

**QUEENS COLLEGE
OF THE CITY UNIVERSITY OF NEW YORK**

**THE BENEFITS OF CHILDREN READING TO DOGS
IN PUBLIC LIBRARIES AND AFTER SCHOOL CENTERS:
AN EXPLORATORY STUDY**

**A RESEARCH PROJECT SUBMITTED TO
DR. COLLEEN COOL OF
THE GRADUATE SCHOOL OF LIBRARY AND INFORMATION STUDIES
AS REQUIREMENTS FOR COMPLETION OF THE DEGREE OF
MASTER OF LIBRARY SCIENCE**

BY

MARY SHANNON

**FLUSHING, NEW YORK
December 2007**

TABLE OF CONTENTS

<i>Abstract</i>	iii
<i>List of Tables</i>	iv
<i>List of Figures</i>	v

CHAPTER I - INTRODUCTION

Introduction	2
Problem Statement.....	3
Brief Literature Review.....	4
Subject for Study	7
Research Questions	7
Type and Levels of Measurement	7
Data Collection Methods.....	8
Conceptual Assumptions of “Beneficial”	9

CHAPTER II - REVIEW OF RELATED LITERATURE

Review of Related Literature	11
Brief Early History of Humans and Dogs.....	11
Working Dogs	12
Service Dogs	12
Early History of Therapeutic Use of Animals.....	13
Animal-Assisted Therapy and Animal-Assisted Activities Terminology.....	15
Research on Therapeutic Use of Animals.....	16
Research on the Calming Effects of Animals... ..	20
Physiological Evidence Showing Physical Calming Effects of Animals	21
Animal-Assisted Therapy and Animal-Assisted Activities in Educational Settings.....	25
Reading to Dogs	26
History	27
How the Program Works.....	28
The Ideas Behind Reading to Dogs.....	30
Research on Programs Where Children Read to Dogs.....	34
Conclusion.....	39

CHAPTER III - METHODOLOGY

Methodology	40
Restatement of Research Questions	40
Research Design	40

TABLE OF CONTENTS

Statement of Sampling	42
Consent	44
Instrumentation	45
 CHAPTER IV – DATA ANALYSIS	
Survey Questionnaire Analysis.....	47
Public Libraries in Nassau County That Have Held Programs Involving Children Reading to Dogs.....	68
Summary of the Findings	69
 CHAPTER V – SUMMARY, RECOMMENDATIONS & CONCLUSION	
Summary	74
Conclusions.....	75
Recommendations	77
<i>Appendix A – Institutional Review Board Approval.....</i>	<i>79</i>
<i>Appendix B –Consent Letter and Survey Questionnaire</i>	<i>80</i>
<i>Appendix C – Recruitment Flier.....</i>	<i>84</i>
 <i>Reference List</i>	 <i>85</i>
<i>Author Index</i>	<i>92</i>
<i>Subject Index</i>	<i>94</i>

Abstract

Programs involving children reading to specially trained dogs have existed since 1999. Anecdotal reports attribute numerous benefits to the programs, but little research exists on this topic, especially as the programs take place in public libraries and after school centers. This exploratory study addresses this lack of research using a survey methodology. Fifty-one guardians whose children participated in programs reading to dogs in public libraries or after school centers returned survey questionnaires that asked about the children's experiences and whether guardians feel the children exhibited specific beneficial behaviors resulting to their participation. The majority of the subjects indicated that their children enjoyed the experience and would like to do it again, and that they would permit this. Most subjects reported their children displaying the following beneficial behaviors: being more willing to read aloud, increased confidence regarding reading, and an improved attitude towards dogs. To investigate how widespread the programs are, the researcher consulted children's librarians or websites of each of the 54 libraries in Nassau County, New York, and found that 15 (28%) had held at least one program where children read to dogs. These findings suggest that programs where children read to dogs are enjoyable and beneficial, although further research is needed.

LIST OF TABLES

Table 1: Research Questions and Items on Survey	
Questionnaire	46
Table 2: Age of Children Who Read to Dogs	48
Table 3: Participants' Comments Considered Positive	65
Table 4: Participants' Comments Considered Negative or Neutral.....	67

LIST OF FIGURES

Figure 1: Gender of Children Who Read to Dogs..... 49

Figure 2: Settings Where Children Read to Dogs..... 50

Figure 3: Number of Times Children Read to Dogs..... 51

Figure 4: Amount of Time Since Child’s Last Session
 Reading to a Dog..... 52

Figure 5: Amount of Time Since Child’s First Session
 Reading to a Dog..... 53

Figure 6: Whether Guardians Feel Participating in This
 Program Was Beneficial to Their Children..... 54

Figure 7: Whether Guardians Would Be Willing To Allow Their
 Child to Participate in a Similar Program Again..... 55

Figure 8: Whether Guardians Felt Their Child Would Be
 Willing to Participate in a Similar Program Again..... 56

Figure 9: Whether Guardians Felt Their Children Enjoyed
 Their Experiences Reading to Dogs..... 57

Figure 10: Whether Guardians Felt That Reading to Dogs
 Increased the Amount of Time Their Children Spent
 Reading for Pleasure 58

Figure 11: Whether Guardians Felt That Their Children Reading
 to Dogs Resulted in Displaying Improved Fluency
 When Reading Aloud In Front of Other People..... 60

Figure 12: Whether Guardians Felt That Their Children Reading to Dogs Resulted in Being More Willing to Read Aloud in Front of Other People.....	61
Figure 13: Whether Guardians Felt That Their Children Reading to Dogs Resulted in Displaying More Confidence Regarding Reading.....	62
Figure 14: Whether Guardians Felt That Their Children Reading to Dogs Resulted in a More Positive Attitude Towards Dogs.....	63
Figure 15: Number of Public Libraries in Nassau County That Have Held Programs Involving Children Reading to Dogs.....	68

CHAPTER I

INTRODUCTION

When Mugsy, a 60-pound Portuguese Water Dog, walks into a public library on a Saturday Morning, no one calls for security or the Animal Control Office. Mugsy is at the library so children can read to him. As he enters the Children's Room with his human handler, his tail wags as children walk over to welcome him back to the library. In addition to public libraries, Mugsy has also listened to children read to him in after school centers and schools.

Mugsy is not the only dog allowed in public libraries, after school centers, and schools. He is one of an increasing number of dogs that have been participating in programs where children read to them. Utah nurse Sandi Martin started the first of these programs, Reading Education Assistance Dogs, in 1999 (Martin, 2001). The idea has spread throughout the United States and to other countries. Anecdotal reports from parents, children, educators, and others suggest that these programs may provide more than an enjoyable experience for children, such as contributing to increased confidence regarding reading (Cavallo, 2005; Clark, 2003; Granger & Kogan, 2000; Hughes, 2002; Intermountain Therapy Animals, 2004, 2006) and less nervousness around dogs (Clark, 2003). In addition to the large number of anecdotal reports, limited studies have also found positive results from programs where children read to dogs in schools (Dunham, 2006; Kaymen, 2005; Martin, 2001; Newlin, 2003), although no formal studies have been conducted focusing on possible benefits from the programs taking place in public libraries and after school centers.

Problem Statement

There are very few studies and little scholarly research specifically on the benefits of children reading to dogs in any setting, let alone public libraries and after school centers. The scholarly research that exists tends to focus on programs where children read to dogs in schools instead of public libraries or after school centers. This is problematic for researchers hoping to satisfactorily generalize or compare the results of studies taking place in schools and public libraries, because the programs in schools tend to differ from those in public libraries and after school centers in a few major ways. The programs in schools frequently use students hand-picked by reading specialists who have been chosen because of their potential to benefit from such a program. Children reading to dogs in schools typically participate in regular sessions over a long period of time, and reading specialists and teachers usually follow up on the students' progress. Conversely, the programs in public libraries and after school centers typically involve participants who sign up on a first come, first served basis regardless of reading ability, and the programs are frequently short-term with little or no follow-up. These results are difficult to compare with those obtained from the programs taking place in schools.

