and Their Attachment to Unit Dog After 4 Months.................................................................22

4. Intercorrelations Between Children’s Attachment to Unit Dog and Their Behavior as Assessed by Self.................................................................24

5. Intercorrelations Between Children’s Attachment to Unit Dog and Their Behavior as Assessed by Staff.................................................................25


7. Behavior Means and Standard Deviations on the Child Behavior Checklist, Parent Form as Assessed by Staff, Initially and After 4 Months.......................................................30

8. Behavior Means and Standard Deviations on the Child Behavior Checklist, Youth Form as Assessed by Self, Initially and After 4 Months for the Dog Units........33

CHAPTER I

INTRODUCTION

Animal assisted therapy or pet therapy is the use of properly screened and trained companion animals to help individuals with special needs (Bernard, 1995). According to Levinson (1969), a forerunner in the use of animals in therapy, pets play an important therapeutic role for humans. Levinson states that a pet can satisfy an individual’s psychological needs, such as the need for loyalty, trust, affection, and respect. The owner-pet relationship can be a substitute for other social relationships. Moreover, the relationship with an animal may be less threatening than a relationship with a person, and may be even more salutary than between two people. Furthermore, animals are alive and may provide greater therapeutic opportunities than toys or hobbies. Animals are also available 24 hours a day if needed, and therefore, may speed up the therapeutic process (Ross, 1983).

The bond between humans and the animals they have domesticated has been recognized since ancient times. The earliest known fossils give evidence for domestication of dogs over 12,000 years ago (Soares, 1985). Currently, the importance of pets in our society is demonstrated repeatedly through frequent accounts of pets in the popular press, movies, and books (Friedmann & Thomas, 1985). For example, pets are frequently
included in pictures and advertisements to make settings appear more homelike, less threatening, and more friendly.

Animal assisted therapy has been used most commonly with the elderly in nursing homes. The presence of companion animals appears to have a relaxing and calming effect on people (Robin & ten Bensel, 1985). For example, research on animal assisted therapy with the elderly has shown increases in such behaviors as smiling, laughing, socialization, alertness, motivation, physical activity, and self-esteem (Taylor, Maser, Yee, & Gonzalez, 1993). In addition, pets provide a crucial source of touch for individuals, such as the elderly, who would otherwise be without this sensory input.

Animal assisted therapy more recently has expanded its use to children (e.g., Mallon, 1992). In our society, the child and his or her pet form a natural partnership and are also often displayed together in children’s books, popular literature, and the media. The therapeutic process of animal assisted therapy with children often occurs within the context of the child’s interaction with the animal and the therapist. Unlike the adult therapist, who is seen as an authority figure, the child sees the animal as accepting and dependent. For example, by permitting itself to be petted, the companion animal gives the child a feeling of being accepted. This perception can increase the child’s sense of control and self-confidence. Moreover, the child may feel safe when communicating with an animal and trust it to serve as a mediator between the therapist and him or herself. In addition, because the animal is accepting, the child may also experience the therapist as accepting him or her (Davis & Juhasz, 1985; Mallon, 1992). For example, the use of animal assisted therapy in a child welfare setting or with children in foster care helps to
maintain the child’s interest and may often elicit laughter, excitement, and conversation among the most hostile and withdrawn children (Gonski, 1985). Most importantly, according to Gonski (1985), the presence of an animal enables children in foster care to begin to trust a safe and nonjudgmental animal prior to trusting a therapist or another adult.

Regardless of whether one is an adult or a child, a number of psychological and physiological benefits of having pets and of using animals as adjuncts to therapy have been cited. These include companionship, security, nonjudgmental affection, emotional support and health benefits. For example, unlike human beings, animals are unable to perceive human inadequacies, and animals do not impose standards of quality on their owner’s performance of tasks. Furthermore, according to Folse, Minder, Aycock, and Santana (1994), animal assisted therapy has shown positive effects with various populations such as cancer patients, AIDS patients, institutionalized Alzheimer’s patients, post coronary patients, emotionally disturbed and handicapped children, sexual abuse survivors, and the inpatient psychiatric population.

Benefits of Pets for Adults

Companion animals have been shown to benefit the physical health of adults. For example, research has revealed lower systolic and diastolic blood pressures in pet owners while petting their dogs than while reading aloud (Jenkins, 1986). Research has also shown a reduced risk of cardiovascular disease in adult pet owners as compared to nonowners (Anderson, Reid, & Jennings, 1992). As a matter of fact, one study by Friedmann, Katcher, Lynch, and Thomas (1980) found that pet ownership is a significant
factor in cardiac disease survival. They studied 92 cardiac patients, 53 of whom were pet owners. Of those who did not own a pet, 39% had died within one year from their hospital admission, as compared to only 6% of the pet owners. Moreover, the role of the family pet for non-institutionalized, middle-aged adults with a chronic disease and a depressive reaction was examined by McCulloch (1981). Of these patients, 20 out of 31 reported that their pets helped their morale, and 26 patients stated that their pets were an important source of companionship and social support during their illness.

Companion animals also have been shown to benefit adults psychologically. In a study by Nielsen and Delude (1994), pets were used as adjunct therapists in a residence for former adult psychiatric patients. Results indicated that the residents displayed great concern for the animals and quickly developed social relationships with them. Questionnaire responses revealed that the residents found the presence of the animals beneficial and strongly approved of their continued presence. Furthermore, the animals acted as social mediators and frequently facilitated human interaction by providing a topic of conversation among residents and with the experimenter.

Benefits of Pets for Children

Non-clinical Populations. Companion animals also have been shown to benefit the physical health of children. A study by Friedmann, Katcher, Thomas, Lynch, and Messent (1983) looked at the influence of animal companions on children’s blood pressure while resting and while reading (a mildly stressful task). Their findings indicated that when a dog was present, the children had lower blood pressures while resting and while reading, as opposed to when there was no dog present.
Companion animals also have been shown to benefit children psychologically. Blue (1986) studied the value of pets in children’s lives. According to Blue (1986), a pet can offer a child feelings of love, attachment, comfort, and safety. A pet also can offer a child sensorimotor and nonverbal learning experiences, facilitate the development of responsibility, and provide a sense of competence. Caring for a pet often helps a child feel needed, loved, and respected. Moreover, pets can help instruct children on both an intellectual and emotional level in their understanding of the meaning of life, death, and grief. By observing a pet’s biological functions, children may learn about sexuality and elimination (Robin & ten Bensel, 1985). Thus, pets serve as useful teaching tools.

Companion animals have been shown to benefit children’s social development. In a study by Poresky and Hendrix (1990), parents responded to a survey which included measures of their children’s relationships with their companion animals and their social competence (e.g., The Companion Animal Bonding Scale). The study also involved home-visit measures which included assessments of the children’s empathy, cooperation, and intellectual functioning. Results indicated that the children’s social competence, empathy, and cooperation were affected by the relationship or bond they had with their pets. In addition, the strength of the children’s relationships with their pets was shown to be more important than just the presence of one or more pets in their homes. Another study by Poresky (1990) found that, compared to children without a pet, children who had a strong bond with a pet had higher empathy scores.

Research has shown that companion animals are beneficial for self-care children, children who spend a significant amount of time at home unsupervised. Self-care children
who live with pets may not perceive themselves as returning to an empty house but rather
to an animal who appears happy to see them, especially since they are the first family
member to arrive home (Heath & McKenry, 1989). According to a survey study by
Guerney (1991), self-care children with pets ranked “interact with pet” second in response
to what they do to make themselves feel good and safe when alone. In addition, 85% of
the children stated that it helps to have their pets around.

Clinical Populations. Research has shown that companion animals are also
beneficial for children with developmental, emotional, and/or situational problems. Redefer
and Goodman (1989) studied the effects of animal assisted therapy with autistic children.
They found an increase in prosocial behavior and a decrease in self-absorption with the
introduction of a friendly dog in therapy. For example, the children in the study showed
fewer autistic behaviors such as hand-posturing and repetitive jumping, and showed more
socially appropriate behaviors such as joining the therapist in simple games and reaching
up for hugs. This suggests that animals are able to combat the low sensory and affective
arousal levels of autistic children by presenting a powerful multisensory stimulus for them.

Animal assisted therapy has also been utilized successfully with abused children.
For many abused and disturbed children, a pet becomes an important love object and a
substitute for family love and support (Robin & ten Bensel, 1985). Animal assisted therapy
was employed by Reichert (1994) in a group-treatment model for sexually abused girls.
During the group, the children had the option of disclosing their abuse into the pet’s ear as
opposed to just telling the other group members. In addition, the children were able to
hold onto the pet, before, during, or after disclosure, to help ease any feelings of tension
or anxiety. According to Reichert (1994), the pet was very effective in getting the children to disclose their stories and talk about their family histories, and was successfully used for playing, touching, and projecting feelings.

