Ohio 4-H PetPALS and Companion Animal 4-H Curricula: Impacts, Findings, and Implications

Dissertation

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By

Lucinda Berry Miller

Graduate Program in Agricultural and Extension Education

The Ohio State University

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Dissertation Committee:

Joseph A. Gliem, Adviser
Larry E. Miller
Scott D. Scheer
Abstract

The purpose of this Ex Post Facto research utilizing the static group comparison design was to answer the following research questions: (1) What were the characteristics of youth who completed the 4-H PetPALS and Companion Animal 4-H projects in respect to county, age, gender, years enrolled in the project, and type of pet species used? (2) What were the attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth in the 4-H PetPALS and Companion Animal 4-H projects? (3) What were the relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and youth characteristics for those completing the 4-H PetPALS and Companion Animal 4-H projects?

The following dependent variables: attitudes of youth toward pets, attachment of youth to pets, and empathic attitudes of youth toward people were measured. The independent variables: type of 4-H pet program, county of program instruction, gender, age, years enrolled in the specific 4-H pet program, and pet species referred to in questionnaire were also measured to answer the research questions.

A questionnaire was developed based upon existing scales and selected demographic variables. The instrument was administered on site to a census of 4-H PetPALS youth \((N = 74)\) and a random sample of 4-H Companion Animal youth \((n = 74)\). Descriptive and inferential statistics were used to summarize the data.
Findings showed that youth who completed the 4-H PetPALS project exhibited more positive attitudes toward their pets, experienced stronger attachment to their pets, and were more empathic toward people than youth who completed solely a companion animal 4-H project. Regression analysis revealed that youth who completed the 4-H PetPALS project and females were significant predictors of attitudes toward pets, attachment to pets, and empathic attitudes toward people.
Dedication

Dedicated to my father, Robert Creveling Berry,
and my mother, Frances Lucile Leiter Berry
for instilling in me that learning is life long
and
to my children, Jessica Lynn Miller Caughlan
and Creed Robert Miller
who are my two greatest accomplishments in life
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Vita

1970.................................Clermont Northeastern High School, Owensville, Ohio

1974.................................B.S. Agriculture, The Ohio State University

        Oaks Career Development Center, Milford, Ohio

1977.................................M.S. Extension Education, The Ohio State University

April – June 1978...................Instructional Aide Assistant, Department of Agricultural
        Education, The Ohio State University

1978 – 1987.........................Extension Agent, 4-H Youth Development, Pike
        County, Ohio State University Extension

1987 – 1990.........................Extension Agent, 4-H Youth Development and Chair,
        Scioto County, Ohio State University Extension

1990 – 1993.........................Extension Agent, 4-H Youth Development and Chair,
        Pike and Scioto Counties, Ohio State University
        Extension

1993 – 1995.........................Extension Agent, 4-H Youth Development Pike County,
        Ohio State University Extension
1995 – 2001............................Leader, Ohio 4-H Small Animal Leadership Team and
                            Extension Agent, 4-H Youth Development, Pike County,
                            Ohio State University Extension

2001 – 2003............................Leader, Ohio 4-H Small Animal & Youth Companion
                            Animal Interaction Programs, Ohio State University
                            Extension

October 2003 – April 2004 ....Interim South District Specialist, 4-H Youth
                            Development and Leader, Ohio 4-H Small Animal &
                            Youth Companion Animal Interaction Programs, Ohio
                            State University Extension

April 2004 – July 2004 ..........District Specialist, 4-H Youth Development, South
                            District, Ohio State University Extension

July 2004 - present .............Extension Specialist, 4-H Youth Development,
                            Companion and Small Animal Programs, Ohio State
                            University Extension

Publications

Ayars, B. J., Cornell, P., Eastridge, M. L., Fike, K., Hargett, A., High, R. A., Kuber, P. S.,


**Fields of Study**

Major Field: Agricultural and Extension Education
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The 4-H PetPALS project teaches youth skills needed to socialize and train their pets for animal-assisted activities with senior adults in assisted living and skilled nursing facilities (Miller & Suthers-McCabe, 2002). Several desired outcomes of youth who complete the 4-H PetPALS project are

1. Youth’s attitudes toward, or evaluation of, their pets is positively affected, enhancing the human-animal bond.

2. Youth’s attachment, or emotional ties, to their pets is positively affected, enhancing the human-animal bond.

3. Youth’s empathic attitudes toward senior adults are positively affected.

Specific project outcomes, however, take place in the context of youth’s overall 4-H experience. Ohio 4-H, more formally referred to as Ohio State University Extension, 4-H Youth Development, has a long-standing tradition of bringing the knowledge of the university to youth. Its mission is to create positive environments for culturally diverse youth and adults to reach their fullest potential as capable, competent, caring and contributing citizens (King, 2006a). Through involvement in Ohio 4-H, (a) youth develop marketable skills for lifelong success, (b) youth build sustained relationships with adults to enable them to become positive citizens, (c) youth appreciate and build upon diversity to foster a harmonious global society, (d) youth engage in community services and
citizenship to transform local communities, and (e) volunteers build skills and abilities to more effectively work with youth (King, 2003).

Ohio 4-H uses a positive youth development structure that includes eight key elements identified by a national research group (CREES, 2001) and that addresses the four basic human developmental needs of belonging, generosity, independence, and mastery identified in youth development research (Kress, 2005). The key elements of a 4-H experience are the best practices that help Extension professionals and adult volunteers address the four basic developmental human needs (King, 2006b). The eight key elements include (1) a positive relationship with a caring adult, (2) a safe environment, both physically and emotionally, (3) a welcoming environment, (4) mastery and competency in a chosen activity or subject matter area, (5) engagement in learning, (6) opportunity for self-determination, (7) opportunity to value and practice service for others, and (8) opportunity to see one’s self as an active participant in the future (Ferrari, 2003).

Ohio 4-H programs are delivered via county and state 4-H Youth Development professionals, who are faculty and staff members of Ohio State University Extension. Extension 4-H professionals are supported by more than 23,000 adult volunteers, all of whom receive volunteer training. Many volunteers, such as those for 4-H PetPALS, receive additional specialized training. Ohio 4-H offers learning experiences in more than 200 subject matter areas.

Ohio 4-H reaches a broad audience. In 2008, nearly 335,000 youth participated in more than 14,000 different 4-H clubs and groups lead by adult 4-H volunteers (Elder,
At the time, nearly one-half (47.0%) of Ohio 4-H members lived in rural non-farm residences and towns with populations under 10,000. Twenty percent resided in towns and cities with populations between 10,000 and 50,000 people, 6.0% lived in suburbs of cities with populations over 50,000, and 11.0% lived in central cities with populations over 50,000. Sixteen percent of 4-H members lived on farms.¹

In 2008, approximately 350,000 4-H projects were completed. Of this number, 32.9% were projects involving plants and animals, the category in which 4-H PetPALS is found (Elder, 2008). Animal science has been an integral part of the 4-H program, with nearly 500,000 livestock projects taken by 4-H members from 2001 through 2008 (Elder, 2006, 2007, 2008; Fox, 2001, 2002, 2003, 2005).²

The popularity of projects enhancing the relationship between youth and animals can be traced to 4-H’s roots. Over a century ago, in January 1902, Albert B. Graham, a school superintendent in Clark County, Ohio, organized a group of students into a Springfield Township agricultural club. Graham founded what was to become the 4-H program in Ohio. Graham’s students, who raised corn, flowers and vegetables, conducted agricultural experiments (V. E. McCormick & R. W. McCormick, 1984). From this point of origin, 4-H then expanded into groups of youth taking home economics and livestock projects.

While many people equate 4-H activities with agriculture and farm animals, the contemporary 4-H program extends well beyond this traditional approach. Companion

¹ A farm, as defined by joint agreement among the United States Department of Agriculture, the Office of Management and Budget, and the Bureau of Census, is any place from which $1,000K or more of agricultural products (crops and livestock) are sold or would normally be sold during the year under consideration (USDA Economic Research Service, 1975).
² A Statistical Report was not published in 2004. The researcher averaged the number of livestock projects taken in 2003 and 2005 to get an estimate for 2004.
animals are ideal for youth who live in urbanized areas and who have little or no opportunities to take large animals as 4-H projects. Most city ordinances do not allow the housing of livestock, except for some that allow a limited number of chickens. However, many kinds of small animals are permitted. Pet animals such as dogs, cats, rabbits and guinea pigs are vehicles to engage young people in positive 4-H programming.

Companion animal 4-H projects differ from livestock and small animal projects in that these animals are considered pets. Cats, dogs, guinea pigs, hamsters and other small rodents, chinchillas, ferrets, hedgehogs, pet rabbits, reptiles and amphibians are taken as 4-H companion animal projects by youth. 4-H youth also may take a “self-determined” 4-H companion animal project if they have pets that do not fit into the above mentioned companion animal categories. From 2001 through 2008, more than 92,000 companion animal 4-H projects were taken by Ohio 4-H members (Elder, 2006, 2007, 2008; Fox, 2001, 2002, 2003, 2005).³

A significant aspect of youth’s 4-H experience is leadership and citizenship. Although only 4.7% of 4-H projects in 2008 were identified primarily as citizenship and civic education projects (Elder, 2008), every 4-H project requires some leadership or citizenship activity. Very often, these activities involve community service, such as visiting residents in skilled nursing and similar healthcare facilities. Ohio 4-H PetPALS is a natural fit in the minds of youth and volunteers used to completing 4-H projects.

Thus, this is the context in which Ohio 4-H youth come to the 4-H PetPALS project. 4-H PetPALS builds on 4-H’s legacy of linking youth and animals, yet, does so as a companion animal project that meets the needs of youth across the rural-urban

³ A Statistical Report was not published in 2004. The researcher averaged the number of companion animal projects taken in 2003 and 2005 to get an estimate for 2004.
spectrum. The 4-H PetPALS curriculum also contains a significant intergenerational, community service and citizenship component.

**Background and Setting**

In the United States, residents in senior healthcare facilities often face a reduced quality of life with restricted contact to the outside world. All too often, residents do not have access to the very things they need to build connections and meaningful relationships (Hart, 2006).

One notable exception is the Eden Alternative, a model of care in which nursing home residents have close and continuing contact with as much of the human habitat that they choose to welcome. The Eden Alternative makes pets, plants, and children the axis for daily life in a nursing home (Thomas, 1996). While many nursing homes are involved in animal-assisted activities, the Eden Alternative allows for dogs and other pets to live in these senior facilities. Thomas stated that the “real value of the human-animal bond comes from an enduring, caring relationship with a pet” (Thomas, p. 38). A pet can serve as an unconditional support system enhancing a person’s quality of life.

Senior adults also have a great need to interact with children, yet, are the least likely to have come into contact with them (Thomas, 1996). Some methods of engaging children with residents using the Eden Alternative include daycare, after-school programs, summer camps, and youth groups such as Boy Scouts, Girl Scouts and 4-H clubs, with these programs offered within a nursing home. Thomas discussed how he started a 4-H club in an Edenized nursing home. Youth met on a regular basis at the nursing home, communicating with residents and sometimes involving them in their 4-H
project activities. Youth as volunteers have a lot to offer to staff in Edenized nursing homes, helping to take care of the gardens, plants, and animals. Residents benefit by watching the young people perform the many Eden tasks, and also have the added enjoyment of direct interaction (Thomas).

Unfortunately, according to the Eden Alternative Registry (2009), only a tiny fraction of nursing homes in Ohio are registered Eden Alternative facilities. In 2007, certified nursing facilities in Ohio numbered 918 (Kaiser State Health Facts, 2007a). With only 14 adopting the Eden Alternative, over 900 facilities and almost 78,000 residents (Kaiser State Health Facts, 2007b) were without continual exposure to the human habitat. How, then, to best provide residents in the other 904 Ohio nursing homes this important interaction with children and pets?

Traditionally, as a requirement to meet the leadership and citizenship component of 4-H, many 4-H club members visited skilled nursing and assisted living facilities with their animals. From personal observation and informal communication with 4-H educators over a long period of nearly twenty years—1978 to 1997—youth were not taught proper visiting protocol. Their animals were not trained or certified to visit people in healthcare facilities. 4-H members did not have a complete understanding of how to interact with senior adults, nor how to properly present their animals when visiting. The 4-H members did not have skills needed to be their animals’ advocates, were not prepared to remove their animals from potentially dangerous situations, and did not completely understand the impact their visits had on the residents in these healthcare facilities.
This researcher, along with a former colleague, were approached in 1997 by the Assistant Director, 4-H Youth Development, to create a curriculum that would connect youth and their pets with senior adults. The intent in developing this curriculum was to ensure that more youth and their animals had the necessary skills to visit senior adults. Completion of the curriculum would provide a more positive experience for youth and senior adults, and reduce potential risks to youth, their families and older adults.

Up to this time, only one 4-H publication, from Georgia Extension, had addressed the idea of connecting youth, pets, and seniors. However, this curriculum did not incorporate experiential learning strategies and was no longer in publication. Clearly, a new curriculum was needed. Supported by a grant from the Iams Company, an Ohio-based company that develops and markets high-quality dog and cat foods, this researcher began the process of developing 4-H PetPALS: People and Animals Linking Successfully with the mission of connecting youth and their pets with senior adults (Miller & Suthers-McCabe, 2002).

An important model for 4-H PetPALS is work by the Delta Society, an international, non-profit organization founded in 1977 with a mission of “improving human health through service and therapy animals” (Delta Society, 2008a, ¶ 1). The 4-H PetPALS curriculum incorporates elements of the Delta Society’s Pet Partners Program, which trains volunteers, and screens volunteers and their pets for visiting animal programs mainly in healthcare facilities (Delta Society, 2008b). However, the 4-H PetPALS project differs from the Delta Society’s Pet Partners Program in that its focus is on youth, but many aspects of the training, confidence-building activities, and suggestions for communication with senior adults are directly applicable.
The core curriculum relies on trained adult volunteers, called master 4-H PetPALS volunteer leaders, who teach youth skills needed to interact with residents of healthcare facilities, specifically assisted living and skilled nursing environments. Members learn to select, socialize, and train appropriate pets to participate as youth-pet teams in animal-assisted activities. They learn how animals behave and communicate, and how to interpret their own pet’s temperament and personality. Youth practice safe and humane animal handling techniques, involve their pets in animal wellness programs, and practice responsible pet ownership and care. Youth wear components of an instant aging kit and participate in aging sensitivity simulation activities to learn about the physical changes associated with aging. After completing additional sensitivity simulation activities to learn about medical conditions they may encounter, youth and their pets role play to learn how to meet and communicate with senior adults. Upon successfully completing the curriculum, 4-H members and their pets, accompanied by adult volunteers, visit senior healthcare facilities, thus enhancing intergenerational relationships (Miller & Suthers-McCabe, 2002).