Because of the overall lack of research of benefits to children reading to dogs, especially as it relates to the short-term programs taking place in public libraries and after school centers, this was an exploratory study with the overall goal of finding out what, if any, are the benefits to children resulting from reading to dogs in public libraries and after school centers.

The relatively short history of programs where children read to dogs in schools or public libraries means that many public libraries and after school centers might not be

hosting these types of programs. In addition, they started in Utah (Martin, 2001), which is geographically far from the Northeast, so it is possible that the distance has prevented these programs from taking place in the Northeast in great numbers. Another goal in this project was to find out exactly how many of the public libraries in one specific library system have hosted this type of program. The researcher investigated how many of the 54 public libraries in the Nassau Library System have held programs where children read to dogs.

Brief Literature Review

There is a large body of research on the varied benefits (physical, social, academic, and emotional) of human-animal interaction. Many people are familiar with how service dogs such as guide dogs help their owners physically navigate their environments despite their disabilities. However, research has found many other benefits to physical health. For example, a 1980 study by Friedmann, Katcher, Lynch, and Thomas found that pet owners were significantly more likely to be alive one year after being admitted to a hospital than those who did not own pets, even after taking into account the patients' cardiovascular health (cited in Friedmann, Katcher, Thomas, Lynch, & Messent, 1983). In their 1983 study that combined physical and emotional benefits, Friedmann et al. discovered that when a child read aloud with a dog present, he or she had lower blood pressures when compared with reading out loud without a dog present. The authors theorize that the presence of a dog made the situation less stressful, and this important finding has definite connections to the benefits of children reading to dogs.

Animals, and dogs in particular, are beneficial to people's social health. Siegel (2004) reports that Corson et al. (1975) found that people "who were allowed time to play

with animals first developed pro-social interactions with the animals, then gradually exhibited pro-social interactions with other humans.” Siegel also reveals that according to Levinson (1978), learning to interpret dogs’ body language may help to prepare children for the more complicated task of decoding human body language.

The academic benefits of animal-human interaction is where the research starts to relate more to the kinds of benefits that come from children reading to dogs, although little (or none) of it directly involves the activity as it occurs specifically in public libraries. According to Siegel (2004), the premise of programs that involve children reading to dogs is that it motivates them to read more. Sometimes the dogs’ presence even motivates children to read for the first time. Ruth (1992) describes an autistic child who was thought to be unable to read spontaneously picking up a book and reading to a classroom dog (cited in Siegel, 2004). This incident reflects Levinson’s (1980) research, which found that children were more likely to participate in programs that involve animals than other unfamiliar programs (cited in Siegel).

One of the few studies that specifically examines a program where children read to dogs found many benefits, although it only studied ten students (Martin 2001). A group of ten children reading below grade level spend twenty minutes per week individually reading to dogs (handled by Martin or a second woman). The school’s reading specialist evaluated each student quarterly, and over 15 months “all of the children improved their reading scores significantly,” and some of the children began reading above their grade levels. Martin reports that the students’ teachers also noted benefits related to attendance, library usage, and hygiene.

Evidence of benefits resulting from children reading to dogs in public libraries and after school centers is largely anecdotal, such as the comments from librarians that Hughes (2002) reports. She notes in one example that while the program at one public library “does not use an evaluative tool, librarians have observed an increased eagerness to read on the part of the children, as well as increased confidence and improvement in reading and a greater desire to share stories” (p. 329). Hughes is cautiously optimistic when she notes:

While there may not be scientifically documented evidence of increased reading scores in participants, most of the people involved in managing the programs have observed increased reading confidence in participants, a newfound delight in reading, and greater enthusiasm for visiting the library (p. 330).

Despite many similarities, programs involving children reading to dogs in schools such as Martin’s (2001) previously described study differ from those in public libraries and after school centers in a number of ways. For example, Martin’s study involved students hand-picked by reading specialists to participate because they were reading below grade level, while the similar programs in public libraries typically involve children participating on a first come, first served basis regardless of reading ability. Another major difference between the programs run at schools and public libraries is that programs taking place in schools typically occur over a long period of time and allow each child to read to the same dog on a regular basis, while in public libraries the programs often last for shorter durations or are on a less regular schedule. These differences contribute to making the benefits from the two program settings difficult to

directly compare, because the children in school settings might be able to make more obvious progress as they attend regularly.

Subject for Study

The subject that the researcher wished to obtain information about are children reading to dogs in public libraries and after school centers, but in order to do this the researcher studied their adult parents and guardians.

Research Questions

The following questions were addressed:

1. Which public libraries in Nassau County, New York, have had programs where children read to dogs?
2. How is reading to dogs in public libraries and after school programs beneficial for children?

Type and Levels of Measurement

1. In order to answer the first research question and find out which of the 54 public libraries in Nassau County, New York, making up the Nassau Library System, have had programs where children read to dogs, the level of measurement was nominal. Responses were divided into “yes” and “no.” If any librarians did not wish to answer, the researcher also would have accepted and tallied this answer as “no response.”
2. In order to answer the second research question and find out how reading to dogs in public libraries may be beneficial for children, the measurement instrument was a survey questionnaire. This questionnaire asked for background information about each child such as their age and number of sessions reading to dogs, as well

as whether the guardians feel their child benefited in specific ways from their experience reading to dogs. The level of measurement was nominal for most of the data. Many of the responses were divided into “yes,” “no,” “not sure,” and “no response.” Other responses were measured using a Likert scale, which also has a nominal level of measurement. Those responses were divided into “strongly agree,” “agree,” “disagree,” “strongly disagree,” “unsure,” and “no answer.” One question was open-ended and allowed the subjects to enter comments about the program. For the rest of the data, the level of measurement was interval. This allowed the researcher to compare data about child participants based on information such as the number of sessions they have attended, their ages, and how long ago their most recent session occurred. This proved valuable, especially since it allowed the researcher to test the hypothesis that the children whose guardians would report the most specific benefits would be the ones who attended more sessions.

Data Collection Methods

1. In order to answer the first research question and find out which of the 54 public libraries in Nassau County, New York, making up the Nassau Library System, have had programs where children read to dogs, the researcher used several methods. First, she searched each library’s website for any mention of such a program. Second, she called the children’s librarians at every public library in Nassau County whose website did not mention hosting a program in which children read to dogs, with a few exceptions, and asked them if they have had programs of this kind. The previously mentioned exceptions are libraries that the

researcher did not call because the human handler of a therapy dog personally told her that they had done the program at these particular libraries.

2. In order to answer the second research question and find out how reading to dogs in public libraries may be beneficial for children, the researcher surveyed parents and guardians of children who have read to dogs in public libraries and after school centers in Nassau County, New York. Survey questionnaires were distributed in public libraries and after school centers that had held programs where children read to dogs in the past or were currently holding one at the time of the survey distribution. Respondents had the option of submitting their completed survey questionnaires using self-addressed stamped envelopes that were attached to the questionnaires, or by submitting an online version of the questionnaire.

Conceptual Assumptions of “Beneficial”

Whether reading to dogs in public libraries is “beneficial” can be subjective. For this reason, this project defines what constitutes a “beneficial” experience by a few specific criteria. In order for reading to dogs to be considered “beneficial,” these criteria were examined. The children’s guardians provided this information through surveys which the subjects completed based on observations of their children.