According to Mallon (1994), many animals, particularly dogs because of their highly interactive, affectionate, non-judgmental, and social nature, have been effectively utilized as adjunct therapists in the treatment of children and youth. However, aside from the many case studies and the existing research on the beneficial health effects of animals, few experimental studies have investigated the therapeutic efficacy of animal assisted therapy programs, and little of this research has been done with children and dogs as the companion animals. Therefore, the current study examined the effects of a unit dog on children and adolescents living in a residential treatment center.

The Present Study

Although there has been some research on the effects of animal assisted therapy on children and adolescents, as described above, further study is needed to assess such effects. The present study was designed to examine the effects that a unit dog has on children and adolescents who live in a residential treatment center. It was predicted that the children who had a dog on their unit would achieve higher empathy scores than the children who did not have a dog on their unit. It was also predicted that children who had a positive attitude toward pets in general would have greater initial attachment to the unit dog than children who did not like pets. Furthermore, it was predicted that the children who had a close relationship with a pet at home would develop a greater attachment to the unit dog than children who did not have a pet at home. Finally, it was predicted that children who developed a greater attachment to the unit dog would display fewer problem behaviors such as decreased aggressive behavior.
CHAPTER II

METHOD

Participants

Participants were 53 children and adolescents aged 8-17 years. Of the 53 participants, 37 were male and 16 were female, and 38 were Caucasian and 15 were African American. The participants were from St. Joseph Children’s Treatment Center in Dayton, Ohio. St. Joseph is a 24-hour residential treatment center for children with various emotional and behavioral problems, including psychotic, affective, and cognitive/organic disorders. Of the children in this program, 70% suffer from post-traumatic stress disorder and 90% have been either physically or sexually abused.

The children participating in this study were housed in one of four group living units during all or part of an eight month period. Three of the units (Schwartz, Schroeder, and Culley) served as the experimental groups, each receiving a house pet, and the fourth unit (Garland) served as the control group without a pet. Schwartz is the female residential unit (ranging from age 8 to 17 years), Schroeder is the older male residential unit (ranging from age 11 to 17 years), and Culley and Garland are the younger male residential units (ranging from age 8 to 13 years).

Of the original 53 participants, 16 were discharged before the end of the study and before all of their data could be collected. Children at St. Joseph are discharged from the
residential units when they have met their treatment goals, when their treatment needs can no longer be met on their unit, or when their funding has been exhausted. Thus, statistical analyses were conducted on 37 participants who completed the study, having lived on a unit for a minimum of four months. Of the 37 participants on which the data was analyzed, 25 were male and 12 were female, and 27 were Caucasian and 10 were African American.

**Pets**

The Iams Company provided three dogs for the study, as well as donated food and offered veterinary care for the animals. The dogs were a 6-year-old female Golden Retriever (Ritzy), a 5-year-old male Brittany Spaniel (Paprika), and a 6-year-old female Husky (Ruby). Ritzy was placed on the female residential unit (Schwartz), Paprika was placed on the older male residential unit (Schroeder), and Ruby was placed on the younger male residential unit (Culley).

Ritzy was hospitalized to have ear surgery and was gone from the unit a total of 13 days. However, Ritzy stayed throughout the entire study and still resides at St. Joseph. Paprika ran away from St. Joseph several times and, therefore, was gone from the unit for several hours to one day. Paprika was also hospitalized for one day for a severe cold. Paprika left at the end of the study and was adopted by a staff member. Ruby was hospitalized for about a month as a result of a broken bone in her leg. Thus, Ruby stayed for only approximately two months and then was also adopted by a staff member.

**Instruments**

**Child Behavior Checklist.** The Child Behavior Checklist is a widely used behavior checklist for children and adolescents that provides standardized descriptions of behavior. The Child Behavior Checklist consists of 12 subscales including three competence scales
(activities, social, and school) and nine specific problem scales (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, aggressive behavior, and sex problems). There are 20 competence items and 118 specific problem items. Each of the problem items asks the rater to describe the child “now or within the past 6 months” on a 3-point scale, 0 = not true (as far as you know), 1 = somewhat or sometimes true, 2 = very true or often true. Examples of problem items include: “Acts too young for his/her age” and “Threatens people”.

The items on each problem scale are summed to obtain a problem scale score. The problem scales are then summarized to yield a total score, with higher scores indicating more problem behaviors. Furthermore, internalizing and externalizing subscales can also be computed. The internalizing scale score consists of the sum of the scores for the withdrawn, somatic complaints, and anxious/depressed subscales; and the externalizing scale score consists of the sum of the scores for the delinquent behavior and aggressive behavior subscales.

The Child Behavior Checklist has forms that can be completed by (1) a parent, (2) a teacher, and (3) the youth (if between the ages of 11 and 18 years). The current study utilized the problem scales scores (total score, and the internalizing and externalizing scales) from the youth form which was completed by the older children, as well as the parent form which was completed by staff members. The parent form was utilized as opposed to the teacher form because St. Joseph is a 24-hour residential treatment center and the staff members are involved in the daily care of the children.
The checklist shows test-retest reliability of .996 for the competence items and .952 for the specific problem items (Achenbach, 1991b). The mean correlation between the internalizing and externalizing scales is .52 across each sex/age group (Achenbach, 1991a). The Child Behavior Checklist shows correlation coefficients ranging from .56 to .86 when compared to the Conners Parent Questionnaire (1973) and correlation coefficients ranging from .52 to .88 when compared to the Quay-Peterson Revised Behavior Problem Checklist (1983) (Achenbach, 1991b).

For the parent form, the test-retest for the subscales over a 7-day period ranges from .70 to .95, with a mean of .87 for the competence scales and .89 for the specific problem scales. The long-term stability of scale scores over a one year period has a mean of .62 for the competence scales and .75 for the problem scales. Over a two year period, it has a mean of .56 for the competence scales and .71 for the problem scales. Inter-rater reliability for the parent form is .927 for the competence items and .959 for the specific problem items (Achenbach, 1991b).

For the youth form, the test-retest over a 7-day period has a mean of .68 for 11 to 14-year-olds and .82 for 15 to 18-year-olds for the competence scales, and a mean of .65 for 11 to 14-year-olds and .83 for 15 to 18-year-olds for the problem scales. The long-term stability of scale scores over a 7-month period has a mean of .50 for the competence scales and .49 for the problem scales in a general population sample of 11 to 14-year-olds (Achenbach, 1991c).

An Index of Empathy for Children and Adolescents. An Index of Empathy for Children and Adolescents (Bryant, 1982) is a 22 yes/no item questionnaire developed to
measure empathy development and its relation to social development (see Appendix A). The items are scored as either a 0 or 1, and therefore, the possible range for total score is 0 to 22, with higher scores indicating higher empathy. Examples of items include: “It makes me sad to see a girl who can’t find anyone to play with” and “It’s hard for me to see why someone else gets upset”. This index shows internal consistency of .54 for first graders, .68 for fourth graders, and .79 for seventh graders. Across a two week interval, test-retest reliability coefficients are .74 for first graders, .81 for fourth graders, and .83 for seventh graders (Bryant, 1982). In addition, according to Bryant (1982), most item means are in the middle range with low to moderate item-total correlations, indicating a reasonable discrimination power of the index.

The Pet Attitude Scale. The Pet Attitude Scale (Templer, Salter, Dickey, Baldwin, & Veleber, 1981) is an 18 yes/no item questionnaire developed to measure the favorableness of attitudes towards pets (see Appendix B). Items are scored as either a 0 or 1, and the corresponding possible range for total score is 0 to 18, with higher scores indicating a more positive attitude towards pets. Examples of items include: “My pet means more to me than any of my friends” and “Having pets is a waste of money”. This scale shows an internal consistency of .93 and test-retest reliability of .92 over a two week interval for college undergraduates in psychology classes (Templer et al., 1981).

The Companion Animal Bonding Scale. The Companion Animal Bonding Scale (Poresky, Hendrix, Mosier, & Samuelson, 1987) is an eight item self-report behavioral scale developed to measure the extent of the child-animal bond (see Appendix C). Each item is based on a 5-point scale (1 = never, 2 = rarely, 3 = often, 4 = generally,
5 = always), and the corresponding possible range for total score is 8 to 40, with higher scores indicating a stronger child-animal bond. Examples of items include: “How often were you responsible for your companion animal’s care?” and “How often did you hold, stroke, or pet your companion animal?” The current study utilized an adapted version of the scale, using the term “pet” instead of “companion animal”. This scale shows internal reliability coefficients ranging from .77 to .82 for high-school and college students aged 14 to 47 years. In addition, correlations with the Pet Attitude Scale range from .39 to .40 (Poresky et al., 1987).