Youth experience, reflect, generalize, and apply the knowledge gained (Williamson, 1995) from lessons and activities outlined in the curriculum guide. The experientially-based, volunteer leader-directed curriculum was designed to expand youth capacities to develop leadership and citizenship skills in an intergenerational environment. Chapters of the 214-page curriculum guide describe 10 steps that youth and their pets must complete to become 4-H PetPALS teams. The program steps include (1) Introduction to Human-Animal Interactions, (2) Understand Animal Behavior, (3) Identify Appropriate Animals, (4) Learn About Senior Adults, (5) Decide Where to Visit,
(6) Prepare Youth to Visit, (7) Visit Without Pets, (8) Prepare Pets to Visit, (9) Practice With Pets, and (10) Visit With Pets. Each step is formatted to include Objectives, Time Requirements, Words to Know, Background Information, Introduction to the Activity, Preparing for the Activity, Conducting the Activity, Appraising the Step, Climbing Higher, and The Next Step (Miller & Suthers-McCabe, 2002).

In 2003, 4-H PetPALS became an Ohio 4-H project. Since the 4-H PetPALS pilot and initial volunteer training, more than 540 adult 4-H volunteers and 140 teen 4-H volunteers have received 4-H PetPALS training in Ohio (Master 4-H PetPALS registration records, 1999 to 2009). An additional 85 volunteers and 40 youth from other states also received this training.

Documentation of the number of youth who have become 4-H PetPALS in Ohio is vague. Based on feedback from master 4-H PetPALS volunteer leaders, approximately 400 youth completed 4-H PetPALS projects prior to 2005. Beginning in 2005, records were kept on statewide 4-H PetPALS enrollment, with 450 members documented in the Ohio 4-H Statistical Reports from 2005 through 2008 (Elder, 2006, 2007, 2008; Fox, 2005).

**Statement of the Problem**

4-H PetPALS is a specialized project where trained volunteers teach youth skills needed to socialize and train pets for animal-assisted activities with senior adults in assisted living and skilled nursing facilities (Miller & Suthers-McCabe, 2002). Youth also engage in sensitivity training to better understand any physical and cognitive challenges of people they visit, as well as learn communication skills needed to positively
interact with these older adults. Several desired outcomes of youth who complete the 4-H PetPALS project are anticipated, two of which include experiencing a close human-animal bond and showing empathy toward people they visit. Attitudes toward pets and attachment to pets are two factors affecting human-animal bond experiences. Youth’s empathic attitudes influence empathic behavior when visiting senior adults.

In 4-H PetPALS, pets are the vehicles supporting youth when visiting senior adults. During these visits, children talk and interact with residents, with the pet initially the focal point of their conversations. The residents also interact with the youth’s animal by talking, touching, petting, and/or grooming. Research documents positive results achieved by senior adults during visits from children and animals; but, are youth closer to their pets as a result of 4-H PetPALS visits? Are youth more empathic toward people because of their interaction with senior adults?

**Purpose and Objectives**

The purpose of this Ex Post Facto research was to (a) describe characteristics of 4-H PetPALS and 4-H Companion Animal youth, (b) describe attitudes toward pets, attachment to pets, and empathic attitudes toward people of 4-H PetPALS and 4-H Companion Animal youth, and (c) determine relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and selected demographic variables. The specific research questions of the study were:

1. What were the characteristics of youth who had completed the 4-H PetPALS and Companion Animal 4-H projects in respect to county, age, gender, years enrolled in the project, and type of pet species used?
2. What were the attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth in the 4-H PetPALS and Companion Animal 4-H projects?

3. What were the relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and youth characteristics for those completing the 4-H PetPALS and Companion Animal 4-H projects?

**Operational Definitions**

**Animal-assisted activities (AAA).** Meet-and-greet activities that provide opportunities for motivational, educational, recreational and/or therapeutic benefits to enhance a person’s quality of life (Delta Society, 1992).

**Animal-assisted therapy (AAT).** A goal-directed intervention where an animal meeting specific criteria is an essential part of the treatment process (Delta Society, 1992).

**Attachment.** Within the framework of attachment theory, attachment is defined as a lasting emotional bond or tie between an individual and an attachment figure (Bowlby, 1969). MacCoby (1980) defined attachment as a somewhat enduring emotional connection to a specific other person. For the purpose of this study, attachment is the youth’s emotional connection or bond to a companion animal.

**Attitude.** A “psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (Eagley & Chaiken, 1993, p. 1). Attitude also represents a person’s mental position, a feeling or emotion toward a fact or state (Merriam-Webster, 2003).
Companion animals. Animals having a special relationship and association with humans, are partially or totally dependent on people, live in close proximity of people, bond or form an attachment with people, and interact with their owners. Mutual or reciprocal action or influence exists between the animal and owner (K. L. Campbell, Corbin, & J. R. Campbell, 2005).

Companion animal 4-H project. One of the following Ohio 4-H projects: You and Your Dog, Project No. 201D; Dog Obedience, Project No. 201O; Dog Showmanship, Project No. 201S; Performance Dog, Project No. 201P; Working Dogs, Project No. 201W; Cat Level 1- Purrr-fect Pals, Project No. 216; Cat Level 2 - Climbing Up, Project No. 217; Cat Level 3 - Cat Connections, Project No. 218; Guinea Pigs, Project No. 215; Pet Rabbits, Project No. 227; Small Animals, Project No. 220; and Reptiles and Amphibians Idea Starter, Project No. 365.13, or a Self-Determined Project, No. 365.

Empathic attitudes. The more cognitively-based component of empathy measured by self-report (Funk, Fox, Chan & Curtiss, 2008). Funk, et al. also discussed that empathic attitudes are “stable but modifiable knowledge structures: coherent, memory-based mental structures that influence behavioral choice” (p. 3).

Empathy. Defined by Hogan (1969) as “the intellectual or imaginative apprehension of another’s condition or state of mind without actually experiencing that person’s feelings” (p. 308). Mehrabian and Epstein (1972) described empathy as an increased emotional response to the perceived emotional experiences of others. Funk, Fox, Chan and Curtiss (2008) discussed that empathy is “viewed as a process, not a simple unitary response, and although empathic responding does not require conscious awareness, cognitive processes can contribute to the behavioral outcome” (p. 2).
4-H PetPALS project. A leader-directed 4-H project (230GPM) where master 4-H volunteer leaders teach youth both animal-assisted activities and intergenerational skills needed to visit residents in assisted living and skilled nursing facilities.

4-H PetPALS youth. A youth, either age eight and in the third grade or not having passed his or her 18th birthday as of January of the current year, who is enrolled in the 4-H PetPALS project (4-H PetPALS, Project No. 230), who has completed the required activities in the 4-H PetPALS curriculum, and who has an appropriate pet that has passed the testing requirements.

4-H companion animal youth. A youth, either age eight and in the third grade or not having passed his or her 18th birthday as of January of the current year, who is enrolled in one or more of the companion animal 4-H projects.

Human-animal bond. A relationship between a human and an animal that is reciprocal, but not necessarily symmetrical, and persistent, generally promoting a well-being for both parties (Russow, 2002).

Intergenerational relationships. Formal and informal interactions between youth and senior adults, which provide opportunities for sharing skills, knowledge, and experiences across generations. Intergenerational relations promotes friendships between young and old, broadens understanding of the aging process, and gives insights into youth. The middle generation is the facilitator or director (e.g. Master 4-H PetPALS Volunteer Leaders). Older adults serve as receivers of services or teachers. Each are interdependent, with all needed for successful experiences. The flow back and forth makes all three generations enjoy intergenerational relationships (Senior Series, 1998).
Pets. Companion animals that live inside the home with an individual or family and are not used primarily for work purposes, nor used for food or fiber.

Master 4-H PetPALS volunteer leader. An adult 4-H volunteer who has successfully completed the required six-hour 4-H PetPALS training to give leadership to a 4-H PetPALS 4-H club or group.

Senior adult (citizen). A loosely defined term. In the United States, age 60 is the age of eligibility for Older Americans Act services, according to the Older Americans Act of 1965. People can take early retirement at age 62 and full retirement from 65 to 67 years depending upon the year of a person’s birth, according to the Social Security Act. Some professions require mandatory retirement for workers at age 70 (Senior Series, 2004). The Ohio Department of Aging serves and represents Ohioans ages 60 and older (Ohio Department of Aging, 2008). Several dictionary definitions define senior citizen as an elderly person, especially one at or over the age of retirement (American Heritage Dictionary, 2006; Merriam-Webster, 2003; Oxford Mini Dictionary and Thesaurus, 2008).

Limitations of the Study

The following limitations were recognized in this study:

1. Findings were limited to a census of youth who completed the 4-H PetPALS project from six randomly selected Ohio counties, and an equal number of 4-H Companion Animal youth from each respective county who were randomly selected to serve as the comparison group for this study. Therefore, results cannot
be generalized to other 4-H members completing 4-H PetPALS or companion animal 4-H projects, different 4-H projects, or to 4-H members in other states.

2. The research questionnaire was self-reporting; therefore, verification of responses is not possible.

3. The researcher measured perceptions of youth using attitudinal scales. Perceptions, attitudes, and practices may change over time as individuals grow and have new or different experiences.

Basic Assumptions

The researcher subscribed to the following assumptions:

1. The respondents provided the researcher with valid and reliable data.

2. The respondents were honest when answering the questions.

Significance of the Problem

Clearly, children who volunteer with their pets to visit senior adults give them important exposure to two components of the human habitat: children and animals. In the 4-H PetPALS program, the animal is the ice-breaker that gives the youth support in visiting senior adults (Miller & Suthers-McCabe, 2002). During these visits, the children talk and interact with residents. Senior adults also are given the opportunity to touch, brush, or pet the animal the youth brings on the visit. Research documents the positive results achieved by senior adults during visits from children and animals, but evidence that youth who complete the 4-H PetPALS project learn to work confidently with their
pets and communicate more effectively with seniors is only anecdotal. Does 4-H PetPALS actually deliver the curriculum’s desired outcomes?
Chapter 2: Review of Literature

By necessity, a study of attitudes toward pets, attachment to pets, and empathic attitudes toward people covers a broad spectrum of literature. The review of literature begins with this study’s most fundamental idea—the human-animal bond—and then becomes more specific as it moves to companion animals, companion animals in families, companion animals in families with children, companion animals and the benefits for youth, companion animals and senior adults, and youth and senior adults. The review comes to a close with a discussion of children’s empathy toward pets and people.

Human-Animal Bond

In the most general terms, the human-animal bond is defined as the relationship between people, animals, and their environment (The American Association of Human-Animal Bond Veterinarians, 2008). The Center for Human-Animal Bond at the Purdue University School of Veterinary Medicine described the human-animal bond as a “dynamic relationship between people and animals in that each influences the psychological and physiological state of the other” (2000, ¶ 1). In a 2006 survey of almost 50,000 pet owners conducted by the American Veterinary Medical Association, nearly all respondents indicated feeling a strong bond with their pets (AVMA, 2007).
For a human-animal bond to be fully developed, however, three criteria must be in place: (1) a relationship between a human and individual animal, (2) a relationship that is reciprocal and persistent, and (3) a relationship that promotes an increase in well-being for both the human and the animal, with both benefitting from the experience (Russow, 2002). In model cases, the animal recognizes the human. The animal has an increased sense of trust, and the human has a greater caring and understanding of the animal’s needs. Even though this relationship is reciprocal, with both the animal and human involved, it may not be symmetrical, in which each party is expected to maintain the same kind of relationship to the other (Russow).

While the definition of human-animal bond refers to any animal meeting the above criteria with its human counterpart, the type of human-animal bond referred to in this study relates to companion animals, and more specifically pets.

**Companion Animals**

Youth enrolled in the 4-H PetPALS project and 4-H companion animal projects have the opportunity to experience and explore the human-animal bond with their pets. As defined by K. L. Campbell, Corbin, and J. R. Campbell (2005), companion animals are those that have a special relationship and association with humans, are partially or totally dependent on people, live in close proximity of people, bond and interact with their owners, and provide a mutual or reciprocal action or influence between the animal and owner. Zawistowski (2008) indicated that the term, companion animal, suggests the sense of companionship people believe they share with animals that live with them. Fine (2006) described companion animals that “live inside the home with an individual or
family and are not used mainly for work purposes” as pets (p. 244). For the purpose of this study, the term companion animal and pet have the same meaning and are used interchangeably.

A growing number of clinical studies have contributed to the development of a body of knowledge supporting the physical and emotional benefits of animals for humans in a variety of settings (Levinson & Mallon, 1997). The health benefits of interaction with companion animals are similar to accepted definitions of the effects of social support, which have been well established as helpful coping mechanisms for humans under stress (Robinson, 1995). A study of pet owners and non-pet owners between the ages of 20 and 50 years found that the pet owners had lower levels of accepted risk factors for cardiovascular disease (Anderson, Reid, & Jennings, 1992). Friedmann and Thomas (1995) found that dog ownership, along with lower anxiety and human social support, were associated with a greater likelihood of one-year survival after a heart attack.

Companion animals offer one of the most accessible enhancements to a person’s quality of life. Pets can provide companionship, non-judgmental affection, and an unconditional support system. Contact with animals promotes dialogue among family members, youth, people with mental and physical disabilities, and lonely people (Beck, 2002; Beck & Katcher, 1996). Pets have the capacity to make the atmosphere safe for people to show their emotions, and not be judged for their actions (Becker, 2002). Studies revealed that 60 to 80% of dogs sleep with their owners at night in their bedroom, either on or by the bed, indicating closeness in their relationship (CENSHARE, 2002).

Robinson (1995) compared the relationship that develops with companion animals to that which develops between human companions. This human-animal
relationship can vary in intensity and form in a similar way. People develop relationships with animals reflective of their personalities and attitudes. There is no doubt, however, that companion animals provide humans with company and friendship (Veevers, 1985). Companion animals play a major positive role in human development and quality of life for all (Becker, 2002).