Criteria:

- An increase in reading motivation (reading for pleasure) – An increase in the amount of time spent willingly reading for pleasure.
- An improvement in fluency when reading aloud in front of other people (if the guardian knows enough to provide a negative or positive answer).

- An increase in the child's willingness to read out loud in front of other people (if the guardian knows enough to provide a negative or positive answer).
- The guardian's expressing that they feel it was beneficial to the child. (While this is admittedly vague, a guardian's conviction that their child benefited from the experience, although difficult to specifically quantify, was still considered.)
- A willingness on the guardian's part to allow the child to participate in a similar program again.
- A willingness on the child's part to participate in a similar program again.
- An increase in confidence when reading that the guardian feels is connected to their reading to dogs in libraries or after school centers.
- An increase in confidence regarding reading that the guardian feels is connected to their reading to dogs in libraries or after school centers.
- The guardian's expressing that they feel the child enjoyed the experience.
- The guardian's expressing that they feel the child benefited from the experience.
- A more positive attitude towards dogs that the guardian feels is connected to their reading to dogs in libraries or after school centers.

CHAPTER II

REVIEW OF RELATED LITERATURE

Animals have been serving humans in various capacities for many years. This is especially the case with dogs, which have been called “man’s best friend.” Today “man’s best friend” serves many different roles, and one of the major ones is that of pet or companion. Dogs are one of the most popular pets in the United States. According to the 2005/2006 National Pet Owners Survey by the American Pet Products Manufacturers Association (n.d.), 43.5 million U.S. households own a total of 73.9 million dogs. The survey found that while technically people in the U.S. own more freshwater fish than any other animal (139.0 million total), dogs are the most popular pet as measured by the number of households that own dogs.

While pets are very important, humans’ relationship with dogs extends far beyond that of companion. In addition to serving as their companions, dogs have served humans as working dogs, service dogs helping people with disabilities, and therapy dogs in therapeutic settings. This literature review will describe the various ways dogs have served humans and continue to serve them, discussing scientific research showing the benefits of dogs and other animals in therapeutic settings. It will finally examine the recent phenomenon of programs where children read to dogs.

Brief Early History of Humans and Dogs

Humans and dogs have had a close relationship for millennia. Recent research using mitochondrial DNA suggests that the domestic dog evolved from wolves in East Asia approximately 15,000 years ago (Savolainen, Zhang, Luo, Lundeberg, & Leitner, 2002). Their pictures appear on numerous cave paintings (Wendt, 1996). Throughout

the years dogs have served humans as companions as well as various other roles including (but not limited to) hunters, protectors, guards, war dogs, draft animals, and herders (Wendt). Their special relationship with humans is reflected in how they have been treated in death. Archaeological evidence shows that people have been ritualistically disposing of their dogs' remains, most commonly by burial, for the past 12,000-14,000 years (Morey, 2006). The dog burials, including some combined with human remains, have been found on every continent except Antarctica. According to Morey, throughout this time dogs have been treated this way in death more than any other animal, except for cats in Ancient Egypt, and he theorizes that "the routine ritualistic burial of dogs reflects a social bond between live dogs and people that has been the very basis for their domestic relationship, from early on" (p. 169).

Working Dogs

One major way dogs still serve humans are in various roles of working dogs. In addition to many of the roles mentioned previously, working dogs also serve as police canines, termite detecting dogs, agriculture sniffing dogs (Hart, 2000a), bomb sniffing dogs, and many others. In fact, Yoong (2007) describes two dogs that have been trained to sniff and locate counterfeit DVDs and CDs in Malaysia. Yoong reports that they have uncovered over one million pirated DVDs and CDs with an estimated worth of almost \$3.5 million.

Service Dogs

Service dogs are different kinds of "working dogs." The U.S. Department of Justice (2002) states, "Service animals are animals that are individually trained to perform tasks for people with disabilities" (n.p.). They go on to emphasize that "under

the Americans with Disabilities Act (ADA), businesses and organizations that serve the public must allow people with disabilities to bring their service animals into all areas of the facility where customers are normally allowed to go” (n.p.), even when all other animals are prohibited. While the U.S. Justice Department refers to service “animals,” dogs are the species most commonly used as service animals (Duncan, 1998). This seems fitting considering dogs’ long history of serving humans in numerous capacities.

Perhaps the best known example of service dogs is seeing-eye dogs or guide dogs that lead blind people (Beck, 2000), which were first used in Germany during World War I. The first American school to train guide dogs opened shortly following the war (Duncan & Allen, 2000). Today service animals perform numerous other roles, such as hearing dogs that alert their owners to essential sounds such as doorbells and crying babies, and seizure dogs that can sense impending seizures earlier than the owners, alert their seizure-prone owners, and then help them cope during and after the seizure. Service dogs help people with mobility impairments by doing things such as opening doors and retrieving dropped objects. Other service dogs assist people with mental or emotional impairments, often providing needed comfort or alerting the owners to the rising anxiety levels which the dogs can sense (Duncan & Allen).

Early History of Therapeutic Use of Animals

Over the years dogs and other animals have been used in therapeutic ways, a practice first observed in England. Animals were used in therapy as early as 1792 at the York Retreat, which incorporated outdoor activities, birds, and rabbits in their treatment plan for mentally ill individuals (Beck & Katcher, 1996; Burch 2003; Hooker, Freeman & Stewart, 2002; Jalongo, Astorino, & Bomboy, 2004; Parshall, 2003; Serpell, 2000).

Serpell notes that the example is “the earliest well-documented experiment in this area”(p. 12). In 19th century England, a number of mental institutions had pet animals, according to Serpell. He points out the British Charity Commissioners’ recommendation of keeping animals on the grounds of asylums, and the numerous animals kept at Bethlem Hospital. Legendary British nurse Florence Nightingale wrote about the benefits of pets for sick patients (Hooker et al., 2002; Jalongo et al., 2004; Parshall, 2003; Serpell, 2000).

In the United States, the first suggestion of using animals in a therapeutic setting was in letters exchanged in 1919 between Superintendent Dr. W. A. White and Secretary of the Interior F.K. Lane regarding Government Hospital for the Insane (later renamed St. Elizabeth’s Hospital) in Washington, D.C. Lane requested that the institution provide psychiatric patients with dogs to serve as their companions (Hooker et al., 2002; National Institutes of Health, 1987; Strimple, 2003). In 1942, the Pawling Army Air Force Convalescent Hospital in Pawling, New York, had veterans tending a working farm as they recovered (Beck & Katcher, 1996; Burch, 2003; Hooker et al., 2002).

Unfortunately, Pawling Army Air Force Convalescent Hospital’s 1942 working farm was one of the last institutions to utilize animals therapeutically for many decades. Serpell (2000) reports:

Despite the apparent successes of 19th-century experiments in animal-facilitated institutional care, the advent of scientific medicine virtually eliminated animals from hospital settings by the early decades of the 20th century (Allderidge, 1991). For the following 50 years, virtually the only medical contexts in which animals are mentioned are those concerned with zoonotic disease and public health, or as

symbolic references in psychoanalytic theories concerning the origin of mental illness. (p. 13)

Animal-Assisted Therapy and Animal-Assisted

Activities Terminology

There have been numerous terms and phrases used to describe the therapeutic use of animals, but the two preferred terms are “animal-assisted therapy” (A.A.T.) and “animal-assisted activities” (A.A.A.) (Burch, 2003; Delta Society, n. d.). These two are the most commonly used in the current literature. Sometimes the two are used together, such as “A.A.A./T.” While similar, they describe specific types of activities. “Pet therapy” and “pet-facilitated therapy” were commonly used in the literature in the recent past, but A.A.A./T is a better description because it does not imply that anyone’s pet can do therapeutic work (Burch, 2003; Delta Society, n. d.). Related to this is the term “therapy animal” (or “therapy dog”). This is an animal that works with a handler to “provide services to others” (Delta Society), which are not given the same protections under the law as service animals (Delta Society).