“My Pet” Inventory. “My Pet” Inventory (Bryant, 1990) is a 21 item questionnaire developed by Furman (1989) to measure a child’s relationship with a pet (see Appendix D). Each item is based on a 5-point scale (1 = little or none, 2 = somewhat, 3 = very much, 4 = extremely much, 5 = the most), and the corresponding possible range for total score is 21 to 105, with higher scores indicating a stronger child-pet relationship. Examples of items include: “How much does your pet make you feel important?” and “How much do you share your secrets and private feelings with your pet?” This inventory shows Cronbach’s alpha ranging from .90 to .91 for third to seventh graders (Bryant, 1990).

Behavioral Observation Checklist, Observer Questionnaire. The Behavioral Observation Checklist, Observer Questionnaire is a checklist that was developed for the current study (see Appendix E). It consists of questions describing the participant’s interactions with the dog that was completed by two independent observers during and following a 12 minute interaction with the dog. Each participant was assessed at 3 equal
intervals of 4 minutes. The questionnaire contains three subscales (emotional reaction, positive behaviors, and negative behaviors). The emotional reaction subscale consists of one checklist question. The positive and negative behaviors subscales consist of 11 short-answer questions asking for the number of times the participant engages in certain behaviors. In addition, there are three open-ended questions and one more short answer question. Examples of these items include the participants’ emotional reaction to meeting the dog, the number of times the participant talked to the dog, and how the dog responded to the participant.

**Behavioral Observation Checklist, Staff Questionnaire.** The Behavioral Observation Checklist, Staff Questionnaire is a checklist that was developed for the current study. The experimental groups’ version consists of five subscales (chores, dogchores, doginterest, peers, and staff) that contains a total of 11 questions about the child’s behavior on the residential unit, especially as related to the dog, other children, and the staff (see Appendix F). All items are based on a 4-point scale (0 = never, 1 = seldom, 2 = often, 3 = regularly) with one item (item 9) being reverse scored. The possible range for subscale scores are 0 to 3 (chores), 0 to 3 (dogchores), 0 to 12 (doginterest), 0 to 9 (peers), and 0 to 6 (staff). In addition, there is one short-answer/open-ended question. The control group version only consists of three of the above subscales (chores, peers and staff) and contains a total of six questions with item 4 being reversed scored (see Appendix G). This questionnaire includes items which ask staff members to rate the children on how often they interacted with the dog (experimental groups only), their peers, and staff members, as well as the quality of these interactions.
The Child Questionnaire was developed for the current study. The experimental groups’ version consists of four checklist questions about the child’s behavior with the dog on the residential unit (see Appendix H). Three of the questions are based on a 4-point scale (0 = never, 1 = seldom, 2 = often, 3 = regularly) and one is based on another 4-point scale (1 = not much, 2 = okay, 3 = pretty much, 4 = very much). The possible range for total score is 1 to 13. In addition, there are four short-answer and five open-ended questions as to the child’s opinions about the unit dog and pets in general. The control group version consists of two short-answer questions taken from the version above (see Appendix I). Examples of items include: “Would you like to have a dog or pet?” and “How much will you miss the unit dog after you leave St. Joseph?”

The General Staff Questionnaire also was developed for the current study (see Appendix J). It consists of eight open-ended and two short-answer questions about the staff’s interactions with the unit dog, as well as their opinions about the unit dog and the study. Examples of items include: “How did the dog affect the general atmosphere on the unit?” and “Would you recommend this dog to return to the unit?”

Procedures

Initial assessment. Participants were assessed and observed individually. First, participants were asked to read and sign the informed assent form (see Appendix K). Then, participants completed a series of questionnaires counterbalanced with regard to order of presentation, including the Child Behavior Checklist, Youth Form (if they were 11 to 18 years old), An Index of Empathy for Children and Adolescents, The Pet Attitude
Scale, The Companion Animal Bonding Scale (if they had a pet at home), and “My Pet” Inventory (if they had a pet at home). Next, within one to six weeks, the experimenter individually took each participant from the three experimental groups and the dog from his or her unit to an empty room (either the gym or a meeting room) to observe. Two independent observers (the experimenter and one of three assistants) viewed the participant’s interactions with the dog for a total of 12 minutes. The observers completed the Behavioral Observation Checklist, Observer Questionnaire during and following the interaction. In addition, within one week from the initial assessment of questionnaires, staff members were asked to complete the Child Behavior Checklist, Parent Form on each of the participants.

The use of dogs as an adjunct to therapy. For approximately 4 months, participants from the three experimental groups were involved in the daily care of the dog on their unit. Each individual participant was responsible for feeding and taking out the dog. In addition, each participant had the opportunity to spend time alone with the dog if he or she chose and/or include the dog in activities with peers. However, the dogs were not incorporated into any of the formal activities of the treatment center, such as individual or group therapy, but just served as “unit pets”.

Final assessment. At the end of approximately 4 months, participants again completed the Child Behavior Checklist, Youth Form (if they were 11 to 18 years old), An Index of Empathy for Children and Adolescents, The Pet Attitude Scale, The Companion Animal Bonding Scale (on the unit dog or for the control group if they had a pet at home), “My Pet” Inventory (on the unit dog or for the control group if they had a pet at home), and the Child Questionnaire. In addition, the experimenter and an assistant again observed
each participant from the experimental groups interact with the dog for a total of 12 minutes and completed the Behavioral Observation Checklist, Observer Questionnaire during and following the interaction. Moreover, staff members again completed the Child Behavior Checklist, Parent Form and the Behavioral Observation Checklist, Staff Questionnaire on each of the participants. Furthermore, staff members completed the General Staff Questionnaire about the study. Finally, the participants were given an explanation of the study (see Appendix L).
CHAPTER III
RESULTS

Analyses of Hypothesized Relationships

The first hypothesis of the study was that the children who lived with a dog on their unit for 4 months would achieve higher empathy scores than the children who did not have a dog on their unit. This hypothesis was analyzed with a 2 x 2 mixed factorial analysis of variance (ANOVA). Thus, the two independent variables were treatment (whether or not the child was on a unit with a dog, a between groups variable) and time of measurement (either initially, i.e., at the start of the study, or after 4 months, a within groups variable). The dependent measure for this analysis was the score on An Index of Empathy for Children and Adolescents. The mean empathy scores (and standard deviations) for children living on a unit with or without a dog, both initially and after 4 months, are summarized in Table 1.

Contrary to prediction, the analysis revealed that the interaction of treatment by time of measurement was not significant, $F(1,35) = 1.04, p = .315$ (see Table 2). Furthermore, individual comparisons indicated that neither the empathy scores of the children who lived with a dog on their unit for 4 months nor the children who did not have a dog on their unit changed significantly, $F(1,26) = 0.10, p = .756$, and $F(1,9) = 1.62, p = .235$, respectively. Moreover, neither the main effect for treatment, $F(1,35) = 0.00,$
Table 1

Means and Standard Deviations of Empathy for Children Who Lived With or Without a Unit Dog, Initially and After 4 Months

<table>
<thead>
<tr>
<th></th>
<th>Initially</th>
<th></th>
<th>After 4 Months</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Dog Units (^a)</td>
<td>15.19</td>
<td>2.42</td>
<td>15.00</td>
<td>2.57</td>
</tr>
<tr>
<td>No Dog Unit (^b)</td>
<td>14.60</td>
<td>4.95</td>
<td>15.50</td>
<td>4.50</td>
</tr>
</tbody>
</table>

Note. \(^a\) n = 27, \(^b\) n = 10.
Table 2

Analysis of Variance of Empathy for Children Who Lived With or Without a Unit Dog, Initially and After 4 Months

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dog/No Dog (A)</td>
<td>1</td>
<td>0.03</td>
<td>0.00</td>
<td>.968</td>
</tr>
<tr>
<td>Subjects within-group error</td>
<td>35</td>
<td>16.64</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Initially/After 4 Months (B)</td>
<td>1</td>
<td>1.86</td>
<td>0.45</td>
<td>.506</td>
</tr>
<tr>
<td>Dog/No Dog X</td>
<td>1</td>
<td>4.30</td>
<td>1.04</td>
<td>.315</td>
</tr>
<tr>
<td>Initially/After 4 Months (A x B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B x Subjects within-groups</td>
<td>35</td>
<td>4.13</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
p = .968, nor time of measurement, $F(1,35) = 0.45, p = .506$, was found to be significant (see Table 2).

The second hypothesis of the study was that the children who initially had a positive attitude toward pets in general would have greater initial attachment to the unit dog than children who did not like pets. This hypothesis was analyzed with a correlational approach. The children’s attitude toward pets in general, as measured by the Pet Attitude Scale, was correlated with their initial attachment to the unit dog, as measured by the positive behaviors subscale of the Behavioral Observation Checklist, Observer Questionnaire. As predicted, the results indicated that there was a significant positive correlation between the children’s positive attitude toward pets in general and their initial attachment to unit dog, $r(23) = .51, p = .014$.