**Companion Animals in Families**

To understand the significance of pets in our lives, one must understand to what extent they receive our attention and resources. According to the American Pet Products Manufacturers Association’s 2007-2008 National Pet Owners Survey, 63% of U.S. households, or 71.1 million homes, own a pet (APPMA, 2008). A survey conducted by the American Veterinary Medical Association revealed that the number of U.S. households owning pets increased by 12.4% from 2001 to 2006 (AVMA, 2007a). Almost 45 million of these households owned 74.8 million dogs. More than 38 million households owned 88.3 million cats. An additional six million households owned more than 24 million small animals, such as rabbits, guinea pigs, and hamsters (APPMA). The American Pet Products Manufacturers Association estimated that for 2008, $43.4 billion would be spent in the United States for pet food, veterinary care, pet supplies and over-the-counter medicine, pet services such as grooming and boarding, and live animal purchases (APPMA). Because of their widespread presence in American households, pets are popular and accessible project subjects for 4-H youth.

In addition to the demographic data above, research has shown overwhelmingly that humans consider their companion animals to be members of their families (Beck &
In a study by Cain (1983), 87% of respondents from 60 families of dog owners considered their dogs family members. Fogle (1983) conducted extensive surveys that indicated pet owners regarded their pets as members of their families. Research by Voith (1984) found that in a survey of 500 pet owners, 99% of respondents considered their pets as family members. Catanzaro (1984) studied 986 military families who owned pets, and found that 98% of respondents regarded their pets as a part of their families. In the American Veterinary Medical Association’s 2006 survey of nearly 50,000 pet owners, about 49.7% of the respondents considered their pets to be members of their families, while 48.2% considered their pets to be companions (AVMA, 2007b).

**Companion Animals in Families with Children**

According to Bulcroft and Albert (1985), households with children, especially, were more likely to own pets. Beck and Katcher (1996) also concluded that families with children were more likely to own companion animals than were families without children. This high percentage of pets in families with children was due in part to the belief that pets are good for children and in part to families usually having greater resources for raising pets, as well as locations where pets are permitted (Beck & Katcher). Robinson (1995) found that pet ownership occurred significantly more often in families with school-aged children and adolescents than in families without children. Research conducted by the American Veterinary Medical Association also found that pet ownership remained highest among parents. Approximately 70.5% of households with children owned one or more pets at the end of 2006. This compared with 42.1% of single-person households owning pets (JVMA News, 2008).
Different studies found that over 90% of children who did not own a pet expressed a desire to do so when asked (A. H. Kidd & R. M. Kidd, 1985; Salomon, 1981). Children actually initiated the acquirement of a pet through purchasing an animal, rescuing an animal, or picking up a stray (Bulcroft & Albert, 1988). Bulcroft and Albert found that the adult woman in the home, usually the child’s mother, is the person more likely to be the caregiver for the pet at all stages of the family life cycle. Conversely, adult males participated more in exercising the pet.

Interestingly, Bulcroft and Albert (1988) found the pattern of pet attachment was quite contrary to the pattern of pet ownership. Even though findings indicated that families with children were more likely to own pets, they revealed that these families had the lowest attachment level for the pets. Households that were comprised primarily of adults (newlyweds, widowed, and those who had never married) had the highest levels of attachment. The researchers concluded that this high level of attachment was due to people without children having more time to form bonds with their pets, that often served as substitutes for children.

Companion Animals and the Benefits for Youth

Companion animals play important roles in youth development. Wilson (1984) suggested that people’s affinity for animals and other living things is innate, a hypothesis he defined as biophilia.

Biophilia depicts children as born assuming a connection with other things. The emotions and personalities of animals, real and symbolic, are immediate to children in the same way that the emotions and personalities of people are.
Because of this, animals enter the drama of a child’s life in direct and powerful ways. Children readily access animals as material in the development of a sense of self. Every human child begins life situated in what adults call “the animal world” (Melson, 2001, pp. 19-20).

As a result of this instinctively perceived solidarity, benefits of pet ownership for youth also have been described in terms of facilitating psychosocial development, including greater self-esteem and empathy (Beck, 2002; Beck & Katcher, 1996). Children who live with pets also learn responsibility and nurturing skills. The family pet is often considered a child’s child (PAWSitive InterAction, 2002). A study conducted by Ascione (1992) in a school humane education program resulted in more positive attitudes by fourth graders toward companion animals and other animals.

Significantly, studies conducted by Melson (1998) and Poresky and Hendrix (1990) found that merely owning a pet is not related to measures of childhood development. It is the quality of the relationship between companion animals and children that is significant to children’s development (Melson, 1998). Melson defined quality of life for children as “the subjective symptoms, feelings, and well-being relevant to the child’s ability to meet developmental challenges” (p. 222). Based on Erikson’s psychosocial theory, Melson hypothesized that companion animals may promote children’s quality of life by “(1) contributing to their sense of basic trust (p. 226); (2) facilitating play, exploration, and independence (p. 228); (3) aiding in learning and in acquisition of self-competence (p. 230); and (4) in identity exploration and achievement through their ability to provide a nonjudgmental audience (p. 230).”
Evidence suggested also that not only is childhood development positively affected by pets, but that children’s attitudes towards pets themselves were more positive. A. H. Kidd and R. M. Kidd (1990) examined parental attitudes, family size and structure, and the presence or absence of household pets as influences on children’s attitudes toward pets. Results indicated that children of strongly attached adults and in families who owned pets scored higher on the activities and interests constructs than did children of weakly attached adults and in families who did not own pets.

Pets play different roles for children at each stage of their development (Robin & ten Bensel, 1990). During adolescence, especially, children’s relationships with pets change. Pets function more as transitional objects, much like blankets do for infants. They help young people feel safe without the presence of parents. Pets are more socially acceptable as transitional objects for adolescents than are inanimate objects.

According to Wilson (1994), pets are less important during the adolescent years compared to preadolescence. Active interest in companion animals declines during adolescence, especially among adolescent boys (Levinson & Mallon, 1997). Although boys have grown up with family pets and have strong attachment relationships, they do not have the time they once had to interact with their pets. What interaction does occur is often minimal and sporadic. Nevertheless, the unconditional love and nonjudgmental attitudes that pets provide allow them to serve as confidants for adolescents (Fine, 2000), objects of love, protectors, and social facilitators or status symbols (Fogle, 1983). A study conducted by Melson, Peet, and Sparks (1991) indicated that pet attachment was higher for older children (fifth grade versus kindergarten) and for those whose mothers were employed; however, Melson (1991) emphasized that after the age of 13, attachment to
pets tends to diminish. Data from a study conducted by Vidovic, Stetic, and Bratko (1999) showed that attachment to pets gradually decreased with age.

Moreover, the attachment between adolescents and pets is enhanced by their animate quality (Robin & ten Bensel, 1990). In a study about the developmental differences between children’s attachments to companion animals and their self-esteem (Triebenbacher, 1998), children with a cat or dog were significantly more attached to their companion animal than were children with other types of pets. Youth with interactive pets, such as dogs and cats, were more attached to their companion animals than were youth with other types of pets. Vidovic, Vlahovic, and Bratko (1999) also found that youth owning dogs and cats were more attached to their pets than those owning other pet species.

Triebenbacher (1998) found that girls were significantly more attached to their pets than were boys. Vidovic, et al. (1999) also determined that girls were significantly more attached to their pets than boys. Holcomb, Williams and Richards (1985) reported a higher attachment to pets in females than males. Findings from a study conducted by Melson, Peet, and Sparks (1991) showed a significant effect of gender on children’s affective attachment when self-reported by children. However, boys reported more affective attachment to pets than did girls. In a study by Stevens (1990), no significant differences between gender and attachment to pets were found. Vidovic, et al. noted that pet attachment appeared to be higher in females in studies that used self-report measures.

In Melson’s (1998) fourth hypothesis, based on Erikson’s psychosocial theory, companion animals may promote a young person’s quality of life in identity exploration, in which the adolescent searches for an independent adult self. This search for identity is
both social as well as a mental process (Steinberg, 2002). The companion animal’s role in the identity process is its ability to provide a nonjudgmental audience. The pet may provide social support as a reassuring presence in times of stress. Melson (1998) suggested that adolescents could explore ideas and feelings freely in the presence of their pets. However, because of multiple influences on identity development, it is probable that companion animals play an outlying role.

Bodmer (1995) studied the impact of pet ownership on the well-being of adolescents with few familial resources, finding that pet owners reported a higher level of well-being and more familial resources than non-pet owners. Findings supported the hypothesis of a beneficial relationship between pet ownership and adolescents’ well-being.

Companion Animals and Senior Adults

Institutionalized Americans often do not have the physical, mental, and emotional capacities of vigorous adults and must function at diminished levels of physical and cognitive abilities (Thomas, 1996). Higher functioning institutionalized residents require less medical and psychological treatment than residents requiring 24-hour skilled care (Anetzberter & Palmisano, 1993). Regardless, as individuals, each resident has capacity for growth; thus, the care they receive should be guided by their individual capacities and needs. This care goes far beyond medical treatment, which can be brief and intermittent (Thomas). Loneliness, helplessness, and boredom account for the majority of discontent in a typical nursing home. To reduce these problems and to promote social stimulation and emotional well-being, institutionalized senior adults need easy access to companionship (Delta Society,
1992). They need to receive, as well as to give, nurturance. Residents need to smile, laugh, and converse, and be accepted by someone or something that is nonjudgmental. Just like everyone else, people living in healthcare facilities need variety and spontaneity.

Pets, like plants and youth, are pivots for the routine of daily life in nursing homes and similar institutions (Thomas, 1996). Pet ownership greatly enhances the quality of life of senior adults (Delta Society, 1992). Robinson (1995) asserted that pet ownership enhanced the quality of life of older adults, with pet attachment positively influencing the health of these seniors. Pets facilitate healthful activities, provide opportunities for socializing, and serve as buffers against stress. However, residents in senior healthcare facilities rarely have the opportunity or affordability of keeping their pets with them at the institutions. Fortunately, even once-a-week exposure to a pet can produce a significant reduction in an older person’s loneliness (Creagan, 2002).

Multiple research efforts associate pet ownership with physical health benefits such as lower levels of some cardiovascular risk factors, including systolic blood pressure and triglyceride levels (Friedmann, Katcher, Lynch, & Thomas, 1980). Pets help seniors through stressful situations, reducing the number of doctor visits and amounts of medication taken (Becker, 2002).

Similarly, research has provided evidence of the positive effects of animal-assisted activities and animal-assisted therapy in healthcare settings with youth and adults. Reduced anxiety levels and distress in stressful situations, reduced behavioral problems, and increased socialization and participation are among the many benefits reported (Beck, 2002; Beck & Katcher, 1996). Fick (1993) evaluated behaviors of 36 male nursing home residents with the presence and absence of a therapy dog, and found
that a significant increase in person-to-person verbal interactions, as well as non-verbal person-to-person interactions, occurred among the residents with the dog present.

In a study conducted by Churchill, Safaoui, McCabe, and Baun (1999), institutionalized people with Alzheimer’s disease receiving short-term exposure to a therapy dog showed a reduction in the number of agitated behaviors, especially during the period known as sundown syndrome. Socialization behaviors of these residents increased with a therapy dog present. Findings from a study conducted by Richeson (2003) showed that therapy dogs reduced agitated behaviors and increased the social interaction of older adults with dementia.

Many senior adults live in the past, believing there is nothing to look forward to in the present or future. Nurturing pets brings seniors into the present while adding value and meaning to their current existence (Becker, 2002). Pets can serve as bridges between a senior’s former and current homes. They lesson or alleviate those three persistent problems—helplessness, boredom and loneliness—and provide personal identity and social benefits. Interacting with pets helps people of all ages, but especially seniors, keep the senses sharp and promote feelings of well-being (Becker).

After studying 45 residents in a long-term care facility, M. R. Banks and W. A. Banks (2002) concluded that loneliness was significantly reduced in those receiving animal-assisted therapeutic intervention. They also concluded that the desire by residents for animal-assisted therapy strongly correlated with previous pet ownership. Brickel (2004) also found a significant reduction in depression in nursing home residents who
had animal-assisted therapy during treatment sessions. Pets improve the morale of older adults (Lago, Delaney, Miller, & Grill, 1989).

**Youth and Senior Adults**

More than 36 million people over the age of 65 live in the United States, accounting for 12% of the total population (U.S. Census Bureau, 2006). With increased family mobility, geographic distances, and multiple marriages affecting today’s American family, it is often difficult for strong grandparent-grandchild relationships to develop. Few of today’s youth have much contact with older adults in their communities (McErlean, 1994). It is easy for young people and senior adults to have stereotyped views of each other instead of seeing each other as individuals with real feelings, needs, and desires. When youth and seniors do interact, new friendships develop and existing relationships are enhanced. Older adults can teach youth how to make decisions and overcome life’s obstacles. Youth can tell seniors what it is like growing up in today’s society with its endless opportunities and difficulties. Both young people’s and older adult’s lives are enriched as linkages across generations are developed within families and communities (McErlean).

A study by Hendy (1987) revealed that nursing home residents increased the behaviors of smiling and alertness when visited in three different ways: (1) people-only, (2) people and pets, and (3) pets-only. The greatest number of positive behaviors (alertness, smiling, ambulation, talking, and proximity) exhibited by the residents was as a result of visits in close proximity by people-only, followed by people and pets (Hendy).
Kaiser, Spence, McGavin, Struble, and Keilman (2002) conducted a study in a nursing home to determine if senior adults preferred an outgoing, happy person or a dog for the type of visitor, when both visits were nonobligatory and nonjudgmental. They found that residents’ prosocial behaviors were similar when visited by the person and dog, except for tactile behavior. The residents were much more likely to pat the dog than the person. Kaiser et al. indicated that it was more socially acceptable for the residents to touch a dog than a human, with the dog helping to fulfill the need for tactile comfort and the ability to nurture.

Gaulin (2006) discussed that visiting people in nursing homes and other healthcare facilities benefits the person’s health who is visiting with his or her pet. After animal-assisted activities visits, people initiating the visits tend to feel happy, elated, content, as well as proud of their animals for the part they play in the interactions.