The Delta Society, a major non-profit organization in the field, defines animal-assisted therapy (A.A.T.) as “a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. A.A.T. is directed and/or delivered by a health/human service professional with specialized expertise, and within the scope of practice of his/her profession” (Delta Society, 1996, as cited in Delta Society, n. d.). This is a frequently cited definition (Kruger & Sewell, 2006). The major features of A.A.T. are that the activities and results are documented, there are specific

goals and objectives for the therapy, and professionals (such as social workers) direct the activities (Delta Society, n.d.; Kruger & Sewell, 2006).

Animal-assisted activities (A.A.A.), according to the Delta Society's definition, offer "opportunities for motivational, educational, recreational, and/or therapeutic benefits to enhance quality of life. A.A.A. are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers, in association with animals that meet specific criteria" (Delta Society, 1996, as cited in Delta Society, n. d.). Some of the key features of A.A.A. that differentiates it from A.A.T. are that detailed documentation is not required, there are not specific goals for each session, and the "visit content" and length can be "spontaneous" (Delta Society, n. d.).

Research on Therapeutic Use of Animals

In 1961 Dr. Boris Levinson became a pioneer in animal-assisted therapy research when he published his observations about the therapeutic use of animals (Burch, 2003; Hooker et al., 2002; Parshall, 2003). He found that many of his patients would open up in therapy after bonding with animals, specifically his pet dog.

Dr. Samuel and Elizabeth Corson conducted some of the earliest research evaluating the effect of A.A.T. on institutionalized individuals, and they published their findings in 1977 (Beck & Katcher, 1996; Beck, 2000). Corson et al. added numerous videotaped animal therapy sessions with dogs and cats, in addition to traditional therapy, while treating patients in a psychological institution who had failed to respond to any traditional therapy (as cited in Beck). They found that "most of the patients became less withdrawn, answering a therapist's questions sooner and more fully" (Beck, p. 24), and only three of the initially unresponsive patients remained so at the end of the study.

Additionally, the researchers noted that the patients showed signs of being happier (Beck).

Many other researchers have found similar results from including animals in therapy in both residential and outpatient settings, especially for people with mental illness or emotional problems. Some therapists report using animals to help their patients feel comfortable during their counseling sessions, especially as they are creating rapport (Fine, 2000). Fine elaborates on this, saying

Arkow (1982) suggested that the animal may act as a link in the conversation between the therapist and the client. He called the process a rippling effect.

Others such as Corson and Corson (1980) describe this process as a social lubricant. It appears that the presence of the animal allows the client a sense of comfort, which then promotes rapport in the therapeutic relationship (p. 182).

For example, Parshall (2003) describes a grief counselor who uses a dog in her sessions and notes that many of her patients will address or start talking to the dog about how they feel when they are having difficulty expressing themselves to the counselor. She gives the example of a grieving widower saying to Rudy, a Labrador retriever, “Nobody knows how bad this really hurts, but you understand, don’t you Rudy?” (p. 50).

Opening up in the presence of an animal has been especially noted in children. Parshall (2003) reports that Mallon successfully used farm animals as therapeutic aids in a residential treatment setting with 80 children (ages 7 to 16 years) who were there because of serious behavioral, academic, and emotional problems. The researcher found that when the children visited the animals they “tended to use farm animals as one would a nonjudgmental, confidential therapist” (p. 48), as well as hugging them. Therapists

working with the children reported that the animal visits “sometimes acted as a ‘catalytic agent in bringing the therapist and the child together’ (Mallon, 1994, p. 70)” (p. 49).

Granger and Kogan (2000) note that children opening up to animals in therapy is especially common for victims of abuse. They point out that communication may be directed at the animal instead of directly towards the therapist. Reichert (1998) wrote about her observations regarding this phenomenon in her therapy work with sexually abused girls when she brought a dog to the therapy sessions. She reported that many of the girls told the dog their painful stories of abuse. Sometimes talking about an animal that is present during a counseling session will lead to a patient opening up to a therapist. Garat (as cited in Fine, 2000) describes an 8 year old girl who, after engaging in a discussion with the therapist about needing permission to touch the pet bird and how the bird does not like being pet certain places, revealed past sexual abuse. Reichert presents a similar incident that occurred in her therapy session with a child who had been sexually abused. Reichert’s dog, Buster, was present for the session, and she noted that “the child was able to project her feelings onto the dog and talk about the dog instead of herself. By projecting her feeling onto Buster, the child was able to indirectly express her own feelings” (p. 182).

Opening up to a dog is not limited to therapy situations. According to a pet owner interviewed in the television program *Jane Goodall: When Animals Talk*, “there may be things you’d tell your pet that you won’t tell a human being” (Scofield, 2005). Even children without any diagnosis or history of abuse are likely to open up to an animal, as one study showed that over 70% of children of various ages talk to animals (Jalongo et al., 2004; Serpell, 2000). In fact, Jalongo et al. note that one of the major ideas that

animal-assisted therapy is founded on is “children’s natural tendency to open up in the presence of animals” (p. 10).

Contact with therapy animals can also lead people to open up and socialize with people other than their therapists. According to Hart (2000b), “visits with A.A.A. improved social interactions among residents and staff in a psychiatric facility for elderly women (Haughie et al., 1992) and in a residential home (Francis et al., 1985)” (p. 66). Hart also notes that two studies, Kongable et al. and Beyersdorfer and Birkenhauer, showed that visiting animals led to improved social interactions among patients with Alzheimer’s disease living in nursing homes. A study by Marr et al. (as cited in Parshall, 2003) found a “significant increase in socialization behaviors after contact with dogs, rabbits, ferrets, and guinea pigs” (p. 51). Numerous other researchers have observed this phenomenon. Many human handlers of therapy dogs also notice increased socialization among the people they visit.

Fine (2000) notes that many professionals in the mental health and physical health fields have “applied the human expression of laughter and joy therapeutically to reduce stress and foster recovery in patients with various illnesses” (p. 184), and suggests that using therapy animals can help achieve those responses. While it can be difficult to quantify, many people who have interacted with a therapy animal seem happier (Fine, 2000). Numerous researchers have reported this, including Mallon’s study and Wash and Metin’s research (as cited in Parshall, 2003), and Corson et al. (as cited in Beck, 2000). Folsie et al. (as cited in Hart, 2000b), sought to quantify this by using animal-assisted therapy with depressed college students in an experimental study. When compared to the control group, the group who received A.A.T. had lower scores on the Beck Depression

Inventory. Countless human handlers in animal therapy teams have also noted smiling faces. Elizabeth Shannon, the human component of a dog-therapy team who brings the dogs to New York State's largest extended-care facility as part of their A.A.A. work, agrees. In a personal interview, she describes seeing many residents smiling and laughing. In a public facility known for being both "a last stop for indigent people" (Healy, 2004), and housing a large number of younger residents, with 43% of the residents under age 65 in 2003 (Healy, 2003), this is a significant accomplishment.

Research on the Calming Effects of Animals

Numerous studies have shown that animals can have a calming effect on people. According to Hart (2000b), Arnold found that a therapy dog had a calming presence during group therapy sessions and Walsh et al. noted that noise levels in a psychiatric ward were significantly lower after therapy dog visits. Katcher et al. (as cited in Hart, 2000a) found that looking at fish in an aquarium relaxed people who were waiting to see a dentist, and others have found similar results.