The third hypothesis of the study was that the children who had a close relationship with a pet at home would develop a greater attachment to the unit dog after 4 months than children who did not have a pet at home. This hypothesis was analyzed with a correlational approach. The strength of the children’s relationship with a pet at home, as measured by both The Companion Animal Bonding Scale and “My Pet” Inventory, was correlated with their attachment to the unit dog after 4 months, as measured by scores on The Companion Animal Bonding Scale and “My Pet” Inventory after 4 months, as well as with the Behavioral Observation Checklist, Observer Questionnaire (positive behaviors subscale) and Staff Questionnaire (doginterest and dogchores subscales) and the Child Questionnaire. These correlations are summarized in Table 3.
Table 3

Intercorrelations Between Children’s Relationship with Pet at Home and Their Attachment to Unit Dog After 4 Months

<table>
<thead>
<tr>
<th>Unit Dog</th>
<th>Home Pet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Companion Animal Bonding Scale</td>
</tr>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Companion Animal Bonding Scale</td>
<td>20</td>
</tr>
<tr>
<td>My Pet Inventory</td>
<td>20</td>
</tr>
<tr>
<td>Observer Questionnaire</td>
<td>12</td>
</tr>
<tr>
<td>positive behaviors subscale</td>
<td></td>
</tr>
<tr>
<td>Child Questionnaire</td>
<td>20</td>
</tr>
<tr>
<td>Staff Questionnaire</td>
<td>19</td>
</tr>
<tr>
<td>doginterest subscale</td>
<td></td>
</tr>
<tr>
<td>Staff Questionnaire</td>
<td>16</td>
</tr>
<tr>
<td>dogchores subscale</td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05.
The third hypothesis received no support. Most of the correlations were non-significant (10 out of 12), and the two correlations that were significant were in the opposite direction from prediction (see Table 3). There was a significant negative correlation between the children's score on The Companion Animal Bonding Scale (completed with regard to the pet at home) and the positive behaviors subscale of the Observer Questionnaire, \( r(12) = -0.58, p = .047 \). In addition, there was a significant negative correlation between the children's score on “My Pet” Inventory (again completed with regard to the pet at home) and the positive behaviors subscale of the Observer Questionnaire, \( r(12) = -0.67, p = .017 \). In other words, children with a close relationship to a pet at home engaged in fewer positive behaviors toward the unit dog after 4 months, at least during the observation period.

The fourth hypothesis of the study was that children who developed a greater attachment to the unit dog would demonstrate fewer problem behaviors after 4 months, including decreased aggressive behavior. This hypothesis was analyzed with a correlational approach. The degree of the children's attachment to the unit dog after 4 months, as measured by scores on The Companion Animal Bonding Scale, “My Pet” Inventory, the Behavioral Observation Checklist, Observer Questionnaire and Staff Questionnaire and the Child Questionnaire, was correlated with problem behavior by the children after 4 months, as measured by the total score and the internalizing and externalizing scales of the Child Behavior Checklist, both the Youth and Parent (completed by staff) Forms. The resulting correlations are summarized in Table 4 (self assessment of behavior) and Table 5 (staff assessment of behavior).
Table 4

Intercorrelations Between Children’s Attachment to Unit Dog and Their Behavior as Assessed by Self

<table>
<thead>
<tr>
<th>Scale</th>
<th>n</th>
<th>total score</th>
<th>internalizing</th>
<th>externalizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companion Animal Bonding Scale</td>
<td>20</td>
<td>-.12</td>
<td>-.07</td>
<td>-.40</td>
</tr>
<tr>
<td>My Pet Inventory</td>
<td>20</td>
<td>-.18</td>
<td>-.09</td>
<td>-.46*</td>
</tr>
<tr>
<td>Observer Questionnaire positive behaviors subscale</td>
<td>15</td>
<td>.17</td>
<td>.08</td>
<td>.27</td>
</tr>
<tr>
<td>Child Questionnaire</td>
<td>20</td>
<td>-.24</td>
<td>-.12</td>
<td>-.50*</td>
</tr>
<tr>
<td>Staff Questionnaire doginterest subscale</td>
<td>20</td>
<td>-.20</td>
<td>-.21</td>
<td>-.21</td>
</tr>
<tr>
<td>Staff Questionnaire dogchores subscale</td>
<td>18</td>
<td>-.52*</td>
<td>-.58*</td>
<td>-.43</td>
</tr>
</tbody>
</table>

Note. * p < .05.
Table 5

Intercorrelations Between Children’s Attachment to Unit Dog and Their Behavior as Assessed by Staff

<table>
<thead>
<tr>
<th>Survey Instrument</th>
<th>n</th>
<th>total score</th>
<th>r</th>
<th>internalizing</th>
<th>r</th>
<th>externalizing</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companion Animal Bonding Scale</td>
<td>27</td>
<td>- .46*</td>
<td>-.52**</td>
<td>- .19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Pet Inventory</td>
<td>27</td>
<td>- .33</td>
<td>- .43*</td>
<td>- .15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observer Questionnaire positive behaviors subscale</td>
<td>17</td>
<td>- .18</td>
<td>- .10</td>
<td>.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child Questionnaire</td>
<td>27</td>
<td>- .36</td>
<td>- .43*</td>
<td>- .22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Questionnaire doginterest subscale</td>
<td>26</td>
<td>.09</td>
<td>- .06</td>
<td>- .01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Questionnaire dogchores subscale</td>
<td>22</td>
<td>- .22</td>
<td>- .35</td>
<td>- .07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * p < .05, ** p < .01.
The fourth hypothesis received modest support. Four of the 18 correlations were significant in the expected direction on the Child Behavior Checklist, Youth Form (see Table 4). Thus, with regard to the children’s assessments of their own behavior, Table 4 indicates that, as predicted, a significant negative correlation was found between the scores on the dogchores subscale of the Staff Questionnaire with the total score, $r(18) = -.52, p = .025$ and the internalizing scale, $r(18) = -.58, p = .012$ of the Child Behavior Checklist, Youth Form. In addition, a significant negative correlation was found between the externalizing scale of the Youth Form with the scores of “My Pet” Inventory, $r(20) = -.46, p = .040$ and the Child Questionnaire, $r(20) = -.50, p = .026$. Moreover, the correlation between the externalizing scale of the Youth Form and the Companion Animal Bonding Scale, $r(20) = -.40, p = .083$, and the dogchores subscale of the Staff Questionnaire, $r(18) = -.43, p = .076$, approached significance. In other words, children with greater attachment to the unit dog assessed themselves as displaying fewer externalizing behaviors at 4 months.

Four of the 18 correlations were also significant in the expected direction on the Child Behavior Checklist, Parent Form (see Table 5). Thus, with regard to the staff’s assessments of the children’s behavior, Table 5 indicates that, as predicted, a significant negative correlation was found between the scores on The Companion Animal Bonding Scale and the total score of the Child Behavior Checklist, Parent Form, $r(27) = -.46, p = .016$. In addition, a significant negative correlation was found between the internalizing scale of the Parent Form with the scores on The Companion Animal Bonding
Scale, \( r(27) = -0.52, p = 0.006 \), “My Pet” Inventory, \( r(27) = -0.43, p = 0.026 \), and the Child Questionnaire, \( r(27) = -0.43, p = 0.025 \).

Moreover, the correlation between the total score of the Parent Form and “My Pet” Inventory, \( r(27) = -0.33, p = 0.096 \), and the Child Questionnaire, \( r(27) = -0.36, p = 0.065 \), and the correlation between the internalizing scale of the Parent Form and the dogchores subscale of the Staff Questionnaire, \( r(22) = -0.35, p = 0.109 \), approached significance. In other words, children with greater attachment to the unit dog were assessed by staff as displaying fewer internalizing behaviors at 4 months. On the other hand, none of the measures of the children’s attachment to the unit dog were significantly correlated with the staff’s assessments of the children’s externalizing, i.e., more aggressive, behaviors (see Table 5).

Additional Analyses

In addition to the above hypotheses, the study also examined the behavioral changes in the children who lived with a dog on their unit for 4 months versus those who did not. This was analyzed with a series of six 2 x 2 mixed factorial analyses of variance (ANOVA). Thus, the two independent variables were treatment (whether or not the child was on a unit with a dog, a between groups variable) and time of measurement (either initially, i.e., at the start of the study, or after 4 months, a within groups variable). The six dependent measures for these analyses were the total score and the internalizing and externalizing scales of the Child Behavior Checklist, for both the Youth and Parent Forms. The mean scores (and standard deviations) of the total score and the internalizing and externalizing scales, both initially and after 4 months, for the dog units and the no dog
unit, as assessed by the children using the Youth Form are summarized in Table 6. Comparable means (and standard deviations) as assessed by the staff using the Parent Form are summarized in Table 7.

When utilizing the children’s own assessments, there was support for the notion that the presence of the dogs had a positive impact on the children’s behavior. The children who lived with a dog on their unit were assessed by themselves as displaying fewer problem behaviors after 4 months. There was a significant interaction of treatment by time of measurement for both the total score and the internalizing scale of the Youth Form, $F(1,25) = 4.30, p = .048$, and $F(1,25) = 5.47, p = .028$, respectively. In both cases there was a trend for a decrease in problem behaviors for the children who lived with a dog on their unit for 4 months and an increase in problem behaviors for the children who did not have a dog on their unit. This same trend was also evident for the externalizing scale but not significant, $F(1,25) = 1.89, p = .181$.