**Children’s Empathy toward Pets and People**

One very important outcome of completing the 4-H PetPALS project is for youth to become more understanding, compassionate, and empathic toward the senior adults they visit (Miller & Suthers-McCabe, 2002). Melson’s (1998) research provided evidence that it is the child’s attachment to pets that is related to empathy, not just pets living in the home. Pet attachment related differently to empathy and perceived competence depending on the age and grade level of the child (Melson). Poresky and Hendrix (1990) found that the strength of a child’s bond with his or her pet was associated with empathy, as children who scored higher on the Companion Animal Bonding Scale (Poresky, Hendrix, Mosier, & Samuelson, 1987) had greater social competence and greater
empathy for other children. Poresky (1990) also found that children who had greater empathy toward pets also had greater empathy for other children. Findings from a study conducted by Melson, et al. (1991) revealed that five- and six-year-old children who were more attached to their pets showed greater empathy toward other children. Results from a study by Ascione (1992) revealed that fourth graders in humane education programs who had more positive attitudes toward animals also were more empathic toward humans. Serpell (1996) discussed Levinson’s early research that suggested the experience of caring for a pet during childhood may lead to an increased sensitivity to the feelings and attitudes of others. Vidovic, et al. (1999) found that children owning dogs were more empathic than non-dog owners. Results from a study conducted by Taylor and Signal (2005) indicated a significant correlation between empathy levels, gender, companion animal ownership and attitudes in a study of undergraduate college students.

Findings from a study conducted by Vidovic, et al. (1999) revealed that girls were more empathic than boys, and fourth and fifth grade students were more empathic than eighth graders. Thompson and Gullone (2003) assessed children’s humane behavior toward non-human animals. Results revealed that boys scored significantly lower on both measures of empathy compared to girls.

In contrast, Ray (1982) found people’s attitudes toward animals as unreliable predictors of their feelings toward people. DeRosa (1984) discussed that in a study conducted by Malcarne (1981), youth who experienced increased empathy toward animals did not transfer this empathic attitude to other children. Daly and Morton, in a 2003 study, found no correlation between empathy and attachment to pets; however, findings from additional research conducted by Daly and Morton (2006) revealed that
girls were significantly more empathic than boys in a study focusing mainly on children’s
relationships with dogs and cats.

Assuming that many of the processes underlying empathy are applicable to both
people and animals, “empathy could be a highly generalized characteristic in that people
who are empathic toward animals would be more likely to be empathic toward people”
(Ascione, 2005, p.88). However, Ascione continued to discuss that a general
characteristic of some people may be that they lack empathy toward other people and/or
animals. He stated that “Clearly, the presence of a pet in a home is no guarantee that
empathy will emerge. . . . But pets, if present, may provide one more opportunity for
children to develop a healthy sense of compassion for vulnerable others” (p. 86).

Empathy Defined

The term empathy has various definitions that have guided the development of
measures of empathy (Caruso & Mayer, 1998). Empathy has both a cognitive and
emotional component. Caruso and Mayer explained that empathy can be defined
cognitively, “in relation to perspective taking or understanding of others” (p. 3). For
instance, Hogan (1969) defined empathy cognitively as “the intellectual or imaginative
apprehension of another’s condition or state of mind without actually experiencing that
person’s feelings” (p. 308). Caruso and Mayer continued to state that empathy has also
been defined as “emotional arousal or sympathy in response to the feelings or
experiences of others” (p. 3). They cited Mehrabian and Epstein (1972) who defined
empathy as “the heightened responsiveness to another’s emotional experience” (p. 256).
Davis (1983) included cognitive and emotional components of empathy as a
multi-dimensional construct. Davis stated that these constructs are related as they all concern responsivity to others.

Funk, Fox, Chan and Curtiss (2008) discussed that in a conceptualization from studies by Decety and Jackson (2004) and Preston and deWall (2002), empathy is “viewed as a process, not a simple unitary response, and although empathic responding does not require conscious awareness, cognitive processes can contribute to the behavioral outcome” (p. 2). Funk et al. noted that while there is disagreement about which is process and which is outcome, there is agreement that

1) the cognitive and affective features of empathic process and responding are both necessary; 2) the relative importance of each varies with the situation, the developmental level, and individual differences; 3) at least the precursors of empathy emerge at a very early age, but empathic responsiveness becomes more discriminating and deliberate as a child develops; and 4) by later childhood children should be able to empathize with complex situations and emotions (p. 3).

Empathic Attitudes Defined

Funk, Fox, Chan, and Curtiss (2008) stated that, “In reviewing self-report measures of empathy in both children and adults, it appears that what is being measured by self-report is the more cognitively-based component of empathy that can be best conceptualized as empathic attitudes” (p. 3). Funk et al. discussed that the evaluation of empathic attitudes was only one facet of empathy, however, is a “meaningful endeavor for both basic and applied questions” (p. 3). These authors also discussed that according to Eisenberg et al. (1999) and Eisenberg et al. (2005), empathic attitudes are “stable but
modifiable knowledge structures: coherent, memory-based mental structures that influence behavioral choice,” (p. 3).

In this research, empathic attitudes exclusively toward senior adults were not measured; however, one of the constructs in the researcher’s instrument specifically included a measurement of children’s empathic attitudes.

Summary

Children form attachments to animals and attitudes about animals based upon many factors including their child characteristics (age, gender), family characteristics (culture and ethnicity, marital status, socioeconomic status, maternal employment, family size), exposure to and ownership of animals, and type of animal. In this chapter, research was reviewed relevant to the importance of companion animals in today’s society, the role they play related to youth development, and their benefits to senior adults. A general discussion of empathy and empathic attitudes was provided to set the stage for a proposed outcome of youth who have completed the 4-H PetPALS project, and one of the research questions posed in this study.

The variables in this study were illustrated in a conceptual schema (Figure 2.1). The conceptual schema depicted three presumed effects of youth who completed the 4-H PetPALS projects and companion animal projects based upon selected personal and demographic characteristics.

While research has been conducted investigating youth’s attitudes toward pets and attachment to pets, and possible benefits of positive attitudes and attachment, studies exploring these attributes in youth who use animals as partners in visiting senior adults
does not exist. Ideally, youth who have completed the 4-H PetPALS project will have more positive attitudes toward their pets, a stronger attachment to their pets, and show more empathy toward people, as a result of working closely with their animals to enhance another person’s life. The results of this study will contribute to current research in the areas examined, as well as provide a basis for improving the 4-H PetPALS curriculum and program.
Figure 2.1. Conceptual Schema
Chapter 3: Methodology

Research Design

This Ex Post Facto research utilized the static group comparison design to answer the following research questions:

1. What were the characteristics of youth who completed the 4-H PetPALS and Companion Animal 4-H projects in respect to county, age, gender, years enrolled in the project, and type of pet species used?

2. What were the attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth in the 4-H PetPALS and Companion Animal 4-H projects?

3. What were the relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and youth characteristics for those completing the 4-H PetPALS and Companion Animal 4-H projects?

The following dependent variables: attitudes of youth toward pets, attachment of youth to pets, and empathic attitudes of youth toward people were measured. The independent variables: type of 4-H pet program, county of program instruction, gender, age, years enrolled in the specific 4-H pet program, and pet species were also measured to answer the research questions.
Population and Sampling

Operationally, the 4-H PetPALS youth population was defined as all Ohio youth completing 4-H PetPALS projects in 2007 and 2008 in Ohio counties offering the 4-H PetPALS project. The 4-H Companion Animal youth population was operationally defined as all Ohio youth completing companion animal 4-H projects who were not enrolled in 4-H PetPALS projects in the same counties in 2007 and 2008.

A total of 31 counties had youth enrolled in 4-H PetPALS projects in the 2007 and 2008 project years. Six counties were randomly selected from the sampling frame to obtain a sample size of between 50 and 75 subjects. The experimental group for this study was a census of youth who completed the 4-H PetPALS project. After selection of 4-H PetPALS youth, an equal number of youth from each respective county who were not enrolled in the 4-H PetPALS project was randomly selected to represent the sample of 4-H Companion Animal youth. The 4-H Companion Animal youth served as the comparison group for this study.

The experimental units represented a population of 74 youth who completed the 4-H PetPALS project and a sample of 74 youth who completed a companion animal 4-H project from six randomly selected Ohio counties: Ashland, Fairfield, Franklin, Lake, Medina, and Ross. Table 3.1 shows the respondents by county, by project group, and the response rate for those completing the questionnaire. The overall response rate for 4-H PetPALS youth was 81% \((N = 74)\). The overall response rate for 4-H Companion Animal youth was 73% \((n = 74)\). Follow-up was not conducted on non-respondents; therefore the reader is cautioned not to generalize the results beyond those who responded.
<table>
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<td>11</td>
<td>91</td>
<td>Franklin</td>
</tr>
<tr>
<td>Lake</td>
<td>22</td>
<td>100</td>
<td>Lake</td>
</tr>
<tr>
<td>Medina</td>
<td>11</td>
<td>73</td>
<td>Medina</td>
</tr>
<tr>
<td>Ross</td>
<td>10</td>
<td>90</td>
<td>Ross</td>
</tr>
<tr>
<td>Overall</td>
<td>74</td>
<td>63</td>
<td>Overall</td>
</tr>
</tbody>
</table>

Table 3.1. Distribution of Respondents and Response Rates by County

**Instrumentation**

A four-section questionnaire was used to collect the data needed to answer the research questions (Appendix A). The instrument consisted of the following four sections: Section one consisted of 18 questions which measured youth’s attitudes toward pets; section two had 28 questions which measured youth’s attachment to pets; section three used 16 questions to identify youth’s empathic attitudes toward people; and section four requested selected demographic information of the respondents. Three separate instruments were used to create the questionnaire for this study. The instrument was designed to maintain consistency throughout the questionnaire (Dillman, 2000).

Likert-type scales were used to measure attitudes toward pets, attachment to pets, and empathic attitudes toward people. Frankel and Wallen (2000) explained that a
Likert-type scale is a commonly used attitude scale in educational research. A description of each of the questionnaire sections is provided below.

Section I
Youth’s attitudes toward pets

Templer, Slater, Dickey, Baldwin, & Veleber (1981) developed a scale for measuring the favorableness of attitudes toward pets. Using a 7-point Likert scale and factor analysis, the researchers identified 18 items that comprised the Pet Attitude Scale. The reliability coefficients for the scale were a Cronbach’s alpha of .93, and a 2-week test-retest stability of \( \alpha = .92 \) in a sample of undergraduate students (Templer, et al., 1981).

This researcher used a modified version of the Pet Attitude Scale (Templar, et al., 1981). Based upon comments by a panel of experts for face and content validity, the 7-point Likert scale (Strongly Disagree, Moderately Disagree, Slightly Disagree, Unsure, Slightly Agree, Moderately Agree, and Strongly Agree) was modified to a 5-point Likert scale (Always Agree, Sometimes Agree, Unsure, Sometimes Disagree, and Always Disagree). The word pets replaced house pets, and was added when the word animals was solely used. For example, statement 16 of the original scale stated, “I like house pets.” Statement 16 of the modified scale used in this study stated, “I like pets,” deleting the word house. Statement 17 of the original scale stated, “I hate animals,” and the modified version of this statement said, “I hate animals (including pets).”
Section II

Youth’s attachment to pets

The CENSHARE Pet Attachment Survey (PAS) developed in 1974 by Holcomb, Williams, and Richards (1985) measures people’s attachment to pets. The Pet Attachment Survey is a 27-item questionnaire that measures the degree to which people are attached to their dogs or cats. The Pet Attachment Survey is comprised of two subscales with a Cronbach’s alpha reliability of .83 and .74 respectively (Holcomb, et al., 1985).

Based upon comments by a panel of experts, statements were changed from second person to first person. For example, statement one in the original questionnaire stated, “Within your family, your pet likes you best.” The researcher modified that question to read, “In my family, my pet likes me best.” One statement containing the word and was separated into two statements as it contained two different actions. The statement in the original questionnaire was, “Your pet pays attention and obeys you quickly.” This was divided into two sentences as follows: “My pet pays attention to me,” and “My pet quickly obeys me,” making this section of the researcher’s questionnaire 28 questions. The 4-point Likert scale was modified by changing the rating scale from Almost Always, Often, Sometimes, and Almost Never to Always, Often, Sometimes, and Never.

Section III

Youth’s empathic attitudes toward people

Funk, Fox, Chan, and Curtiss (2008) developed the Children’s Empathic Attitudes Questionnaire (CEAQ). This 15-item questionnaire measures empathic attitudes of
children. The internal consistency reliability as estimated from Cronbach’s alpha was .77 (Funk, et al.).

This researcher received permission from Jeanne Funk, Ph.D., to use this instrument, as it had not yet been published. Dr. Funk suggested the researcher use the Children’s Empathic Attitudes Questionnaire for Adults (CEAQ-A) since a wider age-range of youth, including high school-age youth, would be completing the instrument. As recommended by a panel of experts, the scale was modified by changing the wording Yes, Maybe, and No, to Agree, Maybe Agree, and Disagree, to keep consistent with the wording of Section I.

Section IV

Demographic Information

This final section of the questionnaire collected additional information on the respondents and included five items. The information collected included: county where project was conducted, age, gender, years in 4-H PetPALS or companion animal projects, and pet species referred to in the questionnaire.

The questionnaire purposely did not have a title, nor were the three constructs titled, so as not to bias the subjects. The instruments were collected on site with the questionnaires given to the 4-H PetPALS group copied on ivory-colored paper, and questionnaires given to the 4-H Companion Animal group copied on white-colored paper to assure keeping the responses separated.

Establishing face validity and reliability of the research instrument

Face and content validity were established using a panel of experts comprised of 10 individuals (Appendix B). The expert panel consisted of two veterinarians with
teaching appointments, both experts in human-animal bond, human-animal interactions, animal-assisted activities (AAA) and animal-assisted therapy (AAT) fields; one licensed social worker who is a frontrunner in the human-animal bond, AAA, and AAT professions and author or co-author of several books in this field; two 4-H curriculum specialists; three specialists in youth animal sciences; one educational design specialist; and one 4-H program specialist. Members of the expert panel were also asked to comment on clarity and wording of the items. The researcher made appropriate modifications to the questionnaire based upon input from the panel.

Additionally, seven youth who completed at least one year of the 4-H PetPALS project and five youth who completed at least one year of solely a companion animal 4-H project from three southern Ohio counties were asked to complete the questionnaire and note if the instructions and/or any of the questions were unclear. They were also asked to comment on format and length of time taken to complete the survey. These 12 youth ranged in age from nine through 16 years and consisted of four boys and eight girls. None of these 4-H members were from the randomly selected counties where youth were asked to participate in the study. Suggestions were made in formatting; however, all twelve youth indicated the questions were easy to read and understand, and completed the questionnaire in 25 minutes or less.

The reliability of the instrument used in this study was determined using Cronbach’s alpha. The reliability coefficient for the three constructs was as follows: attitudes toward pets = .86, attachment to pets = .95, and empathic attitudes toward people = .91. Based on Nunnally (1976), a measure of .70 is considered an acceptable level of reliability.
The Ohio State University Institutional Review Board - Office of Research Risks Protection approved this study, assigning the Protocol Number 2008B0316 (Appendix C). Permission was secured from Ohio State University Extension Administrative Cabinet to conduct this research.