Physiological Evidence Showing

Physical Calming Effects of Animals

A number of studies have examined the physical effects of friendly animals, especially as related to blood pressure. A breakthrough 1983 study by Friedmann, Katcher, Thomas, Lynch, & Messent using 36 children ages 9 through 16 discovered that when a child read aloud with an unfamiliar friendly dog present (without touching it), he or she had lower blood pressures when compared with reading out loud without a dog present. The researchers also found that the children's blood pressure was lower while resting when the dog was present than when it was not. The authors theorized "the

animal causes the children to modify their perceptions of the experimental situation and the experimenter by making both less threatening and more friendly” (p. 461), making the situation less stressful. This study has been cited countless times in research on A.A.A./T. Another study by Jenkins (1986) also found that people (children and adults) had lower blood pressure when a dog was present, but it was very different from Friedmann et al.’s study. The dogs used in Jenkins’ study were the subjects’ personal pets, the subjects were permitted to pet the dogs during the time when they were present, and the reading and dog petting did not occur at the same time. These differences make it difficult to truly compare the studies’ results. DeMello (1999) notes that in Jenkins’ study it is difficult to “disentangle the effects of the pet presence from the effects of the reading aloud concentration” (p. 860). A third study by Vormbrock & Grossberg (1988) of 60 mixed-gender undergraduates with positive or neutral attitudes towards dogs also found a lowered blood pressure rate while petting a dog. The researchers discovered that the subjects’ blood pressure “levels were lowest during dog petting, higher while talking to the dog, and highest while talking to the experimenter”(n. p.).

While Vormbrock and Grossberg’s (1988) findings that the blood pressure was higher while speaking to the dog seems surprising, it is important to keep two things in mind. First, the blood pressure was highest while talking to the (human) experimenter. Second, the simple act of talking can raise blood pressure. Beck and Katcher (1996) describe Katcher and Lynch’s research on blood pressure and talking. Through their exhaustive study they found that people’s blood pressure rises while talking regardless of the topic of conversation. They conclude “something about the act of talking itself, independent of the emotion carried by the talk, caused the rise in blood pressure” (p. 79).

Other studies have dealt with measuring the response to animals after or during various stressful conditions (in addition to conversation). DeMello (1999) conducted a carefully controlled experiment using deception with 50 adults that tested the effect of the presence of a “companion animal on blood pressure and heart rate reductions after termination of mild cognitive stressors” (p. 859). The subjects did tasks such as “mental arithmetic, coding and a cancellation task” (p. 859), and were told that they would receive the most compensation money depending on how quickly and accurately they did these tasks (although in actuality they all got the maximum promised regardless of their performance). One of three personal pets (two small dogs and a kid goat) belonging to the researcher and colleagues were present for a few of the cognitive stressor sessions and rest periods after the stressful sessions. The subjects (individually) were told that one of the research assistants brought a pet with them and they might have to bring it into the room during the study unless there is an objection. The subjects were told not to let the pet “bother them.” During some of the animal-present sessions subjects were allowed to touch the animal, and during others they were not. DeMello found that the blood pressure and heart rate went up during the cognitive tasks both when an animal was present and when one was not, but especially when one was present. However, when subjects were in the presence of one of the animals but were not allowed to touch it during a rest period after a “cognitive stressor” period, the blood pressure and heart rate were significantly lower. When a subject patted the animal the heart rate went down as well, but the blood pressure level was not significantly different as compared to the level when the animal was not present. DeMello concludes that the “results indicate that the mere presence of an unknown friendly pet, traditional or non-traditional, can aid the

reduction of blood pressure and heart rate following termination of cognitive stressors” (p. 859).

This researcher has some qualms about the previously mentioned study. First of all, DeMello (1999) describes how the subjects were told “because she [the research assistant] has her pet with her today, she may need to bring her pet into the room at some point. If so, do not let that bother you” (p. 862). The way the “possibility” (although, in reality, DeMello knew that this situation was definitely going to occur) was presented gives this researcher the impression that DeMello made it seem as if the researcher had a pet-sitting conflict and so the animal might “have to” be in the room at some point despite it possibly being an inconvenience. Second of all, because the subjects were motivated to get through their tasks during the cognitive stressor periods as quickly and accurately as possible in order to get the most money, this researcher wonders if any of the subjects may have considered the presence of an animal during the cognitive stressor periods to be an unnecessary distraction or annoyance. If one or both of these are accurate assessments of the feelings of some of the subjects, then they might have led to the increase in heart rate and blood pressure when an animal was present during the cognitive stressor period.

Some researchers have examined the calming effects of animals on children in stressful situations. One such study by Havener et al. (2001) of 40 children ages 7 through 11 undergoing dental procedures in a pediatric dental clinic sought to evaluate the effect of a therapy dog on the children’s “physiologic arousal and behavioral distress” (p. 138). A dog was present during the procedure for half of the children but not the other half of the group. The original analysis found no difference between the two

groups in terms of physiologic and behavioral distress. However, “further analysis revealed that for children who initially verbalized distress on arrival at the clinic, the presence of the dog decreased physiologic arousal during the time the child was on the dental table waiting for the dentist to arrive” (Havener et al., p. 138).

A similar study by Nagengast, Baun, Megel, and Leibowitz (1997) examined 23 children (ages 3 through 6 years) undergoing two routine physical examinations. During one procedure a companion animal was present, and the other was without the companion animal. The researchers found that when the companion animal was present during a physical exam, the children exhibited reductions in arterial pressure and heart rate that were statistically significant, and showed less signs of behavioral distress. They concluded that “findings support the use of a companion animal in reducing stress experienced by children during a physical examination” (p. 323).

Clark (2003) describes a similar study by Handen, Messinger, Baun, & Megal examining evidence of physiological arousal and behavioral distress of children ages 2 through 6 years undergoing a physical examination in a clinic. During the examination a therapy dog was present with one group but not the other. “The findings suggested ‘companion animals may be useful in a variety of health care settings to decrease procedure-induced distress in children’ (p. 142)” (Clark, p. 21).

Clearly the results of these studies have not all been consistent, but they have all generally shown some sort of a reduction in physiologic arousal. This is especially true when it involved petting the animal.

Animal-Assisted Therapy and Animal-Assisted Activities in Educational Settings

Animals are used in educational settings in many ways and for many reasons (Burch, 2003). For example, many classrooms have pets, most commonly guinea pigs, fish, birds, or hamsters. Animals can also be used to explicitly teach numerous educational concepts in every curricular area (Siegel, 2004) such as anatomy, taking care of animals, basic physical needs, proper behavior around animals, and dealing with overpopulation, as well as helping students improve their motor skills or get over animal phobias (Burch).

Animals can also help students pay attention, which is clearly a necessary component of positive learning environments as well as learning itself. They have been found to be especially helpful for children with more difficulty than average paying attention due to Attention Deficit Hyperactivity Disorder and other diagnoses. Fine (2000) describes a series of studies of children with disruptive behavior by Katcher and Wilkins (1997) that found that “animals capture and hold children’s attention and direct their attention outward” (p. 70). Another study by Kotrschal and Ortbauer (2003) of children in a Vienna classroom with 24 children with a mean age of 6.7 years with and without one of three dogs found that the students paid more attention to the teacher when a dog was present. The researchers also found the social behavior extremes (such as aggression and withdrawal) decreased, especially among the boys. Siegel (2004) notes that numerous studies have shown that animals can help children control their behavior and increase their social skills. Jalongo et al. (2004) describe how therapy and service dogs in educational settings “can support the goals of inclusion” (p. 10), reporting

findings from Katcher showing that dogs lead to increased interaction between children with disabilities and their peers without them.