Individual comparisons indicated that the decrease in problem behaviors for the children who lived with a dog on their unit for 4 months was not significant for both the total score and the internalizing scale, $F(1,19) = 1.57, p = .226$, and $F(1,19) = 1.88, p = .186$, respectively. However, individual comparisons indicated that the increase in problem behaviors for the children who did not have a dog on their unit approached significance, $F(1,6) = 5.61, p = .056$, and $F(1,6) = 5.13, p = .064$, respectively. Thus, the presence of the dogs, at least from the children’s perspective, had a positive impact on their behavior.
Table 6

Behavior Means and Standard Deviations on the Child Behavior Checklist, Youth Form as Assessed by Self, Initially and After 4 Months

<table>
<thead>
<tr>
<th></th>
<th>Dog Units&lt;sup&gt;a&lt;/sup&gt;</th>
<th>No Dog Unit&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initially</td>
<td>After 4 Months</td>
</tr>
<tr>
<td>total score</td>
<td>106.65</td>
<td>27.50</td>
</tr>
<tr>
<td>internalizing scale</td>
<td>23.00</td>
<td>11.83</td>
</tr>
<tr>
<td>externalizing scale</td>
<td>25.65</td>
<td>9.05</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup>n = 20, <sup>b</sup>n = 7.
Table 7

Behavior Means and Standard Deviations on the Child Behavior Checklist, Parent Form as Assessed by Staff, Initially and After 4 Months

<table>
<thead>
<tr>
<th></th>
<th>Dog Units&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
<th>No Dog Unit&lt;sup&gt;b&lt;/sup&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initially</td>
<td>After 4 Months</td>
<td>Initially</td>
<td>After 4 Months</td>
</tr>
<tr>
<td>total score</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td></td>
<td>65.44</td>
<td>24.43</td>
<td>78.44</td>
<td>32.18</td>
</tr>
<tr>
<td>internalizing scale</td>
<td>16.74</td>
<td>11.37</td>
<td>19.82</td>
<td>11.97</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup>n = 27, <sup>b</sup>n = 10.
When utilizing the staff's assessments, the results were quite different. The trend in the data indicated that the staff members saw an increase in problem behaviors on all three scales of the Parent Form (total score and internalizing and externalizing scales) for the children who lived with a dog on their unit for 4 months, and a decrease in problem behaviors on 2 of the 3 scales (total score and externalizing scale) for the children who did not have a dog on their unit. However, the interaction of treatment by time of measurement was only found to be significant for the externalizing scale of the Parent Form, $F(1,35) = 5.17$, $p = .029$. Individual comparisons indicated that the increase in problem behaviors for the children who lived with a dog on their unit for 4 months was significant, $F(1,26) = 6.43$, $p = .018$, but the decrease in problem behaviors for the children who did not have a dog on their unit was not, $F(1,9) = 1.23$, $p = .296$.

Thus, the overall trend in the results indicated that the children who lived with a dog on their unit were assessed by themselves as displaying fewer problem behaviors after 4 months, whereas they were assessed by staff as displaying more problem behaviors. On the other hand, the children who did not have a dog on their unit were mostly assessed by staff as displaying fewer problem behaviors after 4 months, whereas they were assessed by themselves as displaying more problem behaviors. Moreover, neither the main effect for treatment nor time of measurement was found to be significant on any of the scales of the Child Behavior Checklist, both the Youth and Parent Forms.

Likewise, the study examined the behavioral changes in the children who lived on each of the four residential units (three with a dog and one without a dog), initially and at 4 months. This was analyzed with a series of six $4 \times 2$ mixed factorial analyses of variance
(ANOVA). Thus, the two independent variables were residential unit (the four residential units, a between groups variable) and time of measurement (either initially, i.e., at the start of the study, or after 4 months, a within groups variable). Once again, the six dependent measures for these analyses were the total score and the internalizing and externalizing scales of the Child Behavior Checklist, for both the Youth and Parent Forms. The mean scores (and standard deviations) of the total score and the internalizing and externalizing scales, both initially and after 4 months, for the three dog units (Schwartz, Schroeder and Culley), as assessed by the children using the Youth Form are summarized in Table 8. Comparable means (and standard deviations) as assessed by the staff using the Parent Form are summarized in Table 9.

The analyses revealed no interactions of residential unit by time of measurement that reached significance. However, one interaction on the Child Behavior Checklist, Youth Form approached significance. The interaction of residential unit by time of measurement was found to be approaching significance for the total score of the Youth Form, $F(3,23) = 2.86, p = .059$. Individual comparisons indicated that the decrease in problem behaviors for the children who lived with the dog on Culley (younger male residential unit) was significant, $F(1,2) = 76.42, p = .013$. In addition, as indicated earlier, the increase in problem behaviors for the children who lived without a dog on Garland (younger male residential unit) approached significance, $F(1,6) = 5.61, p = .056$. However, the increase in problem behaviors for the children who lived with the dog on Schwartz (female residential unit) and the decrease in problem behaviors for the children
Table 8

Behavior Means and Standard Deviations on the Child Behavior Checklist, Youth Form as Assessed by Self, Initially and After 4 Months for the Dog Units

<table>
<thead>
<tr>
<th></th>
<th>Female Unit(^a)</th>
<th></th>
<th>Older Male Unit(^b)</th>
<th></th>
<th>Younger Male Unit(^c)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initially</td>
<td>After 4 Months</td>
<td>Initially</td>
<td>After 4 Months</td>
<td>Initially</td>
<td>After 4 Months</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>total score</td>
<td>117.30</td>
<td>32.19</td>
<td>119.30</td>
<td>40.62</td>
<td>97.71</td>
<td>20.50</td>
</tr>
<tr>
<td>internalizing scale</td>
<td>28.10</td>
<td>12.83</td>
<td>26.40</td>
<td>15.21</td>
<td>20.43</td>
<td>8.68</td>
</tr>
<tr>
<td>externalizing scale</td>
<td>27.80</td>
<td>9.38</td>
<td>27.40</td>
<td>13.39</td>
<td>22.57</td>
<td>9.91</td>
</tr>
</tbody>
</table>

Note. \(^a\)\(n = 10\), \(^b\)\(n = 7\), \(^c\)\(n = 3\).
Table 9

Behavior Means and Standard Deviations on the Child Behavior Checklist, Parent Form as Assessed by Staff, Initially and After 4 Months for the Dog Units

<table>
<thead>
<tr>
<th></th>
<th>Female Unit&lt;sup&gt;a&lt;/sup&gt;</th>
<th></th>
<th>Older Male Unit&lt;sup&gt;b&lt;/sup&gt;</th>
<th></th>
<th>Younger Male Unit&lt;sup&gt;c&lt;/sup&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>total score</td>
<td>76.42</td>
<td>22.10</td>
<td>83.42</td>
<td>29.56</td>
<td>52.29</td>
<td>8.79</td>
</tr>
<tr>
<td>internalizing scale</td>
<td>21.17</td>
<td>11.50</td>
<td>24.50</td>
<td>11.83</td>
<td>13.29</td>
<td>7.57</td>
</tr>
<tr>
<td>externalizing scale</td>
<td>30.42</td>
<td>12.46</td>
<td>34.00</td>
<td>11.79</td>
<td>21.43</td>
<td>12.10</td>
</tr>
</tbody>
</table>

Note. <sup>a</sup>n = 12, <sup>b</sup>n = 7, <sup>c</sup>n = 8.
who lived with the dog on Schroeder (older male residential unit) were not significant, 
\( F(1,9) = .13, \ p = .723, \) and \( F(1,6) = 1.04, \ p = .348, \) respectively.

Thus, once again, the results indicated that the children who lived with a dog on their unit, specifically the younger male residential unit (Culley), assessed themselves as displaying fewer problem behaviors after 4 months. On the other hand, the children who did not have a dog on their unit assessed themselves as displaying more problem behaviors after 4 months. The results also indicated two significant main effects for time. A significant main effect for time on the externalizing scale of the Youth Form was found, 
\( F(1,23) = 7.39, \ p = .012. \) Thus, the children saw a decrease in their own externalizing problem behaviors after 4 months from the initial assessment. In addition, a significant main effect for time on the total score of the Parent Form was found, \( F(1,33) = 4.18, \ p = .049. \) Thus, the staff saw an increase in problem behaviors for the children after 4 months from the initial assessment.
Qualitative Data

In addition to the statistical analyses, the short-answer and open-ended questions of the Behavioral Observation Checklist, Observer Questionnaire and Staff Questionnaire, the Child Questionnaire, and the General Staff Questionnaire were examined. Unlike the statistical analyses, however, which were conducted on only the 37 participants who completed the study, the qualitative analyses also includes data from the original 53 participants.