**Data Collection**

A database of Ohio 4-H counties with numbers of 4-H members who had completed the 4-H PetPALS project in 2007 and 2008 was provided to the researcher from the Extension professional who manages Ohio 4-H databases. The researcher randomly selected counties to obtain a manageable sample size of 50 – 75 4-H PetPALS youth due to limited resources.

Once counties were selected, a letter prepared by the researcher and approved by Dr. Tom Archer, Assistant Director, 4-H Youth Development, was sent electronically by the researcher to those respective county educators in the sample to inform them of the study (Appendix D). The researcher followed up with a phone call to each educator to further discuss their role in the study.

After county educators were notified of the study, the researcher obtained names and addresses of all youth who completed the 4-H PetPALS project in those randomly selected counties. The researcher also obtained names and addresses of all youth who completed 4-H companion animal projects in the same randomly selected counties. Duplicates were removed, so there were not any youth who completed both the 4-H PetPALS projects and a companion animal project in the study.
Once the subjects were selected, the investigator once again personally contacted the educators in those counties to ask for their help in setting up a location, date, and time for the questionnaire to be administered. After locations, dates and times were secured, the investigator sent a letter to the parents of the subjects which included information that was specific to each county (Appendix E). This letter described the study, as well as the location, date and time the questionnaire would be administered in their county. Parents were asked to respond via email or telephone to the researcher if their children were unable to participate.

The initial letters were mailed to parents of selected youth in all six counties on January 23, 2009. Reminder letters were mailed to parents of selected youth five days prior to each data collection date (Appendix F).

Youth were made aware of the purpose of the study and assured of the confidentiality of their responses. The participants were also made aware that there were no known risks to them by participating in the study, and if they chose to participate, they could discontinue participation at any time without consequences.

At each site, parents were given the Parental Permission form to read, and sign if they agreed to allow their child to participate in the study. Youth ages 14-17 were given the Assent Form to read, and sign if they agreed to participate in the study. Youth ages 18 and 19 were given the Consent Form to read and sign if they agreed to participate. All parents of children, ages 8-17, granted them permission to participate in the study. All youth ages 18 and 19 also agreed to participate.

The investigator read an assent script to all participants at each site explaining the procedure for the study (Appendix G). A local county Extension 4-H professional
administered the instrument and collected the data at each location. The investigator was present at the study locations, but was not involved in administering the survey.

At each research location, all participants received a ticket to be included in a drawing for one of two $25.00 cash awards, regardless of whether or not they elected to withdraw from the study. A total of six $25.00 cash awards were given away by the researcher. The researcher also provided pizza, drinks, chips, and cookies for all participants and parents present at each site.

Data Analysis

All data were coded, entered and analyzed using the SPSS Version 17.0 statistical package (SPSS, 2009). After all data were entered, the researcher checked and cleaned the data for accuracy.

Data were analyzed using descriptive statistics including measures of central tendency, measures of variability, measures of association, and multiple regression. Davis’ conventions for describing the magnitude of correlation coefficients (Davis, 1971) were used throughout the data analysis.
Chapter 4: Findings

Findings of the study organized according to the research questions are reported in this chapter.

Research Question 1: What were the characteristics of youth who have completed the 4-H PetPALS and Companion Animal 4-H projects in respect to county, age, gender, years enrolled in the project, and type of pet species used?

County

The distribution of 4-H PetPALS youth and 4-H Companion Animal youth by counties is summarized in Table 4.1. More than one-third (34.9%) of 4-H PetPALS respondents and one-fourth (26.4%) of 4-H Companion Animal respondents were from Lake County. The lowest percent (6.3%) of 4-H PetPALS respondents were from Ashland County and the lowest percent (9.4%) of 4-H Companion Animal respondents were also from Ashland County, with approximately equal numbers from other counties in the study.
Table 4.1. County Characteristics of 4-H PetPALS Youth ($N = 63$) and 4-H Companion Animal Youth ($n = 53$)

<table>
<thead>
<tr>
<th>County</th>
<th>4-H PetPALS Youth</th>
<th>4-H Companion Animal Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$f$</td>
<td>Percentage</td>
</tr>
<tr>
<td>Ashland</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>Fairfield</td>
<td>10</td>
<td>15.9</td>
</tr>
<tr>
<td>Franklin</td>
<td>10</td>
<td>15.9</td>
</tr>
<tr>
<td>Lake</td>
<td>22</td>
<td>34.9</td>
</tr>
<tr>
<td>Medina</td>
<td>8</td>
<td>12.7</td>
</tr>
<tr>
<td>Ross</td>
<td>9</td>
<td>14.3</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.1. County Characteristics of 4-H PetPALS Youth ($N = 63$) and 4-H Companion Animal Youth ($n = 53$)

Gender

The frequency distribution by gender of 4-H PetPALS youth and 4-H Companion Animal youth is reported in Table 4.2. Almost three-fourths (74.6%) of 4-H PetPALS youth were female. More than two-thirds (69.8%) of 4-H Companion Animal youth were female.
<table>
<thead>
<tr>
<th>Gender</th>
<th>4-H PetPALS Youth</th>
<th>4-H Companion Animal Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Female</td>
<td>47</td>
<td>37</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>53</td>
</tr>
</tbody>
</table>

Table 4.2. Gender Characteristics of 4-H PetPALS Youth ($N = 63$) and 4-H Companion Animal Youth ($n = 53$)

**Pet Species**

As represented in Table 4.3, 81.0% of 4-H PetPALS respondents and 64.2% of 4-H Companion Animal respondents used dogs as the project species referred to in the questionnaire. Other species were approximately equally represented, with guinea pigs being lowest (3.2% and 9.4%, respectively) for both groups.
<table>
<thead>
<tr>
<th>Pet Species</th>
<th>4-H PetPALS Youth</th>
<th>4-H Companion Animal Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>Percentage</td>
</tr>
<tr>
<td>Dog</td>
<td>51</td>
<td>81.0</td>
</tr>
<tr>
<td>Cat</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>Guinea Pig</td>
<td>2</td>
<td>3.2</td>
</tr>
<tr>
<td>Rabbit</td>
<td>4</td>
<td>6.3</td>
</tr>
<tr>
<td>Goat</td>
<td>3</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.3. Pet Species taken by 4-H PetPALS Youth ($N = 63$) and Companion Animal Youth ($n = 53$)

Age and Years Enrolled in Project

Age and years enrolled in the 4-H PetPALS project and 4-H companion animal projects are summarized in Table 4.4. The mean age for 4-H PetPALS youth was 13.8 years ($SD = 2.34$). The youngest 4-H PetPALS member was 9 years old and the oldest was 18. The mean years enrolled in the 4-H PetPALS project was 2.86 years ($SD = 1.58$). Youth were enrolled in this project from one to eight years.

The mean age for 4-H Companion Animal youth was 13.34 years ($SD = 2.63$). The youngest 4-H Companion Animal member was 8 years old and the oldest was 19. The mean years enrolled in a 4-H companion animal project was 3.36 years ($SD = 1.81$). Youth were enrolled in this project from one to 10 years.
Table 4.4. Frequency Statistics of Age and Years Enrolled in Project for 4-H PetPALS Youth (N = 63) and 4-H Companion Animal Youth (n = 53)

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>Mdn</th>
<th>SD</th>
<th>Skew</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-H PetPALS Youth</td>
<td>13.83</td>
<td>14.00</td>
<td>2.34</td>
<td>-.16</td>
<td>9.00</td>
<td>18.00</td>
</tr>
<tr>
<td>4-H Companion Animal Youth</td>
<td>13.34</td>
<td>13.00</td>
<td>2.63</td>
<td>.18</td>
<td>8.00</td>
<td>19.00</td>
</tr>
<tr>
<td><strong>Years Enrolled</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-H PetPALS Youth</td>
<td>2.86</td>
<td>3.00</td>
<td>1.58</td>
<td>.90</td>
<td>1.00</td>
<td>8.00</td>
</tr>
<tr>
<td>4-H Companion Animal Youth</td>
<td>3.36</td>
<td>3.00</td>
<td>1.81</td>
<td>1.02</td>
<td>1.00</td>
<td>10.00</td>
</tr>
</tbody>
</table>

Research Question 2: What were the attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth in the 4-H PetPALS and Companion Animal 4-H projects?

4-H PetPALS and 4-H Companion Animal youth’s attitudes toward pets, attachment to pets, and empathic attitudes toward people are summarized in Table 4.5.

For 4-H PetPALS youth, the attitudes toward pets mean was 4.55 (SD = .39) on a 5-point Likert scale, with a minimum of 3.39 and maximum 5.00; the attachment to pets mean was 3.44 (SD = .43) on a 4-point Likert scale, with a minimum of 2.29 and maximum of 3.96; and the empathic attitudes toward people mean was 2.66 (SD = .32) on a 3-point Likert scale, with a minimum of 1.63 and maximum of 3.00.

For 4-H Companion Animal youth, the attitudes toward pets mean was 4.14 (SD = .43) on a 5-point Likert scale, with a minimum of 3.06 and maximum 4.83; the attachment to pets mean was 2.84 (SD = .37) on a 4-point Likert scale, with a minimum
of 1.93 and maximum of 3.75; and the empathic attitudes toward people mean was 2.33 (\(SD = .37\)) on a 3-point Likert scale, with a minimum of 1.56 and maximum of 3.00.

<table>
<thead>
<tr>
<th>Table 4.5. Frequency Statistics of Dependent Variables for 4-H PetPALS Youth ((N = 63)) and 4-H Companion Animal Youth ((n = 53))</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudes toward Pets</strong></td>
</tr>
<tr>
<td>4-H PetPALS Youth</td>
</tr>
<tr>
<td>4-H Companion Animal Youth</td>
</tr>
<tr>
<td><strong>Attachment to Pets</strong></td>
</tr>
<tr>
<td>4-H PetPALS Youth</td>
</tr>
<tr>
<td>4-H Companion Animal Youth</td>
</tr>
<tr>
<td><strong>Empathic Attitudes toward People</strong></td>
</tr>
<tr>
<td>4-H PetPALS Youth</td>
</tr>
<tr>
<td>4-H Companion Animal Youth</td>
</tr>
</tbody>
</table>

Table 4.5. Frequency Statistics of Dependent Variables for 4-H PetPALS Youth (\(N = 63\)) and 4-H Companion Animal Youth (\(n = 53\))

**Research Question 3:** What were the relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and youth characteristics for those completing the 4-H PetPALS and Companion Animal 4-H projects?

Relationships between attitudes toward pets, attachment to pets, and empathic attitudes toward people and selected characteristics of 4-H PetPALS youth are described in Table 4.6. A substantial, positive association, .69, was found between attitudes toward
pets and attachment to pets. Moderate, positive associations were found between
attachment to pets and empathic attitudes toward people, .46, attachment to pets and
gender, .33a, and age and years enrolled in project, .30.4 Low, positive associations were
found between attitudes toward pets and empathic attitudes toward people, .29, and
empathic attitudes toward people and gender, .25a. Low, positive associations were found
between attitudes toward pets and gender, .21a, attachment to pets and age, .10, and age
and gender, .24a. Low, negative associations were found between attitudes toward pets
and years enrolled in project, -.23, and empathic attitudes toward people and age, -.24.
Moderate, positive associations were found between attitudes toward pets and county,
.37b, attitudes toward pets and species, .31b, attachment to pets and county, .33b, and
attachment to pets and pet species, .34b. A low, positive association, .27b, was found
between empathic attitudes toward people and pet species.

4 Note: aPoint-biserial coefficient; bEta Coefficient
<table>
<thead>
<tr>
<th></th>
<th>Attitudes toward Pets</th>
<th>Attachment to Pets</th>
<th>Empathic Attitudes toward People</th>
<th>Years Enrolled</th>
<th>Age</th>
<th>Gender</th>
<th>County</th>
<th>Pet Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes toward Pets</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attachment to Pets</td>
<td>.69</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathic Attitudes toward People</td>
<td>.29</td>
<td>.46</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years Enrolled</td>
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<td>-.08</td>
<td>-.05</td>
<td>1.00</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Age</td>
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<td>.10</td>
<td>-.24</td>
<td>.30</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>.21(^a)</td>
<td>.33(^a)</td>
<td>.25(^a)</td>
<td>.09(^a)</td>
<td>.24(^a)</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>County</td>
<td>.37(^b)</td>
<td>.33(^b)</td>
<td>.10(^b)</td>
<td>.03(^b)</td>
<td>.81(^b)</td>
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<td>Pet Species</td>
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<td>.92(^b)</td>
<td>.42(^b)</td>
<td>.12(^c)</td>
<td>.25(^c)</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note. \(^a\)Point-biserial coefficient (\(r_{pb}\)); \(^b\)Eta coefficient (\(\eta\)); \(^c\)Cramer’s \(V\)

Table 4.6. Relationships between Attitudes toward Pets, Attachment to Pets, Empathic Attitudes toward People, Years Enrolled in Project, Age, Gender, County, and Pet Species of 4-H PetPALS Youth (\(N = 63\))
Relationships between attitudes toward pets, attachment to pets, and empathic attitudes toward people and selected characteristics of 4-H Companion Animal youth are described in Table 4.7. A very strong, positive association, .75, was found between attitudes toward pets and attachment to pets. Substantial, positive associations were found between attachment to pets and empathic attitudes toward people, .56, attachment to pets and gender, .54a, and age and years enrolled in project, .61.¹ Moderate, positive associations were found between attitudes toward pets and empathic attitudes toward people, .48, attitudes toward pets and gender, .43b, and empathic attitudes toward people and gender, .37a. Low, positive associations were found between attitudes toward pets and years enrolled in project, .17, attachment to pets and age, .10, gender and years enrolled in project, .13a, and gender and age, .24a. Moderate, positive associations were found between attitudes toward pets and county, .48b, attachment to pets and county, .33b, attachment to pets and pet species, .33b, and empathic attitudes toward people and county, .34b. Low, positive associations were found between attitudes toward pets and pet species, .26b, and empathic attitudes toward people and pet species, .29b.