Another major way that animals can be beneficial in an educational setting is as a motivational tool to encourage students to improve their behavior or to participate in programs. Siegel (2004) describes a program where children in a school are rewarded for their good behavior by getting to hold an animal. Kaye (as cited in Siegel) reports that the participants “have shown improved classroom behavior, confirming that the students find holding the animals to be a motivating reward (Kaye 1984)” (Siegel, p. 20). A study conducted by Levinson (as cited in Siegel) found that children were more likely to participate in programs that involve animals than other unfamiliar programs.

Reading to Dogs

In addition to the previously mentioned ways animals are used in educational settings, programs where children read to dogs are a recent phenomenon that is becoming increasingly popular (Gerben, 2003; Jalongo, 2005; Siegel, 2004). In these programs, children read individually to specially trained dogs (registered therapy dogs if it follows the guidelines of Intermountain Therapy Animal’s Reading Education Assistance Dogs, R.E.A.D.) with their human handlers for a short appointment, often approximately 20-30 minutes. The general goal is for children to improve their reading skills. These programs take place in many kinds of settings, but schools and libraries are especially common. At this point it should be noted that dogs are not the only species that children read to in these programs. Other animals such as cats and birds have been R.E.A.D. “dogs,” but dogs are by far the most common (Intermountain Therapy Animals, 2006). For this reason, for the rest of this paper “dog” will be used unless otherwise specified.

History

The first and one of the best known of the groups who promote and facilitate this type of A.A.A./T. is Reading Assistance Education Dogs (R.E.A.D.), a program of Intermountain Therapy Dogs (Hughes, 2002; Siegel, 2004). Sandi Martin, a nurse and member of the Board of Directors of Intermountain Therapy Dogs, started the program in 1999 in Salt Lake City (Martin, 2001). The official R.E.A.D. website's page of frequently asked questions (Intermountain Therapy Animals, 2006) acknowledges "documented evidence that people have read to dogs before, but Intermountain Therapy Animals was the first to build a structure around this concept and develop it into a true literacy program with models for schools, libraries and other settings" (Intermountain Therapy Animals, 2006). Martin had worked with both therapy dogs and children, and she decided to see if the positive effects of therapy dogs could be used to help children struggling to learn to read (Clark, 2003; Gerben, 2003; Hughes, 2002; Martin, 2001).

The first official setting for the R.E.A.D. program was the Salt Lake City Public Library in 1999 (Gerben, 2003; Hughes, 2002; Intermountain Therapy Animals, 2006), although Martin did a test run at an independent bookstore's Halloween party (Hughes, 2002). The pilot program at the Salt Lake City Public Library was very well received, and it became a regular feature (Hughes). Soon it spread to other libraries and schools, as well as other settings. According to an interview with Martin (in Clark, 2003), numerous other settings such as bookstores, daycare centers, Operation Head Start centers, juvenile detention facilities, Boys and Girls Clubs, and pediatric waiting rooms have also been settings for R.E.A.D. Today R.E.A.D. is done in many libraries, schools, and other settings all over the country and world. Intermountain Therapy Animals is not the only

organization running these types of programs today. Numerous groups, some of whom are affiliated with the original but have different names, have begun running this type of program in the last few years.

How the Program Works

As was previously mentioned, the way the R.E.A.D. program (or ones based on that original model) sessions usually work is a child reads to a therapy dog with a dog's human handler in a session lasting approximately 15-45 minutes. The human handler offers the child praise and gentle support (Jalongo, 2005), but he or she does not ridicule the child or make him or her feel badly about any mistakes. The child may choose to lean against a bigger dog, have a smaller dog sit in his or her lap, pet a dog while he or she reads, or the child may decide to have little to no physical contact with the dog (Intermountain Therapy Animals, 2006). Sometimes the children bring their own books or ones that they have picked out from the library to read to the dogs. Other times the handlers have books for the children to choose from, perhaps pointing out the dogs' "favorites." Some programs let the participating children keep a book, especially after reading to the dog a certain number of times (Clark, 2003; Intermountain Therapy Animals, 2006). There are small individual differences depending on factors such as where the program is being run and the people involved.

While the basic setup was just described, R.E.A.D. and programs modeled after it can be run in two major ways, which often depends on the setting. One way the program tends to be run is an animal-assisted therapy (A.A.T.) model. Children enrolled in this type of program, which is typically located in a school setting, have frequently been identified as struggling readers. Many of these children have been selected to participate

by reading specialists or their classroom teachers, and reading to the dogs is part of their intervention services. These programs are long-term, and usually the same children read to the same dogs and human handlers (often weekly) to continue their bond and work together (Intermountain Therapy Animals, 2006).

The other way the program tends to be run is an animal-assisted activities (A.A.A.) model. Children enrolled in this type of program, which is typically located in a public library or after school center, may or may not have been identified as struggling readers. In the A.A.A. model, children frequently have a wide range of reading ability, and the program is usually open to all children instead of only those referred by an education professional (Jalongo, 2005). Although the children participating are practicing their reading, it is not part of their prescribed therapy. This type of program is often short-term. For example, it might run four Saturdays in a row at a public library and then not again until a few months later, or it may take place once a month. Sometimes this type of program takes place only once in a given public library or after school center (Intermountain Therapy Animals, 2006).

While describing how the programs work, it is important to note some of the aspects of bringing dogs to libraries that frequently concern parents and administrators first hearing about the programs or considering involvement. In an extensive interview with Clark (2003), Sandi Martin, the founder of R.E.A.D., reveals that some have expressed concerns about bringing dogs into public places because of allergies. Martin empathizes with people's concerns, and is well informed about health issues because of her background as a nurse. She points out that all public places and buildings are required by law to permit service dogs (such as guide dogs) regardless of fears about

allergies. She says that R.E.A.D. requires the dogs participating in the programs to be recently bathed, brushed, groomed, and have their teeth brushed and nails trimmed shortly beforehand. According to Martin, these things make allergy attacks less likely. The R.E.A.D. website notes that the dogs should also use an anti-dander spray to reduce allergens, but cautions that children with severe allergies should probably not participate (Intermountain Therapy Animals, 2006). Martin points out that service dogs are not required to meet these strict rules, and suggests that the dogs participating in R.E.A.D. may be less likely to cause allergy attacks than service dogs.

Liability also concerns administrators who are considering hosting a program like R.E.A.D. However, according to Martin in her interview with Clark (2003), because dogs participating in R.E.A.D. (and most, if not all, of the other groups) are required to be registered therapy dogs that had to pass rigorous evaluations and tests, they are covered by insurance through the therapy organizations (such as Delta Society) that certified them. Martin points out that this means that libraries and other facilities hosting the programs do not have to purchase additional coverage, which she says could otherwise be a major barrier preventing them from hosting the programs (Clark, 2003).

The Ideas Behind Reading to Dogs

The reasoning behind programs where children read to dogs is based on a number of ideas. One of the main ideas is that dogs can make children feel calmer and more relaxed while reading (Clark, 2003; Intermountain Therapy Animals, 2006; Kaymen, 2005; Martin, 2001). This builds on previously discussed research showing that the presence of friendly dogs, especially when tactile contact is permitted, can have a calming and relaxing effect physiologically. The potential for dogs to provide a calming,

relaxing presence is especially important for struggling readers who may find reading out loud to be especially stressful and unpleasant, although it is logical to assume that practicing reading out loud can be stressful for any child first learning to read.