The Behavioral Observation Checklist, Observer Questionnaire contains two open-ended questions about the participants’ interactions with the dog from their particular housing unit. These questions were completed by independent observers during and following the 12 minute interaction with the dog, both initially (i.e., at the start of the study) and after 4 months. The checklist was completed on 33 participants initially and on 17 participants at the end of the 4 months.

The observers were asked what the participant said, if anything, to the dog during the interaction. At the start of the study, 32 of the 33 children talked to the dog and 28 children said the dog’s name. Of those children who talked to the dog, 14 children gave the dog positive reinforcement such as saying “good dog”, 9 children asked the dog questions such as “are you tired?”, and 7 children gave the dog commands such as “sit” or “stay”. After 4 months, 13 of the 17 children talked to the dog and 16 children said the dog’s name. Of those children who talked to the dog, five children gave the dog positive reinforcement.
The observers were also asked how the dog responded to the participant. At the start of the study, the dogs acted indifferent towards 19 of the children and comfortable around 14 of the children, with 10 of whom the dogs were playful. After 4 months, the dogs acted comfortable around 9 of the children (with 8 of whom the dogs were playful) and indifferent towards 7 of the children.

The Behavioral Observation Checklist, Staff Questionnaire contains one short-answer/open-ended question asking staff members whether or not the dog on a particular housing unit got hurt or sick, and if yes, to what extent, and how the children responded. When the dog (Ruby) on the Culley unit (younger male residential unit) broke a bone in her leg, staff members reported that 7 of the 11 children from the unit were either upset (3 out of 11), concerned (2 out of 11) or sad (2 out of 11) because she had to be removed from the unit and hospitalized. In addition, when the dog (Ritzy) on the Schwartz unit (female residential unit) had ear surgery, a staff member noted that one of the children was very concerned about her. Moreover, when the dog (Paprika) on the Schroeder unit (older male residential unit) ran away, a staff member reported that one of the children was very concerned about him.

The Child Questionnaire contains three short-answer and three open-ended questions about the children’s opinions about their unit dog and pets in general. These questions were completed by the participants at the end of the study. Of the total 53 participants, 40 (28 from the experimental groups and 12 from the control group) answered these questions. Of these 40 children, 26 of them had one or more pets at home, including 20 children who had dogs. Of the 28 children from the experimental groups, 21
stated that they would like to have their unit dog as a pet, and 20 said that they would recommend their unit dog for other children.

The participants from the experimental groups were also asked how their unit dog helped them. Of the 28 participants with a unit dog, 8 stated that the dog "hung out" or played with them. Furthermore, 4 children of the 28 said that the unit dog served as a friend or someone to talk to, 4 children said that they would pet the dog when they were sad, and 4 children said that the dog helped them to stay calm and to control their temper. Thus, 12 of the 28 children indicated that they felt some emotional support from their unit dog. In addition, these participants were asked how well the unit dog listened to or understood them. Of the 28 children, 12 reported "pretty good/most of the time", 9 reported "great/all the time", and 4 reported "not good/not at all". Moreover, when asked how much they would miss their unit dog after they leave St. Joseph's, 24 children of the 28 said that they would miss the dog "a lot/very much".

The General Staff Questionnaire contains four open-ended and two short-answer questions that were completed by staff members about their own interactions with the dog on their unit and their opinions about having a dog on the unit. Sixteen staff members completed the questionnaire at the end of the study. The overall attitude of the staff members on how much they enjoyed having a dog on their unit varied. Thus, of the 16 staff members, 5 had a generally positive view, 2 had a negative view, and 9 had mixed feelings. For example, 5 staff members stated that the children enjoyed the dog. Of the 16 staff members, 7 reported that a benefit of having a unit dog was that the dog served as a companion for the children. In addition, 4 staff members stated that the dog taught the
children responsibility, 4 staff members said the dog gave the children something on which to focus after they got upset, and 4 staff members stated that the dog had a calming effect on the children.

On the other hand, 9 of the 16 staff members reported that a problem with having their particular unit dog as a pet was that the dog was not very active and did not interact with the children as much as they would have liked. In addition, 7 staff members stated that the dog was afraid of the children, 3 staff members said that the dog chore responsibilities served as an additional issue for staff-child conflict, and 3 staff members stated staff responsibility for the dog was a problem because often when the children did not carry out their dog chores, they were left for the staff to complete.

Interestingly, only 2 of the 16 staff members noted that they would recommend their specific unit dog to return to the unit, but 8 of the 16 said that they would recommend another pet to return to the unit. Moreover, staff members were asked what changes should be made for future research involving pets on residential units. Of the 16 staff members, 6 said that they would recommend a dog that is better with children, 4 of the 16 recommended getting a “loving/friendlier” dog, and 3 of the 16 recommended getting a “younger/more active” dog.
CHAPTER IV
DISCUSSION

The results of the present study provided mixed support regarding the effects that a unit dog has on children and adolescents who live in a residential treatment center. On the one hand, consistent with prediction, the children who had a positive attitude toward pets in general showed greater initial attachment to their unit dog. The children with greater attachment to their unit dog demonstrated more positive behaviors after 4 months. Moreover, the children who lived with a dog on their unit assessed themselves as displaying fewer problem behaviors after 4 months, especially those who lived with the dog on the younger male residential unit. On the other hand, contrary to prediction, neither the empathy scores of the children who lived with a dog on their unit for 4 months nor the children who did not have a dog on their unit changed significantly. The children with a close relationship to a pet at home engaged in fewer positive behaviors toward their unit dog after 4 months, at least during the observation period. The children who lived with a dog on their unit were assessed by staff members as displaying more problem behaviors after 4 months. Moreover, the children who did not have a dog on their unit assessed themselves as displaying more problem behaviors after 4 months. Each prediction is discussed more extensively in turn below.
The failure to find strong support for the impact of a unit dog on children and adolescents who live in a residential treatment center may be attributed to several factors. First, the present study did not incorporate the dogs into any of the formal activities of the treatment center, such as individual or group therapy, but just utilized the dogs as "unit pets". According to past research, the strength of a child’s relationship with their pet is more important than just the presence of a pet in the home (Poresky & Hendrix, 1990). Possibly, if the unit dogs were integrated more fully into the activities of the children, the child-pet relationship might have been strengthened.

Second, the children were not randomly assigned to a housing unit, and therefore, the residential units were not entirely comparable to one another in terms of age, gender, race, and number of children living there, as well as the number of children who had a pet at home versus those who did not. For example, the control group or no dog unit consisted of only young males and the number of children on this unit was much less when compared to the three dog units. Thus, changes in the children may have been less affected by the presence of the dogs than by the residential units and/or specific characteristics of the children themselves, including their differing diagnoses.

Third, the unit dogs were not comparable to one another in terms of the breed, age, gender, and, more importantly, behavior. As a matter of fact, some staff members reported that a problem with having their particular unit dog as a pet was that the dog was not very active and did not interact with the children as much as they would have liked.

Finally, the length of time between the initial and final assessment may not have been long enough to stimulate the desired changes in the children. Although behavioral
changes were seen in the children, 4 months may not have been long enough to see changes in empathy or attachment, with or without the presence of a dog or pet. In addition, many of the children had been on the unit for some time prior to the initial assessment and arrival of the dogs, while others entered St. Joseph after the dogs had already been on their unit for some time. Moreover, several of the children who were assessed initially were discharged before the final assessment. Therefore, due to the above circumstances, if and when changes in the children occurred and whether or not they were due to the presence of the dogs is difficult to determine, especially given the multitude of factors, both therapeutic and nontherapeutic, experienced by the children.

Hypotheses

First, it was predicted that the children who lived with a dog on their unit for 4 months would achieve higher empathy scores than the children who did not have a dog on their unit. The results indicated that, contrary to prediction, the empathy scores of the children who lived with a dog on their unit for 4 months nor the children who did not have a dog on their unit changed significantly. The results are inconsistent with past research. Poresky (1990) found higher empathy scores for children who had a strong bond with a pet at home than children without a pet. Thus, a possible reason for the lack of improvement in empathy scores might have to do with the intensity of the relationship with the pet. The children who had higher empathy scores in the Poresky (1990) study were those who had a strong bond with their pet. The bond that developed between the children in the present study and the unit dogs was perhaps not as strong as between children and a pet at home. Another possible reason is that 4 months may not be long
enough to see changes in empathy scores, especially given the fact that few children, whether they lived with or without a dog, changed in empathy.