¹ Note: aPoint-biserial coefficient; bEta Coefficient
<table>
<thead>
<tr>
<th>Attitudes toward Pets</th>
<th>Attachment to Pets</th>
<th>Empathic Attitudes toward People</th>
<th>Years Enrolled</th>
<th>Age</th>
<th>Gender</th>
<th>County</th>
<th>Pet Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes toward Pets</td>
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<td></td>
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</tr>
<tr>
<td>Attachment to Pets</td>
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<tr>
<td>Empathic Attitudes toward People</td>
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<td>.56</td>
<td>1.00</td>
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</tr>
<tr>
<td>Years Enrolled</td>
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<td>.03</td>
<td>1.00</td>
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<td></td>
<td></td>
</tr>
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<td>.02</td>
<td>.10</td>
<td>.01</td>
<td>.61</td>
<td>1.00</td>
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</tr>
<tr>
<td>Gender</td>
<td>.43(^a)</td>
<td>.54(^a)</td>
<td>.37(^a)</td>
<td>.13 (^a)</td>
<td>.24(^a)</td>
<td>1.00</td>
<td></td>
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<tr>
<td>County</td>
<td>.48(^b)</td>
<td>.33(^b)</td>
<td>.34(^b)</td>
<td>.26 (^b)</td>
<td>.40(^b)</td>
<td>.10(^c)</td>
<td>1.00</td>
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<tr>
<td>Pet Species</td>
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<td>.33(^b)</td>
<td>.29(^b)</td>
<td>.31 (^b)</td>
<td>.29(^b)</td>
<td>.11(^c)</td>
<td>.59(^c)</td>
</tr>
</tbody>
</table>

Note. \(^a\)Point-biserial coefficient \((r_{pb})\); \(^b\)Eta coefficient \((\eta)\); \(^c\)Cramer’s \(V\)

Table 4.7. Relationships between Attitudes toward Pets, Attachment to Pets, Empathic Attitudes toward People, Years Enrolled in Project, Age, Gender, County and Pet Species of 4-H Companion Animal Youth \((n = 53)\)
Based upon examination of the correlation matrix, regression analysis of the dependent variable, attitudes toward pets, and selected demographic variables, group (4-H PetPALS and 4-H Companion Animal youth) and gender, was conducted. Regression of attitudes toward pets on group and gender variables is summarized in Tables 4.8 and 4.9. For the full model, adjusted R-squared is .274 significant at $p < .001$. The partial regression coefficient for the group variable is .398, significant at $p < .001$, and for gender it is .291, significant at $p < .001$. In other words, 4-H PetPALS youth and females were predictors of positive attitudes toward pets.

An examination of the residuals showed no violation of the assumptions for multiple regression, and the tolerance statistic showed no problem with multicollinearity.

<table>
<thead>
<tr>
<th>Variables</th>
<th>X₁</th>
<th>X₂</th>
<th>Y</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Groupᵃ (X₁)</td>
<td>1.00</td>
<td>.05</td>
<td>.45</td>
<td>.54</td>
<td>.50</td>
</tr>
<tr>
<td>Genderᵇ (X₂)</td>
<td></td>
<td>1.00</td>
<td>.31</td>
<td>.72</td>
<td>.45</td>
</tr>
<tr>
<td>Attitude (Y)</td>
<td></td>
<td></td>
<td>1.00</td>
<td>4.36</td>
<td>.46</td>
</tr>
</tbody>
</table>

ᵃ0 = 4-H Companion Animals; 1 = 4-H PetPALS
ᵇ0 = Male; 1 = Female

Table 4.8. Summary Data: Regression of Attitudes toward Pets on Project Group and Gender (n = 116)
<table>
<thead>
<tr>
<th>Variable</th>
<th>$R^2$</th>
<th>$R^2$ Change</th>
<th>$b$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Group</td>
<td>.205</td>
<td>.205</td>
<td>.40</td>
<td>5.49</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Gender</td>
<td>.286</td>
<td>.082</td>
<td>.29</td>
<td>3.60</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td>3.93</td>
<td>50.61</td>
<td></td>
</tr>
</tbody>
</table>

Standard Error = .389; Adjusted $R^2$ = .274; For Model, $F = 22.657; p < .001$

Table 4.9. Regression of Attitudes toward Pets on Project Group and Gender ($n = 116$) (Stepwise Entry)

Based upon examination of the correlation matrix, regression analysis of the dependent variable, attachment to pets, and selected demographic variables, group (4-H PetPALS and 4-H Companion Animal youth) and gender was conducted. Regression of attachment to pets on group and gender variables is summarized in Tables 4.10 and 4.11. For the full model, adjusted R-squared is .429 significant at $p < .001$. The partial regression coefficient for the group variable is .579, significant at $p < .001$, and for gender it is .434, significant at $p < .001$. In other words, 4-H PetPALS youth and females were predictors of stronger levels of attachment to their pets.

An examination of the residuals showed no violation of the assumptions for multiple regression, and the tolerance statistic showed no problem with multicollinearity.
Based upon examination of the correlation matrix, regression analysis of the dependent variable, empathic attitudes toward people, and selected demographic variables, group (4-H PetPALS and 4-H Companion Animal youth) and gender, was conducted. Regression of empathic attitudes toward people on group and gender variables is summarized in Tables 4.12 and 4.13. For the full model, adjusted R-squared is .260 significant at $p < .001$. The partial regression coefficient for the group variable is .235,
significant at \( p < .001 \), and for gender it is .236, significant at \( p < .001 \). In other words, 4-H PetPALS youth and females were predictors of showing more empathic attitudes toward people.

An examination of the residuals showed no violation of the assumptions for multiple regression, and the tolerance statistic showed no problem with multicollinearity.

<table>
<thead>
<tr>
<th>Variables</th>
<th>( X_1 )</th>
<th>( X_2 )</th>
<th>( Y )</th>
<th>Mean</th>
<th>S. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Group* (X₁)</td>
<td>1.00</td>
<td>.05</td>
<td>.44</td>
<td>.54</td>
<td>.50</td>
</tr>
<tr>
<td>Gender* (X₂)</td>
<td>1.00</td>
<td>.30</td>
<td>.72</td>
<td>.45</td>
<td></td>
</tr>
<tr>
<td>Empathic Attitude (Y)</td>
<td>1.00</td>
<td>2.51</td>
<td>.38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*0 = 4-H Companion Animals; 1 = 4-H PetPALS
*0 = Male; 1 = Female

Table 4.12. Summary Data: Regression of Empathic Attitudes toward People on Project Group and Gender (\( n = 116 \))

<table>
<thead>
<tr>
<th>Variable</th>
<th>( R^2 )</th>
<th>( R^2 ) Change</th>
<th>( b )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Group</td>
<td>.195</td>
<td>.195</td>
<td>.33</td>
<td>5.31</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Gender</td>
<td>.273</td>
<td>.077</td>
<td>.24</td>
<td>3.45</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td>2.16</td>
<td>33.03</td>
<td></td>
</tr>
</tbody>
</table>

Standard Error = .327; Adjusted \( R^2 = .260 \); For Model, \( F = 21.169; p < .001 \)

Table 4.13. Regression of Empathic Attitudes toward People on Project Group and Gender (\( n = 116 \)) (Stepwise Entry)
Chapter 5: Summary, Conclusions, and Recommendations

Summary

Attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth who completed the 4-H PetPALS project and youth who completed a companion animal 4-H project were examined in this study. Characteristics of these two groups and the relationship between the dependent variables and selected youth characteristics were examined. A questionnaire was developed based upon existing scales and selected demographic variables. The instrument was administered on site to a census of 4-H PetPALS youth and a random sample of 4-H Companion Animal youth resulting in a 78% response rate. Descriptive and inferential statistics were used to summarize the data.

Summary of Findings

Research Question 1: What were the characteristics of youth who had completed the 4-H PetPALS and Companion Animal 4-H projects in respect to county, age, gender, years enrolled in the project, and type of pet species used?

Gender

Of the total respondents, 72.4% were female and 27.6% were male. Nearly three-fourths (74.6%) of 4-H PetPALS youth were female and over two-thirds (69.8%) of 4-H Companion Animal youth were female.
Of the approximately 700,000 youth enrolled in Ohio community 4-H clubs since 2001, an average of 59.6% were female and 40.4% were male (Elder, 2006, 2007, 2008; Fox, 2001, 2004, 2003, 2004).\(^1\) Since 2001, in the six counties selected for this study, an average of 52.2% of the 4-H members were female and 47.8% were male, a fairly equal ratio (Elder & Fox).

**Pet Species**

Almost three-fourths (73.3%) of total respondents referred to dogs when completing the questionnaire, 9.5% referred to cats, 8.6% rabbits, 6.0% guinea pigs, and 4.8% goats. Of 4-H PetPALS youth, 81.0% referred to dogs and 4.8% referred to cats. Of 4-H Companion Animal youth, more than two-thirds (64.2%) referred to dogs in the questionnaire and 15.1% referred to cats.

These findings are consistent with information regarding the popularity of pets used in animal-assisted activities and animal-assisted therapy. Dogs are the most commonly used pets in animal-assisted therapy (Chandler, 2005; Becker, 2002; Burch, 2003; & Abdill & Juppe, 1997) and in animal-assisted activities. Cats are the second most popular visiting animal (Chandler; Burch; Abdill & Jupee). From 2005 - 2008, almost 60% of all companion animal projects taken by Ohio 4-H youth were dogs (Elder, 2006, 2007, 2008; Fox, 2005).

**Age**

Ages ranged from nine years old to 18 years old for 4-H PetPALS youth and from eight years old to 19 years for 4-H Companion Animal youth. The mean age, 13.8 years, \(SD = 2.34\), for 4-H PetPALS youth was slightly more than that for 4-H Companion

\(^1\) A Statistical Report was not published in 2004. The researcher averaged the number of 4-H members in 2003 and 2005 to get an estimate for 2004.
Animal youth, 13.4 years, SD = 2.63. The ages of 4-H members associated with 4-H projects taken were not documented in the Ohio 4-H Statistical Report.

**Years Enrolled in Project**

The mean years enrolled, 3.36 years, \(SD = 1.81\), for 4-H Companion Animal youth was higher than that for 4-H PetPALS youth, 2.86 years, \(SD = 1.58\). Enrollment ranged from one to eight years in the 4-H PetPALS project and from one to 10 years in a 4-H companion animal project. The 4-H PetPALS project is a relatively new project, with enrollment statistics first documented in 2005 (Fox, 2005). The 4-H Companion Animal youth in this study were enrolled solely in 4-H companion animal projects, and had not taken a 4-H PetPALS project. 4-H PetPALS youth, whether or not enrolled in a companion animal 4-H project, referred to the animal taken in 4-H PetPALS in this study.

According to Ohio 4-H enrollment statistics (Fox, 2005; Elder, 2006, 2007, 2008), an average of 51.6% of Ohio 4-H members enrolled in organized 4-H clubs were in their first through third year of 4-H membership. Age of youth and projects carried were not documented. Almost 55% of youth in this study from the six randomly selected counties were in their first through third year of 4-H, regardless of projects taken.

**Research Question 2:** What were the attitudes toward pets, attachment to pets, and empathic attitudes toward people for youth in the 4-H PetPALS and Companion Animal 4-H projects?

4-H PetPALS youth had higher mean scores on all three dependent variables, attitudes toward pets, attachment to pets, and empathic attitudes toward people, than did 4-H Companion Animal youth. On the 5-point attitudes toward pets scale, 4-H
PetPALS youth mean score was 4.55, $SD = .39$; 4-H Companion Animal youth, 4.14, $SD = .43$. That is, 4-H PetPALS youth reported having more positive attitudes toward their pets than did 4-H Companion Animal youth.

4-H PetPALS youth mean score on the 4-point attachment to pets scale was 3.44, $SD = .43$; 4-H Companion Animal youth, 2.84, $SD = .47$. In other words, 4-H PetPALS youth reported having a stronger attachment to their pets than did 4-H Companion Animal youth.

On the 3-point empathic attitudes toward people scale, 4-H PetPALS youth mean score was 2.66, $SD = .32$; 4-H Companion Animal youth, 2.33, $SD = .37$. That is, 4-H PetPALS youth reported showing greater empathy toward people than did 4-H Companion Animal youth.

**Research Question 3:** What were the relationships among attitudes toward pets, attachment to pets, and empathic attitudes toward people and youth characteristics for those completing the 4-H PetPALS and Companion Animal 4-H projects?

**Relationships between Dependent Variables and Groups**

The dependent variables, attitudes toward pets and attachment to pets, were substantially correlated (Davis, 1971), .69, with the group, 4-H PetPALS youth, and very strongly correlated, .75, with the group, 4-H Companion Animal youth. These findings would suggest that both groups have positive attitudes toward their pets as well as a strong attachment to their pets. In a study of elementary school students, Daly and Morton (2006) found a significant correlation ($r = .071, p < 0.001$) between attachment to
pets and attitudes toward pets using a Lexington Attachment to Pets Scale and Pet Attitude Survey.

A low correlation, .29, was found between attitudes toward pets and empathic attitudes toward people for 4-H PetPALS youth. A moderate correlation, .48, was found for 4-H Companion Animal youth suggesting a stronger relationship between attitudes toward pets and empathic attitudes toward people than that for 4-H PetPALS youth. However, the findings suggest that for both groups, youth who have positive attitudes toward pets are more empathic toward people. These findings are supported by a study conducted by Taylor and Signal (2005) that revealed a moderate but significant correlation, .33, between empathy toward humans and attitudes toward animals. Daly and Morton (2006) also found a moderate but significant positive correlation ($r = 0.33$; $p < 0.01$) between empathy and attitudes toward pets in a group of elementary students.

Attachment to pets and empathic attitudes toward people were moderately correlated, .46, with 4-H PetPALS youth, and substantially correlated, .56, with 4-H Companion Animal youth. These findings indicated a stronger relationship between youth’s attachment to pets and empathic attitudes toward people for 4-H Companion Animal youth than 4-H PetPALS youth. These positive correlations were consistent with research indicating that it is a child’s attachment to pets, and strength of that attachment, that is associated with empathy toward people (Daly & Morton, 2006; Melson, 1998; Melson, Peet, & Sparks, 1991; Poresky, Hendrix, Mosier, & Samuelson, 1987).
Relationships between Attitudes toward Pets and Independent Variables

Moderate associations, .37, were found between attitudes toward pets and county for 4-H PetPALS and 4-H Companion Animal youth, .48.

A low association, .21, was found between attitudes toward pets and gender for 4-H PetPALS youth and a moderate association, .43, for 4-H Companion Animal youth. Taylor and Signal (2005) found that gender was a significant predictor of attitudes toward animals. This study also revealed that, together with the variable empathic concern, gender accounted for 13.7% of the variance in attitude toward animals scores (adjusted $R^2 = 0.137, F_{(1,166)} = 14.29, p < .0001$). However, the researcher’s study did not address gender differences.