Research has shown that anxiety and stress can inhibit learning. According to Bredekamp & Copple (as cited in Clark, 2003), stressful situations negatively affect learning. Hart's research (as cited in Allington & Strange, 1980) on the brain and learning have found that the neocortex, which takes up most of the brain, "does not function well under pressure, or what is called 'threat'... When students see classroom activities as threatening, the learning that should occur in the neocortex is inhibited" (p. 123). Theoretically, if reading with dogs can create a less stressful atmosphere, then children will be better able to learn and make progress while practicing reading (Clark, 2003).

Another idea behind these types of programs is that having children read to dogs can serve as a motivating factor to encourage children to read (Clark, 2003; Intermountain Therapy Animals, 2006; Jalongo, 2005; Martin, 2001). This is mainly because children who like dogs consider reading to dogs to be an enjoyable, novel experience, as numerous anecdotal reports reveal. For example, a teacher at a school where children read to dogs as part of their reading intervention services joked that students were going to begin pretending to have difficulty reading so that they could participate in the program (Kaymen, 2005). Motivating children, especially those who may not have had much success with reading, to keep practicing is an important goal of R.E.A.D. (Intermountain Therapy Animals, 2006; Martin, 2001) and similar programs. Research suggests that many young, struggling readers will attempt to avoid reading

(Clark, 2003). According to Allington and Strange (1980), children who have a great deal of difficulty reading will often “be quite reluctant to attempt to read, because it has been their experience that interaction with textual material results in exposure of their reading deficiency and ultimate failure” (p. 42). In addition, according to Phillips (1978), “Atkinson has conceptualized anxiety in terms of an approach-avoidance paradigm, and relates anxiety to the need to avoid failure (Atkinson & Feather, 1966)” (p. 14). Ideally, because dogs act as a strong motivator for many children, many struggling readers as well as average readers will be motivated to read to the dogs, which allows the practice that all readers need.

These programs’ potential to motivate children to read is especially important for children who possess the skills necessary to read, but choose not to. Allington and Strange (1980) identify this as one of four types of reading difficulties, which they suggest could be caused by “low motivation, lack of interest, dislike of reading, or dislike of school in general” (p. 31). This is similar to “aliteracy,” which Alvermann (2003) describes as “the capacity to read but electing not to do so” (p. 1). Kaymen (2005) suggests that programs where children read to dogs may “engage alliterate students” (p. 24).

Building up children’s self-esteem is another important part of the reasoning for R.E.A.D. and similar programs (Intermountain Therapy Animals, 2006; Martin, 2001). Children whose self-esteem might be low for various reasons, but especially due to their reading difficulties, might find that their self-esteem increases after successfully reading to dogs. Granger and Kogan (2000) describe how A.A.T. in educational settings can help children in this way, saying that “through successes with the animal, many children are

able to increase their self-esteem and thereby have more confidence when approaching new tasks” (p. 223).

Many anecdotal reports show children’s self-esteem and confidence increasing as they participate in programs where they read to dogs. For example, a 10-year-old girl, after needing some reassurance that the dog doesn’t mind if she makes mistakes, was shocked that she was able to finish a book for the first time during her first R.E.A.D. session (Intermountain Therapy Animals, 2004). Other examples show children’s confidence and self-esteem increasing over several sessions, such as the boy living in a homeless shelter reading to a dog named Boo. In this heartwarming example, by his third session he was able to finish a book by himself, but he still never seemed to believe that he was intelligent. However, his skills and confidence increased as he continued reading to the dog. Boo’s handler reports that as he left his final session she watched him show his caregiver the book he read to Boo (which the handler had given him), and told her, “This is my book. I can read it by myself. I’m a very smart boy” (Cavallo, 2005).

In addition to benefits having to do with reading practice and self-esteem, Martin told Clark (2003) that reading to dogs can also help some children can get over their fears of dogs. The dogs used in these programs are non-threatening, well behaved, and friendly, which make them ideal for providing positive experiences with dogs for nervous children. Despite the potential for the dogs to help children get over their fears, Martin emphasizes that children, especially those who are afraid of dogs, should not be forced to read to a dog if they feel uncomfortable.

Overall, R.E.A.D. and similar programs involving children reading to dogs can provide a relaxing atmosphere, with dogs acting as motivators to encourage children to

read. As children have successful experiences reading to dogs, ideally their confidence and self-esteem will increase and they will be able to transfer their successes to reading without dogs. Clark (2003) suggests, “By utilizing therapy dogs as a social lubricant to ease any discomfort and create a non-threatening environment, children may feel safer to practice reading even if they stumble or falter” (p. 31).

Research on Programs Where Children Read to Dogs

There has not been a great deal of scientific research on the potential benefits of programs where children read to dogs. There have been numerous anecdotal reports of positive results, such as the ones previously mentioned. These are often reported in local newspapers following a session of R.E.A.D. or a similar program in a school or public library. The few studies examining R.E.A.D. or similar programs tend to be focused on the A.A.T.-type programs taking place in schools over a long period of time. The A.A.T.-type programs tend to have more traceable results.

One of the few studies that specifically examines a program where children read to dogs found many benefits, although it only studied ten students (Martin, 2001). The author of this study and founder of R.E.A.D., Sandi Martin, considers it to be the original pilot study for programs of its type, and it is frequently mentioned. The study, which took place at a public elementary school in Utah, had a group of 10 students (identified as high risk by the school) who read below grade level spend 20 minutes a week individually reading to dogs (handled by Martin or a second woman). The school’s reading specialist evaluated each student quarterly, and over 15 months “all of the children improved their reading scores significantly,” and some of the children began reading above their grade levels. Martin reports that the students’ teachers noted other

benefits in addition to improved reading scores, such as improved school attendance, borrowing books from the school library and discussing them with the librarian, attending extracurricular activities, and improved hygiene.

Newlin (2003), a library media coordinator in an elementary school, conducted a study using a program similar to R.E.A.D., although the article is in the form of a one-page essay in a *School Library Journal* column. She describes her study, consisting of 15 second grade students who tested below grade level in reading. The children read to dogs once a week for 20 minutes, and reading specialists tested the children once a month using Accelerated Reader tests. Newlin reports that “most participants improve their reading skills by at least two grade levels over the course of an entire school year” (p. 43).

Another study focusing on a program where children read to dogs was conducted by Kaymen (2005) while working on her Master’s Degree in Education. This program took place in a school, and is the A.A.T.-type program where reading to dogs is part of children’s intervention services. Kaymen’s study involved observing 1 student while he read to a dog for 10 minutes, a survey questionnaire from 1 student’s guardian, and interviewing 4 children who have participated in the program as well as the two literacy assistants. All of the children involved were struggling readers. Kaymen had planned on studying more children during bi-weekly observation sessions over the course of five weeks, but unfortunately the fall start of the program was so delayed that there was only time for one session. Kaymen also hoped to interview six children, but only four children’s guardians had returned permission forms. In addition, only one guardian completed the survey questionnaire.

During Kaymen's (2005) observation of a child reading to a dog, she noted that the child seemed to be relaxed and happy to be reading to the dog. He did not seem to be distracted by the dog. Her open-ended interviews with 4 children found that all of them responded positively when asked how they feel about reading to a dog. Some of the answers included "happy," "really excited," and "good because it's fun." According to Kaymen, "these answers indicate that although these children read with great effort they enjoy reading when they are reading to a dog" (p. 34). Interestingly, the interviews also revealed that three out of four of the children, if given a choice, would prefer reading to a dog with an adult present instead of reading to only a dog or only an adult. The literacy assistants had positive things to say about the program, generally observing that the children enjoy reading to the dogs, all students have responded positively, and that the children are focused when the dogs are present. Both of them described a child who had been afraid of dogs but slowly worked her way up to reading to a dog until she was no longer afraid. In the only survey questionnaire that was returned, the child's guardian noted that the child seemed to have responded "fairly well" to the program. Kaymen was not sure what this meant, because her survey did not allow for clarification, but surmised that it meant "that the child had responded positively to this type of reading program and would have continued to do so had that child returned this year" (p. 36). While this study's small amount of subjects and observation sessions potentially limits its effectiveness, it is still important because of the scarcity of research dealing with children reading to dogs.