Although there was a lack of change in empathy scores over time, the children in the study were still shown to be empathic. Based on the literature, one would not expect higher empathy scores for children from clinical populations than from non-clinical populations. However, the mean empathy scores of the children in the study, although varying from child to child depending on their pathology, was at least as high as a non-clinical population of first, fourth and seventh graders (Bryant, 1982). In addition, the capacity for empathy related to the unit dog also was indicated by the manner in which the children responded when the dog on their unit became hurt or sick. When staff members were asked how the children responded, they reported that many of the children were upset, concerned, very concerned, or sad. Thus, at least the children who lived with a dog on their unit for 4 months were able to show some empathy when their dog became hurt or sick.

Second, it was predicted that children who had a positive attitude toward pets in general would have greater initial attachment to their unit dog than children who did not like pets. As predicted, the results suggested that children who had a positive attitude toward pets in general showed greater initial attachment to their unit dog. More than half of the children from the study had one or more pets at home and most of these children had a dog. Perhaps these children tended to have a more positive attitude toward pets in general because they grew up around animals and thus were better able to attach quickly. In addition, this finding is also consistent with past research on adult attitudes and
attachment toward pets. Kidd and Kidd (1989) found that current pet owners were more attached to pets than nonowners and that adults who had owned pets as children or adolescents were more attached than those who never owned pets or who first owned them as adults.

Third, it was predicted that the children who had a close relationship with a pet at home would develop a greater attachment to their unit dog after 4 months than children who did not have a pet at home. However, contrary to prediction, the results indicated that children with a close relationship to a pet at home engaged in fewer positive behaviors toward their unit dog after 4 months, at least during the observation period.

A possible reason that the attachment to a pet at home was not significantly related to the attachment to the unit dog is that 4 months may not be long enough for children to become as attached or close to their unit dog as to their pet at home, whom they may have spent years getting to know. Also, in order to become attached, children may need a stronger, more personal relationship with a unit pet than with a family pet. The children on the unit may have had minimal contact with the unit dog and had to share most of their time with the dog with the other children on the unit. Moreover, the unit dog may have been very different from their pet at home, in terms of type of pet, age, gender, and personality. Furthermore, different observers evaluated the children throughout the study and this discrepancy may have contributed to the findings. Nonetheless, most of the children, especially those who had a pet at home, said that they would like to have their unit dog as a pet, and/or that they would recommend the dog for other children.
Finally, it was predicted that children who developed a greater attachment to their unit dog would demonstrate fewer problem behaviors after 4 months. This hypothesis received modest support. The results indicated that children with greater attachment to their unit dog assessed themselves as displaying fewer externalizing behaviors at 4 months. However, children with greater attachment to their unit dog were assessed by staff as displaying fewer internalizing behaviors at 4 months.

A possible explanation for the disagreement between the children’s and the staff’s perception of the type of problem behavior could be that children and adults are often sensitive to different behaviors, and it is not uncommon to find differing perceptions of behavior from children and staff members, therapists or parents. Perhaps, the children associated their attachment to the dog with how well they took care of the dog, such as completing their dog chores. Thus, if they were highly attached to the dog, then they may have believed that they were behaving properly on the residential unit, such as if they were acting less aggressively toward others. On the other hand, perhaps, the staff members conceived the children’s attachment to the dog as providing the children with social support and enabling them to behave less withdrawn or depressed, and more active, even if they were more involved with the dog as opposed to their peers.

Additional Analyses

The study also examined the behavioral changes in the children who lived with a dog on their unit for 4 months versus those who did not. Although not specifically predicted, one would expect that children who lived with a dog on their unit for 4 months would demonstrate fewer problem behaviors than children who did not have a dog on
their unit. The analyses yielded conflicting support for this expectation depending on whether it was the children’s assessments of their own behavior or the staff members’ assessments of the children’s behavior.

In terms of their own assessments, the children who lived with a dog on their unit, especially those who lived with the dog on Culley (i.e., the younger male children), displayed fewer problem behaviors after 4 months from the initial assessment. However, the children who did not have a dog on their unit assessed themselves as displaying more problem behaviors after 4 months, specifically more internalizing behaviors. A possible explanation for the above findings could be that the children who lived with a dog on their unit may have really improved their behavior after 4 months from the initial assessment or simply reported more positive behavioral changes due to the fact that they were aware of being involved in the “dog study” where change would be expected. Perhaps the children may have also felt more focus placed upon them because they received dogs on their units. However, the children who did not have a dog on their unit may have felt less pressure to be good or change because they did not receive a dog.

On the other hand, when assessed by staff members, the children who lived with a dog on their unit for 4 months were seen as displaying more externalizing behaviors after 4 months. A possible reason is that staff members may consider the addition of a dog on the unit as contributing to the children’s problem behaviors. For example, some staff members reported that the dog chore responsibilities served as an additional issue for staff-child conflict. Thus, the children who lived with a dog on their unit could have in fact gotten worse after 4 months from the initial assessment or were simply perceived that way by the
staff members who may have concentrated on their problem behaviors, especially the delinquent and aggressive ones and/or those related to the unit dog. Moreover, different staff members evaluated the children throughout the study and this discrepancy may have contributed to the findings.

Future Research

Animal assisted therapy or pet therapy is the use of properly screened and trained companion animals to help individuals with special needs (Bernard, 1995). As stated above, the present study did not incorporate the dogs into any of the formal activities of the treatment center. Moreover, the strength of children’s relationships with a pet has been shown to be more important than just the mere presence of a pet (Poresky & Hendrix, 1990). Therefore, future research should involve the dogs in more of the children’s activities and incorporate the dogs in actual therapy with the children.

Future research should attempt to select dogs from breeds that are more suitable for groups of children. The only dog from the current study who still resides at St. Joseph is the 6-year-old female Golden Retriever (Ritzy). Not surprisingly, golden retrievers are known to be excellent family dogs, and females are particularly suited for not running away and tolerating children. Moreover, when staff members were asked what changes should be made for future research involving pets on residential units, many said that they would recommend a dog that is better with children, a “loving/friendlier” dog, and/or a “younger/more active” dog.

Future research should also include a longer length of time between the initial and final assessment in order to increase the length of time the children and dogs are exposed
to each other. In addition, extending the length of time between measurements could increase the number of children participating in the study. Also, including only those children who arrive at a residential unit already inhabited by a dog may provide greater uniformity throughout the study.

Conclusion

The above findings have great implications for animal assisted therapy research. Pets play an important therapeutic role for humans (Levinson, 1969). For example, the presence of companion animals appear to have a relaxing and calming effect on people (Robin & ten Bensel, 1985). In addition, according to the literature, the benefits of using animals as adjuncts to therapy include security, nonjudgmental affection, and emotional support. In concordance with the literature, the staff members reported several benefits of having a unit dog. They stated that the dog served as a companion for the children, taught them responsibility, gave them something on which to focus after they got upset, and had a calming effect on them. Moreover, the children reported how their unit dog helped them. They stated that the dog “hung out” or played with them, served as a friend or someone to talk to, served as someone to pet when they were sad, and helped them to stay calm and to control their temper.

The previous research on animal assisted therapy, especially empirical research, is marginal in its generalizability and not without limitations. For example, few experimental studies have investigated the therapeutic efficacy of animal assisted therapy programs, and little of this research has been done with children and dogs as the companion animals. Future research is definitely needed in order to understand animal assisted therapy in its entirety. Nonetheless, much valuable information on animal assisted therapy, more
specifically the effects of a unit dog on children and adolescents living in a residential treatment center, has been revealed by the present study. Hopefully these findings will be employed by researchers to continue the effort to understand the benefits of companion animals and by practitioners to implement these benefits.
APPENDIX A

An Index of Empathy for Children and Adolescents

Answer “yes” or “no” to the following questions.

1. It makes me sad to see a girl who can’t find anyone to play with.
2. People who kiss and hug in public are silly.
3. Boys who cry because they are happy are silly.
4. I really like to watch people open presents, even when I don’t get a present myself.
5. Seeing a boy who is crying makes me feel like crying.
6. I get upset when I see a girl being hurt.
7. Even when I don’t know why someone is laughing, I laugh too.
8. Sometimes I cry when I watch TV.
9. Girls who cry because they are happy are silly.
10. It’s hard for me to see why someone else gets upset.
11. I get upset when I see an animal being hurt.
12. It makes me sad to see a boy who can’t find anyone to play with.
13. Some songs make me so sad I feel like crying.
14. I get upset when I see a boy being hurt.
15. Grown-ups sometimes cry even when they have nothing to be sad about.
16. It’s silly to treat dogs and cats as though they have feelings like people.
17. I get mad when I see a classmate pretending to need help from the teacher all the time.

18. Kids who have no friends probably don’t want any.

19. Seeing a girl who is crying makes me feel like crying.

20. I think it is funny that some people cry during a sad movie or while reading a sad book.

21. I am able to eat all my cookies even when I see someone looking at me wanting one.

22. I don’t feel upset when I see a classmate being punished by a teacher for not obeying school rules.
APPENDIX B
The Pet Attitude Scale

Answer “yes” or “no” to the following questions.