A low, negative association, -.23, was found between attitudes toward pets and years enrolled for 4-H PetPALS youth, indicating that the longer 4-H PetPALS youth remain in the project, the less positive their attitudes become toward their pets. A low, positive association, .17, between attitudes toward pets and years enrolled in the project was found for 4-H Companion Animal youth.

The variable, attitudes toward pets, was moderately correlated, .38, with pet species for 4-H PetPALS youth, and a low correlation, .26, with 4-H Companion Animal youth.

Relationships between Attachment to Pets and Independent Variables

Moderate correlations were found between attachment to pets and county for 4-H PetPALS youth, .37, and for 4-H Companion Animal youth, 48.
A low association, .10 and .10, between attachment to pets and age for both groups was found. However, Melson, et al. (1991) reported a significant \( F = 3.06, \ p < .05 \) increase in affective attachment with age, indicating an increase with grade level, as reported by children’s parents, and a marginally significant \( F = 2.40, \ p < .09 \) increase when reported by the children. Data from a study conducted by Vidovic, Stetic, and Bratko (1999) showed that attachment to pets gradually decreased with age.

A moderate association, .33, was found between pet attachment and gender for 4-H PetPALS youth, and a substantial association, .54, for 4-H Companion Animal youth. Melson, et al. (1991) reported a significant \( F = 4.80, \ p < .03 \) effect of gender on children’s affective attachment when reported by the children. Boys indicated more affective attachment to pets than did girls. However, Melson, et al. concluded that relatively few gender differences existed in the behavioral, cognitive, and affective components of attachment to pets in children. Melson (1988) and Stevens (1990) found no gender differences in pet attachment. A study conducted by Vidovic, et al. (1999) revealed that girls \( (M = 50.1, \ SD = 8.26) \) were significantly \( (p < .05) \) more attached to their pets than boys \( (M = 48.4, \ SD = 8.98) \). Attachment to pets was moderately correlated, .38 and .33, with pet species for both groups.

**Relationships between Empathic Attitudes toward People and Independent Variables**

A low correlation, .10, was found between empathic attitudes toward people and county for 4-H PetPALS youth \( (N = 63) \) and a moderate correlation, .34, for 4-H Companion Animal youth \( (n = 53) \).
A low, negative association, -.24, was found between empathic attitudes toward people and age for 4-H PetPALS youth. A negligible correlation, .01, was found between empathic attitudes toward people and age for 4-H Companion Animal youth. A low correlation, .25, between empathic attitudes and gender was found for 4-H PetPALS youth, and a moderate correlation, .37, for 4-H Companion Animal youth. Several studies revealed that girls were more empathic than boys (Daly & Morton, 2006; Taylor & Signal, 2005; Thompson & Gullone, 2003; Vidovic, et al., 1999).

A negligible, negative association, -.05, between empathic attitudes and years enrolled was found for 4-H PetPALS youth, and a negligible, positive association, .03, for 4-H Companion Animal youth. Low associations, .27 and .29, were found between empathic attitudes and pet species for both groups.

**Regression Analysis of Dependent Variables on Group and Gender Variables**

Regression analysis revealed that the type of project and gender variables were significant predictors of attitudes toward pets, attachment to pets, and empathic attitudes toward people. Multiple regression showed that 28.6% of the variance in attitudes toward pets can be attributed to group and gender; the effects of group and gender together explained 43.9% of the variance in attachment to pets; and 27.3% of the variance in empathic attitudes toward people can be attributed to group and gender.

The full model for attitudes toward pets was statistically significant ($F = 22.66, p < .001$; adjusted $R^2 = .274$). The full model for attachment to pets was statistically significant ($F = 44.24; p < .001$; adjusted $R^2 = .429$). The full model for empathic
attitudes toward people was statistically significant ($F = 21.17; p < .001; \text{adjusted} R^2 = .260$). An examination of the residuals revealed no violation of the assumption for multiple regression.

**Conclusions**

Based upon the findings of this study, the following conclusions were drawn for those who participated:

1. Youth who completed the 4-H PetPALS project exhibited more positive attitudes toward their pets than youth who completed only a companion animal 4-H project.

2. Youth who completed the 4-H PetPALS project experienced stronger attachments to their pets than youth who completed only a companion animal 4-H project.

3. Youth who completed the 4-H PetPALS project were more empathic toward people than youth who completed only a companion animal 4-H project.

4. As a result of more positive attitudes toward pets and stronger attachment to pets, youth who completed the 4-H PetPALS project experienced a closer human-animal bond than did 4-H Companion Animal youth.

5. The majority of youth enrolled in both 4-H PetPALS and companion animal 4-H projects were female.

6. Dogs were the most popular species of pet taken by both 4-H PetPALS youth and 4-H Companion Animal youth.
7. 4-H Companion Animal youth were enrolled in companion animal projects longer than youth enrolled in 4-H PetPALS projects.

8. 4-H PetPALS youth’s attitudes toward pets decreased the longer they remained in the 4-H PetPALS project, suggesting need for further investigation. The opposite should be true since one project goal is for youth to enhance their bond with their pets as they continue in the 4-H PetPALS project.

9. 4-H PetPALS youth’s empathic attitudes toward people decreased the older they became, suggesting need for further study. Showing empathy and caring toward senior adults is a major objective of youth completing 4-H PetPALS.

**Recommendations**

1. Further investigation is recommended regarding the lower correlations found for 4-H PetPALS youth than 4-H Companion Animal youth between: attitudes toward pets and empathic attitudes toward people; attachment to pets and empathic attitudes toward people; attachment to pets and gender; empathic attitudes toward people and county of youth; and empathic attitudes toward people and gender. Understanding these relationships could be useful in improving the 4-H PetPALS curriculum.

2. Additional research is suggested to explore why 4-H PetPALS youth had less positive attitudes toward their pets the longer they remained in the project, and why, as they aged, were less empathic toward people.
Understanding this relationship could be useful in improving the 4-H PetPALS curriculum.

3. Further study is recommended to investigate why more females participated in 4-H PetPALS and companion animal 4-H projects than males. A recommendation would be to strengthen the recruitment and retention of male volunteers with the intent of increasing the number of male participants.

4. Additional research is suggested to investigate similarities and differences between youth enrolled in companion animal and livestock 4-H projects. Findings could be used to strengthen both types of 4-H programs.

5. Gender differences were not explored in this study. Further study is recommended to determine the relationship between gender differences and youth’s attitudes toward pets, attachment to pets, and empathic attitudes for both 4-H PetPALS youth and 4-H Companion Animal youth.

6. Studies are needed to explore the length of time youth remain in both the 4-H PetPALS project and companion animal 4-H projects. Further studies might include investigating how challenging the projects are, do they meet the developmental and cognitive needs of youth as they mature and age, is there enough self-exploration related to these projects to interest youth and keep them engaged, and do the outcomes present a challenge to youth?

7. With a strong association between attitudes toward pets and attachment to pets found, further study is needed to investigate this relationship. The researcher found studies documenting relationships between attitudes
toward pets and attachment to pets with other constructs (e.g. empathy, behavior, age, and gender), but not between attitudes toward pets and attachment to pets.

8. Additional research is suggested to replicate this study with a control group of youth who are enrolled in the Ohio 4-H program but not enrolled in any type of animal 4-H project.
References


Anetzberter, G. & Palmisano, B. (1993). The Ohio Aging Network education project: A core curriculum for senior service providers. Bowling Green, OH: Western Reserve Geriatric Education Center, Case Western Reserve University, Northeastern Ohio Universities College of Medicine, and Bowling Green State University.


Appendix A: Instruments
Ivory Color: 4-H PetPALS

Thank you for being a part of this study! This survey is divided into four sections, and should take you about 25 minutes to complete. Please be honest when you answer the questions. Your answers are private, so no one will know which answers are yours. Do not worry about how you think others might answer these questions. Mark the answer that describes how you feel. There are no wrong answers.

SECTION I

Instructions: Some of the following sentences are about pets in general and some are about your pet. If you take more than one pet as your 4-H project, decide which pet you want to refer to in this survey before you begin answering.

Please read each statement below and circle the one number that describes how much you agree or disagree.

- 5 means you **always agree**.
- 4 means you **agree part of the time**.
- 3 means you **neither agree or disagree**.
- 2 means you **disagree part of the time**.
- 1 means you **always disagree**.

<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
<th>Always Agree</th>
<th>Sometimes Agree</th>
<th>Unsure</th>
<th>Sometimes Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I really like seeing pets enjoy their food.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>My pet means more to me than any of my friends.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>I like (or would like) having a pet live inside my house.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Having pets is a waste of money.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Having pets live inside my house with me adds happiness to my life.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Pets should always be kept outside.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>I spend time every day playing with my pet.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>I understand what my pet is telling me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>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.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
### SECTION II

**Instructions:** The sentences below refer to the same pet you referred to in Section I. Please read each statement below and circle the one number that describes how much you agree or disagree.

- 4 means you **always agree**.
- 3 means you **agree a lot**.
- 2 means you **occasionally agree**.
- 1 means you **never agree**.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In my family, my pet likes me best.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. I like to touch and stroke my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. I am too busy to spend time with my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. I prefer to be with my pet more than with most people I know.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>Often</td>
<td>Sometimes</td>
<td>Never</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9.</td>
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<td>11.</td>
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<td>12.</td>
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<td>18.</td>
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<td>20.</td>
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<td>21.</td>
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<td>22.</td>
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<td>24.</td>
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<td>25.</td>
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<td>26.</td>
<td>4</td>
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<td>27.</td>
<td>4</td>
<td>3</td>
<td>2</td>
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<tr>
<td>28.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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</tbody>
</table>

Thank you for answering the first two sections. Section III does not ask about pets, but is still about how you feel.
SECTION III

**Instructions:** Please read each statement below and circle the one answer that describes how you feel. Circle one of these:
- **Agree**
- **Maybe agree**
- **Disagree**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Agree</th>
<th>Maybe agree</th>
<th>Disagree</th>
</tr>
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<td>1.</td>
<td>When I'm mean to someone, I usually feel bad about it later.</td>
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<td>4.</td>
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<td>11.</td>
<td>It bothers me when my teacher doesn’t feel well.</td>
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<td>12.</td>
<td>I feel sorry for people who can’t find anyone to hang out with.</td>
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<tr>
<td>13.</td>
<td>Seeing a person who is crying makes me feel like crying.</td>
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<td>Maybe agree</td>
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<td>14.</td>
<td>If two people are fighting, someone should stop it.</td>
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<td>Disagree</td>
</tr>
<tr>
<td>15.</td>
<td>It would bother me if my friend got grounded.</td>
<td>Agree</td>
<td>Maybe agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>16.</td>
<td>When I see someone who’s happy, I feel happy too.</td>
<td>Agree</td>
<td>Maybe agree</td>
<td>Disagree</td>
</tr>
</tbody>
</table>

*Section IV is next. This is the last section!*
SECTION IV
Information about You

Please answer the following information about yourself. This is for general information so answers from all youth can be grouped and compared. Your answers will be kept strictly private.

1. What county are you a 4-H member in? ____________________________
2. How old are you now? _________ What is the year you were born? _____________
3. What is your sex?  Male_________ Female _____________
4. How many years have you taken a 4-H PetPALS project, including this year? ______
5. Check the species of pet you are referring to in this survey.
   Dog ________  Cat_________ Guinea Pig_________  Rabbit_________
   Other (please list) _______________________

THANK YOU FOR COMPLETING THIS SURVEY!
White Color: 4-H Companion Animal Project Members

Thank you for being a part of this study! This survey is divided into four sections, and should take you about 25 minutes to complete. Please be honest when you answer the questions. Your answers are private, so no one will know which answers are yours. Do not worry about how you think others might answer these questions. Mark the answer that describes how you feel. There are no wrong answers.

SECTION I

Instructions: Some of the following sentences are about pets in general and some are about your pet. If you take more than one pet as your 4-H project, decide which pet you want to refer to in this survey before you begin answering.

Please read each statement below and circle the one number that describes how much you agree or disagree.

- 5 means you **always agree**.
- 4 means you **agree part of the time**.
- 3 means you **neither agree or disagree**.
- 2 means you **disagree part of the time**.
- 1 means you **always disagree**.

<table>
<thead>
<tr>
<th></th>
<th>Always Agree</th>
<th>Sometimes Agree</th>
<th>Unsure</th>
<th>Sometimes Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I really like seeing pets enjoy their food.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. My pet means more to me than any of my friends.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. I like (or would like) having a pet live inside my house.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. Having pets is a waste of money.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>5. Having pets live inside my house with me adds happiness to my life.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. Pets should always be kept outside.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. I spend time every day playing with my pet.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. I understand what my pet is telling me.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>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.</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Always Agree | Sometimes Agree | Unsure | Sometimes Disagree | Always Disagree
---|---|---|---|---
10. I like to feed pets out of my hand. | 5 | 4 | 3 | 2 | 1
11. I love pets. | 5 | 4 | 3 | 2 | 1
12. All animals, including pets, should live outdoors, in the wild, or in zoos, not inside a person’s home. | 5 | 4 | 3 | 2 | 1
13. If you keep pets in the house, you can expect a lot of damage to furniture. | 5 | 4 | 3 | 2 | 1
14. I like pets living inside my house. | 5 | 4 | 3 | 2 | 1
15. Pets are fun, but it’s not worth the trouble of owning one. | 5 | 4 | 3 | 2 | 1
16. I frequently talk to my pets. | 5 | 4 | 3 | 2 | 1
17. I hate animals (including pets). | 5 | 4 | 3 | 2 | 1
18. Pets living inside my house should be treated with as much respect as a human member of my family. | 5 | 4 | 3 | 2 | 1

Thank you for answering these questions. The next section has different kinds of answers, but is still about how you feel.

SECTION II

Instructions: The sentences below refer to the same pet you referred to in Section I. Please read each statement below and circle the one number that describes how much you agree or disagree.

- 4 means you **always agree**.
- 3 means you **agree a lot**.
- 2 means you **occasionally agree**.
- 1 means you **never agree**.