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 I 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 Companion Animal Bonding Scale

1. How often were you responsible for your pet’s care?
   ---Always ---Generally ---Often ---Rarely ---Never

2. How often did you clean up after your pet?
   ---Always ---Generally ---Often ---Rarely ---Never

3. How often did you hold, stroke, or pet your pet?
   ---Always ---Generally ---Often ---Rarely ---Never

4. How often did your pet sleep in your room?
   ---Always ---Generally ---Often ---Rarely ---Never

5. How often did you feel that your pet was responsive to you?
   ---Always ---Generally ---Often ---Rarely ---Never

6. How often did you feel that you had a close relationship with your pet?
   ---Always ---Generally ---Often ---Rarely ---Never

7. How often did you travel with your pet?
   ---Always ---Generally ---Often ---Rarely ---Never

8. How often did you sleep near your pet?
   ---Always ---Generally ---Often ---Rarely ---Never
APPENDIX D

“My Pet” Inventory

1 = little or none   2 = somewhat   3 = very much   4 = extremely much   5 = the most

1. How much free time do you spend with your pet? _____
2. How much does your pet make you feel important? _____
3. How satisfied are you with your relationship with your pet? _____
4. How sure are you that your relationship with your pet will last no matter what? _____
5. How much do you tell everything to your pet? _____
6. How much do you help your pet do things it can’t do? _____
7. How much does this pet love or like you? _____
8. How much do you and your pet play together? _____
9. How much does the pet make you feel good about yourself? _____
10. How happy are you with the way things are between you and your pet? _____
11. How sure are you that your relationship with your pet will last even if you get mad at each other? _____
12. How much do you share your secrets and private feelings with your pet? _____
13. How much do you protect and look out for your pet? _____
14. How much does your pet really care about you? _____
15. How much do you and your pet do enjoyable things together? _____
16. How much does your pet make you feel proud of yourself? _____
17. How good is your relationship with your pet? _____

18. How sure are you that your relationship with your pet will continue in the years to come? _____

19. How much do you tell your pet things that you don’t want other people to know? _____

20. How much do you take care of your pet? _____

21. How much does your pet seem to have a strong feeling of affection (love or liking) for you? _____
**APPENDIX E**

Behavioral Observation Checklist
Observer Questionnaire

1. The subject’s reaction to the dog.
   - anger
   - fear
   - discomfort
   - indifferent
   - happiness (4 min)
   - anger
   - fear
   - discomfort
   - indifferent
   - happiness (8 min)
   - anger
   - fear
   - discomfort
   - indifferent
   - happiness (12 min)

2. The number of times the subject pets, touches, or strokes the dog (except hugs or kisses the dog)
   
   (4 min) (8 min) (12 min)

3. The number of times the subject hugs or kisses the dog _____ _____ _____.

4. The number of times the subject talks to the dog (except says the dog’s name) _____ _____ _____.

5. The number of times the subject says the dog’s name _____ _____ _____.

6. The number of times the subject calls the dog negative names _____ _____ _____.

7. The number of times the subject threatens the dog _____ _____ _____.

8. The number of times the subject hits or annoys the dog (e.g. pokes the dog or pulls it’s tail) _____ _____ _____.

9. The number of times the subject pushes the dog away _____ _____ _____.

10. The number of times the subject incorporates any of the toys in the interaction with the dog _____ _____ _____.

11. The number of times the subject tries to communicate with the experimenter _____ _____ _____.

12. The number of times the subject tries to leave the room _____ _____ _____.
13. What does the subject talk about with the dog?

14. How does the dog respond to the subject?

15. Total observation time _____.

16. Any other observations.
APPENDIX F

Behavioral Observation Checklist
Staff Questionnaire (A)

Within the past two weeks...

1. How often does he/she complete his/her chores on the unit?
   ______never ______seldom ______often ______regularly ______n/a

2. How often does he/she complete his/her chores for the dog?
   ______never ______seldom ______often ______regularly ______n/a

3. How often does he/she spend time alone with the dog?
   ______never ______seldom ______often ______regularly

4. How often does he/she include the dog in his/her activities with peers?
   ______never ______seldom ______often ______regularly

5. How often does he/she interact with the dog?
   ______never ______seldom ______often ______regularly

6. How often does he/she initiate play with the dog?
   ______never ______seldom ______often ______regularly

7. How often does he/she interact with his/her peers?
   ______never ______seldom ______often ______regularly

8. How often does he/she share with his/her peers?
   ______never ______seldom ______often ______regularly
9. How often does he/she withdraw from his/her peers?

_____ never _____ seldom _____ often _____ regularly

10. How often does he/she interact with the staff?

_____ never _____ seldom _____ often _____ regularly

11. How often does he/she initiate conversation with the staff?

_____ never _____ seldom _____ often _____ regularly

12. Did the dog get hurt or sick?  _____ yes  _____ no

   If yes, how and to what extent did the dog get hurt or sick?

   If yes, how did he/she respond when this happened to the dog?
APPENDIX G

Behavioral Observation Checklist
Staff Questionnaire (B)

Within the past two weeks...

1. How often does he/she complete his/her chores on the unit?
   ______ never ______ seldom ______ often ______ regularly ______ n/a

2. How often does he/she interact with his/her peers?
   ______ never ______ seldom ______ often ______ regularly

3. How often does he/she share with his/her peers?
   ______ never ______ seldom ______ often ______ regularly

4. How often does he/she withdraw from his/her peers?
   ______ never ______ seldom ______ often ______ regularly

5. How often does he/she interact with the staff?
   ______ never ______ seldom ______ often ______ regularly

6. How often does he/she initiate conversation with the staff?
   ______ never ______ seldom ______ often ______ regularly
APPENDIX H
Child Questionnaire (A)

Within the past four months...

1. How often did you feed, clean up after, or take out the dog?
   ____ never  ____ seldom  ____ often  ____ regularly

2. How often did you spend time with the dog alone?
   ____ never  ____ seldom  ____ often  ____ regularly

3. How often did you spend time with the dog with other people?
   ____ never  ____ seldom  ____ often  ____ regularly

4. How much did you enjoy having the dog on the unit?
   ____ not much  ____ some  ____ pretty much  ____ very much

5. Do you have a pet at home?  ____ yes  ____ no
   If yes, what kind?
   If yes, how long have you had this pet?

6. How is the unit dog like your pet at home?

7. Would you like to have a dog or pet?  ____ yes  ____ not sure  ____ no

8. Would you like to have this unit dog as a pet?  ____ yes  ____ not sure  ____ no

9. Would you recommend this unit dog for other children?
   ____ yes  ____ not sure  ____ no
10. How did the unit dog help you?
11. How well did the unit dog listen to or understand you?
12. How much will you miss the unit dog after you leave St. Joseph?
13. Any other reactions to the unit dog.
APPENDIX I

Child Questionnaire (B)

Do you have a pet at home? _____yes _____no

If yes, what kind?

If yes, how long have you had this pet?

If no, would you like to have a dog or pet? _____yes _____not sure _____no
APPENDIX J

General Staff Questionnaire

1. How much did you enjoy having the dog on the unit?
2. How involved were you with the unit dog?
3. How did the dog affect the general atmosphere on the unit?
4. How helpful was the dog for the children?
5. What role did the dog serve for the children?
6. What problems, if any, occurred because of the unit dog?
7. Would you recommend this dog to return to the unit?
   _____yes _____not sure _____no
8. Would you recommend another pet to return to the unit?
   _____yes _____not sure _____no
9. Any other reactions to the dog.
10. What changes should be made for future research involving pets on residential units?
I agree to participate in the research at St. Joseph Children’s Treatment Center involving the unit dog.

I understand that I will be asked to complete several questionnaires, interact with a dog, and as a member of the residential unit, be responsible for the daily care of a dog for the next several months.

I understand that this is not a test and that there are no right or wrong answers. I also understand that my participation will not affect my treatment here at St. Joseph.

I have been told that all my answers will be kept secret. I have also been able to ask questions about the experiment and all my questions have been answered.

I understand that if I have any more questions about the experiment that I should call Manjot Dhooper or Dr. John Korte at 229-2169.

I have read and I understand the above.

Participant’s signature ___________________________ Date __________

I have explained and defined in detail the research procedures in which the participant has agreed to participate.

Principal Investigator’s signature ___________________________ Date __________
APPENDIX L

Debriefing Form

Our research examined the effects of animals on children and adolescents who live in a residential treatment center.

In the present research project children and adolescents were asked to complete several questionnaires, interact with a dog, and be responsible for the daily care of a dog for several months. Participants empathy, behavior, attitude and attachment to the unit dog, as well as pets in general, were measured. This study hopes to assess the effects of animals’ therapeutic benefits for children and adolescents.

Thank you for participating in the study. Psychological research would not be possible without your cooperation and goodwill. If you would like to learn more about pet therapy you may contact me or consult the references listed below.

Manjot K. Dhooper
c/o University of Dayton
Department of Psychology
300 College Park
Dayton, OH 45469


REFERENCES