<table>
<thead>
<tr>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
</table>
1. In my family, my pet likes me best. | 4 | 3 | 2 | 1 |
2. I like to touch and stroke my pet. | 4 | 3 | 2 | 1 |
3. I am too busy to spend time with my pet. | 4 | 3 | 2 | 1 |
4. I prefer to be with my pet more than with most people I know. | 4 | 3 | 2 | 1 |
<table>
<thead>
<tr>
<th></th>
<th>Always</th>
<th>Often</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. I spend time each day playing with or exercising my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>6. My pet comes to greet me when I get home.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. When my pet misbehaves, I hit him/her.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8. I talk to my pet as a friend.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>9. My pet is aware of my different moods.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10. My pet is a nuisance and bother to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>11. My pet pays attention to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>12. I confide in my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>13. I consider my pet to be a member of my family.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>14. I play with my pet when he/she comes over to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>15. I spend time each day training my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>16. I show photos of my pet to my friends.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>17. When I feel bad, I look for my pet for comfort.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>18. I enjoy grooming my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>19. I feel sad when I’m separated from my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>20. I do not pay attention to my pet when he/she comes over to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>21. When I come home, my pet is the first one I greet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>22. I like to have my pet sleep near my bed.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>23. I like to have my pet sleep on my bed.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<tr>
<td>24. I like to have my pet near me when I study, read, or watch TV.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>25. My pet tries to stay close to me by following me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>26. I buy presents for my pet.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>27. I don’t like my pet to get too close to me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>28. My pet quickly obeys me.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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</tbody>
</table>

*Thank you for answering the first two sections. Section III does not ask about pets, but is still about how you feel.*
SECTION III

Instructions: Please read each statement below and circle the one answer that describes how you feel.
Circle one of these:
• Agree
• Maybe agree
• Disagree

<p>| | | |</p>
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Section IV is next. This is the last section!
SECTION IV
Information about You

Please answer the following information about yourself. This is for general information so answers from all youth can be grouped and compared. Your answers will be kept strictly private.

1. What county are you a 4-H member in?

2. How old are you now? ________ What is the year you were born? ________

3. What is your sex? Male________ Female _________

4. How many years have you taken a 4-H Companion Animal project, including this year? ______

5. Check the species of pet you are referring to in this survey.
   Dog ________ Cat ________ Guinea Pig ________ Rabbit ________
   Other (please list) ____________________________

THANK YOU FOR COMPLETING THIS SURVEY!
Appendix B: Panel of Experts
<table>
<thead>
<tr>
<th>Name</th>
<th>Position/Positional Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>R. Warren Flood, Ph.D.</td>
<td>Director, Curriculum Materials Service</td>
</tr>
<tr>
<td></td>
<td>College of Food, Agricultural, and Environmental Sciences</td>
</tr>
<tr>
<td></td>
<td>The Ohio State University</td>
</tr>
<tr>
<td>Molly Gregg, Ph.D.</td>
<td>Extension Specialist, 4-H &amp; Youth Development</td>
</tr>
<tr>
<td></td>
<td>Alabama Cooperative Extension Service</td>
</tr>
<tr>
<td>Anne Howie, LICSW, ACSW</td>
<td>Owner, Human-Animal Solutions</td>
</tr>
<tr>
<td></td>
<td>Olympia, WA</td>
</tr>
<tr>
<td>Paul Kuber, Ph.D.</td>
<td>Assistant Professor, Meat Science/Youth Development</td>
</tr>
<tr>
<td></td>
<td>Department of Animal Sciences</td>
</tr>
<tr>
<td></td>
<td>The Ohio State University</td>
</tr>
<tr>
<td>Marie Suthers-McCabe, D.V.M.</td>
<td>Vice-President, Human-Animal Bond Division</td>
</tr>
<tr>
<td></td>
<td>American Humane</td>
</tr>
<tr>
<td>Jeanne Osborne, M.S.</td>
<td>Project/Administrative Coordinator</td>
</tr>
<tr>
<td></td>
<td>Department of Animal Sciences</td>
</tr>
<tr>
<td></td>
<td>The Ohio State University</td>
</tr>
<tr>
<td>Ryan Schmiesing, Ph.D.</td>
<td>National Program Leader, Mission Mandates</td>
</tr>
<tr>
<td></td>
<td>National 4-H Headquarters</td>
</tr>
<tr>
<td></td>
<td>Families, 4-H and Nutrition</td>
</tr>
<tr>
<td></td>
<td>CSREES, USDA</td>
</tr>
<tr>
<td>Jean M. Woloshuk, Ed.D.</td>
<td>Extension Specialist, 4-H Youth Agriculture</td>
</tr>
<tr>
<td></td>
<td>West Virginia State University</td>
</tr>
<tr>
<td>Susan Wagner, D.V.M., M.S.</td>
<td>Adjunct Assistant Professor</td>
</tr>
<tr>
<td></td>
<td>Ohio State University College of Veterinary Medicine</td>
</tr>
<tr>
<td>Jane Wright, M.S.</td>
<td>Curriculum Manager</td>
</tr>
<tr>
<td></td>
<td>Ohio 4-H Youth Development</td>
</tr>
<tr>
<td></td>
<td>Ohio State University Extension</td>
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</tbody>
</table>
Appendix C: Institutional Review Board Office of Research Risks Protection Study Approval Letter
November 12, 2008

Protocol Number: 1005180316
Protocol Title: OHBU 4-H PETSALS AND COMPANION ANIMAL-4-H CURRICULA: IMPACTS, FINDINGS, AND IMPLICATIONS, Lucinda Miller, 4-H
Type of Review: Initial Review—Expedited
IRB Staff Contact: Jacob R. Stoddard
Phone: 614-292-0526
Email: stoddard.13@osu.edu

Dear Dr. Miller,

The Behavioral IRB APPROVED BY EXPEDITED REVIEW the above referenced protocol. The Board was able to provide expedited approval under 45 C.F.R. 46.110(b)(1) because the research presents minimal risk to subjects and qualifies under the expedited review category(s) listed below.

Date of IRB Approval: November 13, 2008
Date of IRB Approval Expiration: November 09, 2009
Expedited Review Category: 7

In addition, the protocol has been approved for the inclusion of children (permission of one parent sufficient).

If applicable, informed consent (and HIPAA research authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. The IRB-approved consent form and process must be used. Changes in the research (e.g., recruitment procedures, advertisements, enrollment numbers, etc.) or informed consent process must be approved by the IRB before they are implemented (except where necessary to eliminate apparent immediate hazards to subjects).

This approval is valid for one year from the date of IRB review when approval is granted or modifications are required. The approval will no longer be in effect on the date listed above as the IRB expiration date. A Continuing Review application must be approved within this interval to avoid expiration of IRB approval and execution of any research activities. A final report must be provided to the IRB and all records relating to the research (including signed consent forms) must be retained and available for audit for at least 3 years after the research has ended.

It is the responsibility of the investigator to promptly report to the IRB any serious, unexpected and related adverse events or potential unanticipated problems involving risks to subjects or others.

This approval is issued under The Ohio State University’s OHRP Federally-Required Assurance #00006178. All forms and procedures can be found on the OHRP website — www.crm.osu.edu. Please feel free to contact the IRB staff contact listed above with any questions or concerns.

Shari R. Speer, PhD, Chair
Behavioral and Social Sciences Institutional Review Board

Exp Approval No CR
Version 1/21/06
Appendix D: Electronic Letter to County 4-H Educators
Dear 4-H Professional,

Lucinda Miller, Extension Specialist, 4-H Youth Development, Companion & Small Animal Programs, is in the process of completing the requirements for her Ph.D. and is conducting a research project on 4-H PetPALS and companion animal project members for her dissertation. The purpose of her study is to measure relationships in attitudes toward pets, attachment to pets, and empathic attitudes toward people between youth who have completed the 4-H PetPALS project and youth who have completed only companion animal projects. In addition to using the results of this study as research for her dissertation, the findings will be used to improve the 4-H PetPALS curriculum in its next revision and improve the overall 4-H PetPALS program.

From 4-H enrollment statistics, your county has been identified as a county that has had youth enrolled in the 4-H PetPALS project in 2007 and/or 2008, and has been randomly selected by Lucinda for this research study. She hopes you are willing to assist her with this study. Jim Elder will provide Lucinda with names and addresses of 4-H members in your counties who have completed the 4-H PetPALS project and 4-H members who have completed one or more of the companion animal projects. From these names she will take a census sample of 4-H PetPALS members and randomly select youth taking only 4-H companion animal projects to be asked to be participants in her study.

Here is how you can assist with this research project. Lucinda has elected to administer the survey to the participants on site in each of the randomly selected counties. She would like your help in setting up a location, date, and time when she can meet with the participants. She also needs a non-biased person to administer the survey. Once that is established she will send a letter to parents of participants informing them of the study, and the location, date, and time the survey will be administered to the participants. Youth who attend will be eligible to win one of two $25.00 cash awards offered at each location. Also Lucinda will provide pizza, chips, drinks, and cookies for those in attendance.

Lucinda will personally contact you to set up a location, date, and time when she can meet with the participants to conduct the study. We really appreciate your help with this research project. If you have any questions, please contact Lucinda at 740.289.2071, ext. 152 or 614.292.4410 (w), 740.708.0359 (c), or miller.78@osu.edu.

Sincerely,

Tom Archer  
Assistant Director, 4-H Youth Development
Appendix E: Letter to Parents
January 23, 2009

Dear Parents;

You are receiving this letter because your child has completed either the 4-H PetPALS project or a companion animal project (dogs, cats, pet rabbits, guinea pigs, etc.), and we need his/her help. I am in the process of completing the requirements for a Ph.D. at The Ohio State University in the Department of Human and Community Resource Development.

The purpose of my study is to measure relationships in attitudes toward pets, attachment to pets, and empathy toward people in general between youth who have completed the 4-H PetPALS project and youth who have completed just companion animal projects. The results from this study will be used as research for my dissertation, as well as for publications and presentations. Moreover, we will use the findings to improve the 4-H PetPALS curriculum in its next revision and to improve the overall 4-H PetPALS program.

If you allow your child to be a part of this study, he/she will be asked to complete a questionnaire that is written to assess 4-H members’ attitudes toward their pets, attachment to their pets, and empathy toward people. He/she will be asked to circle the response that best describes to what degree he/she agrees or disagrees with each statement. The questionnaire will take 20 – 25 minutes to complete. Your child may leave the study any time if he/she decides not to finish the questionnaire. There will be no penalty for not completing the questionnaire.

You can be assured that no information about individuals will be reported in my dissertation, or in publications and presentations. The information that will be reported will be a summary of the results for the entire group of participants. The questionnaires are not coded, and therefore, in no way can be linked to the participants. The data will be stored in a locked file, which only I will have access to.

I have talked with [educator’s name], your 4-H Educator, who will help with data collection. Therefore, to collect the data, we have scheduled a meeting at the [location]
on [date] beginning at [time]. We would like for you to bring your child to this meeting to complete the questionnaire. At that time we will ask you to sign a parental permission form for your child to participate.

Your child will receive a raffle ticket along with the questionnaire. The other half of the ticket will be put in a hat for a drawing for one of two $25.00 cash awards. If your child decides not to participate once present, or does not want to complete the questionnaire, he/she does not have to do so. There will be pizza, chips, drinks, and cookies for all of you to enjoy. We should be done with everything by 8:30 p.m.

If you have any questions, or your child will not be able to participate in this study, please contact me. My work phone number is 1.800.297.2072, ext. 152; cell phone is 740.708.0359; and my email is miller.78@osu.edu.

Your child’s input is crucial to the success of this study, and will be of value to improve the 4-H PetPALS curriculum and program. I hope you will allow your child to be a part of this study.

Thank you.

Sincerely,

Lucinda B. Miller
Extension Specialist, 4-H Youth Development
Companion & Small Animal Programs
Appendix F: Reminder Letter to Parents
Dear Parents,

I just wanted to remind you of the meeting this [date], at [time], at the [location] for your child to participate in a research project for my dissertation. With your permission, s/he will complete a questionnaire that will assess 4-H members’ attitudes toward their pets, attachment to their pets, and empathy toward people.

The questionnaire should take between 20 and 25 minutes to complete. I am providing pizza, chips, cookies, and drinks for everyone present, as well as a $25.00 cash award to two lucky winners.

Please refer to the letter mailed to you on January 23 for more information. If you are unable to attend and already contacted me, I apologize for sending out this letter, but I wanted to make sure I didn’t miss anyone.

Thank you and I hope to see you and your 4-H’er [date]. His/her input is vital to my research as well as to improving the 4-H PetPALS curriculum and program.

Sincerely,

Lucinda Miller
Extension Specialist, 4-H Youth Development
miller.78@osu.edu
740.708.0359
Appendix G: Assent Script
Assent Script

Ohio 4-H PetPALS and Companion Animal 4-H Curricula: Impacts, Findings, and Implications
Protocol # 2008B0316
(to be read to participants by Principal Investigator)

The purpose of this study is to measure relationships in attitudes toward pets, attachment to pets, and empathy toward people between youth who have completed the 4-H PetPALS project and youth who have completed only companion animal projects. Results of this study will be used as the research for my Ph.D. dissertation, and for publications, journal articles, and presentations. The results from this study will also be used to improve the overall 4-H PetPALS program and help in revisions of the curriculum.

The only thing you will need to do is to complete the survey that you will be given. You will be asked to respond to the questions or statements in the survey by circling the response that most closely reflects your honest opinion. There is nothing extra that you will be asked to do.

Participants in research studies have certain rights. In this case, you may decide that you do not want to participate in this study, or you may stop being in the study at any time. There is no penalty for stopping.

You can be assured that the information you provide on the questionnaire will be treated confidentially. We are not asking for anyone’s name. The questionnaires are not coded, and therefore cannot be linked to an individual person. The data will be stored in a locked file, which only I will have access to.

Notice that some questionnaires are on ivory-colored paper and some on white-colored paper. Those of you who are 4-H PetPALS members will receive the ivory-colored paper and those of you taking only companion animal projects will receive the white-colored paper. This is only to insure that we match the questionnaires to the right audience.

The survey will take approximately 20 – 25 minutes to complete. Once you complete your survey, please leave it in the container provided.

You will receive a ticket when you receive your questionnaire. The other half of this ticket will be put in a hat for a drawing. Once everyone has completed their surveys, two tickets will be drawn and the winners will each receive a $25.00 cash award. If you choose to withdraw from the study, your ticket for a chance to win a cash award will still be entered into the raffle. There is also pizza, chips, drinks, and cookies for all of you to enjoy.

We have asked for your parents’ permission for your participation if you are 8 years old but not yet 18 years old. In addition, if you are between the ages of 14 and 17, we must get your written assent (that is, your agreement) to participate in this study. If you are 18 or 19 years old, you can give consent yourself by reading and signing the written consent form.

If you have any questions you may contact me: Lucinda Miller, Extension Specialist, 4-H Youth Development, 740.289.2071, ext. 152 or miller.78@osu.edu.