Dunham (2006) completed another project involving children's reading to dogs as part of her Master's Degree in Occupational Therapy. Dunham set up a 12-week

program where four children identified as struggling readers read to one of three therapy dogs with their human handlers at their school, the Life Christian Academy in Tacoma, Washington. The weekly sessions lasted for 20-30 minutes. The goal was for the four children to have weekly sessions, but Dunham notes that inconsistent attendance sometimes led to different children reading to the dogs instead of the original four. At the time she wrote her report, the program had been going on for 8 of the 12 weeks. According to Dunham, teachers reported that the participating students showed increased concentration and participation in classroom activities, and were more likely to meet assignment deadlines. In addition, the children's teachers also "noticed an increase in excitement about reading" (p. 9). Several of the children reported enjoying reading with dogs despite usually disliking and avoiding reading. One child commented, "I hate to read, but with the dog, it's okay"(p. 9). In order to obtain data beyond the largely anecdotal observations of teachers and students, Dunham recommends that a future research study throughout a school year could compare the reading levels of participants before participating in the fall and after completing the program at the end of school year.

Another graduate student, Clark (2003), completed a project about programs where children read to dogs while working on her Master's Degree in Education. The purpose of Clark's study was to determine the feasibility of implementing a program similar to R.E.A.D. in the Greater Victoria Public Library system in British Columbia, Canada. Of the 14 subjects Clark interviewed, 7 of them were local children's librarians, 3 were local educators, and 1 was a member of the Victoria Animal-Assisted Therapy organization. The other 3 subjects had been involved in the original public library pilot of R.E.A.D. in Salt Lake City. Carter interviewed Sandi Martin, the founder of R.E.A.D.,

as well as a children's librarian and a community relations manager from a library involved in that original pilot. She found that most of the participants reported that it was feasible to implement a program similar to R.E.A.D. in the Greater Victoria Public Library system, although the main concerns raised by librarians were about allergies, a shortage of dog and handler volunteers, staff time restraints, and a lack of funding (especially if extra staff needed to be hired in order to coordinate a long-term program).

While this research dealing directly with programs where children read to dogs is helpful, it focuses on the A.A.T.-type programs, which are usually long-term and done as part of a therapeutic plan. This is in exception to Clark's (2003) research, which does focus on public libraries, but instead of evidence of benefits to children it examines librarians' opinions. Evidence of benefits resulting from children reading to dogs in public libraries and after school centers is largely anecdotal. Programs where children read to dogs of the A.A.A.-type, typically short term and taking place in public libraries or after school centers, frequently do not lend themselves to measurable, quantitative results. Hughes (2002) reports comments from librarians that are considered anecdotal reports. She notes in one example that while the program at one public library "does not use an evaluative tool, librarians have observed an increased eagerness to read on the part of the children, as well as increased confidence and improvement in reading and a greater desire to share stories" (p. 329). Hughes points out:

While there may not be scientifically documented evidence of increased reading scores in participants, most of the people involved in managing the programs have observed increased reading confidence in participants, a newfound delight in reading, and greater enthusiasm for visiting the library (p. 330).

Conclusion

This research will focus on addressing a significant gap in the literature, which is identifying the value of children reading to dogs in A.A.A. settings, which are how the programs typically take place in public libraries and after school centers. The popular wisdom is that children enjoy and benefit from these programs, and a great deal of anecdotal evidence points towards this. An exploratory study to get some actual data on the benefits of A.A.A.-type programs where children read to dogs will close a gap in the literature about these increasingly popular and promising programs.

CHAPTER III

METHODOLOGY

Restatement of Research Questions

The purpose of this exploratory study was to see if programs where children read to dogs in public libraries and after school centers are beneficial for children. The researcher reviewed the literature and found a great deal of research showing measurable benefits from programs involving people of all ages with dogs in various therapeutic settings, and the few studies existing that show benefits from long-term programs where struggling readers read to dogs. There are also a great deal of anecdotal reports of success with short-term programs where children read to dogs in public libraries and after school centers, but the principal investigator found no research specifically about these short-term animal-assisted activities programs as they take place in these settings. To address this lack of research, an exploratory study was conducted addressing the following research questions:

- RQ 1. How is reading to dogs in public libraries and after school programs beneficial for children?
- RQ 2. How many public libraries in Nassau County, New York, have had programs where children read to dogs?

Research Design

The purpose of this exploratory study was to see if programs where children read to dogs in public libraries and after school centers are beneficial for children. This study was approved by the Institutional Review Board. A copy of this approval letter is located in Appendix A. A survey method using a questionnaire was used, and a copy of the

survey questionnaire is included in Appendix B. The questionnaire addressed Research Question One.

In addition, in order to find out how widespread these programs are, the researcher found out how many public libraries in Nassau County, New York have had programs where children read to dogs. To accomplish this, the researcher first searched each library's website to see if they mentioned such programs, and asked a human handler who has done programs where children read to dogs in numerous libraries in Nassau County which libraries she had visited. The researcher then contacted each library in Nassau County that did not mention hosting this type of program on their website and that the human handler had not visited. Libraries were called on weekdays between 9 a.m. and 5 p.m. in order to decrease the possibility of reaching a librarian who only works in that library on nights and weekends, as is the case with many "substitute" librarians. The researcher asked each of these libraries if they had hosted a program of this type in the past. This addressed Research Question Two.

One major hypothesis is that the survey would find that, while the subjects would report seeing that their children enjoyed the experience or that they and/or their children would be willing to participate in a similar program again, they would not necessarily report that they exhibited the specific beneficial behaviors because of their experience. Many of the subjects' children read to dogs for only one 15-30 minute session, and so the subjects may not have observed beneficial behaviors connected to their children's experiences after such brief encounters. Another hypothesis is that the guardians of children who attended the most sessions where they read to therapy dogs would be more

likely to report noticing an improvement in fluency when reading aloud in front of other people and increases in reading motivation and skills.

Statement of Sampling

The population studied was parents and guardians of children who read to dogs in public libraries or after school centers in Nassau County. This geographic region chosen for this purposive sample was selected because of both the researcher's interest in studying an area close to the research institution and the relation to the other research question involving finding out how many libraries in that area have hosted this type of program.

The sampling itself was purposive because of the numerous difficulties inherent in finding parents and guardians of children who have participated in this type of program due to the short-term and temporary nature of the program. During the time the survey questionnaire was being administered only three public libraries in the Nassau Library System were running this type of program, and one of these was discovered after it had already taken place. This meant that the researcher had to rely a great deal on surveying people whose children participated in the programs in the past. Surveys were also distributed to numerous guardians of children at after school centers who had either participated in this type of program in the past or were currently participating in the program.

Subjects were solicited in several different ways. Subjects whose children were currently participating in these programs were solicited in person in libraries or after school programs hosting the programs, either by the researcher or by an employee of the public library or after school center. Many of the subjects whose children read to dogs in

after school centers were recruited by sending the survey questionnaire and consent letter home with the children. Some subjects whose children had participated in this type of program in the past were recruited by fliers in public libraries or after school centers, or in some cases by employees of the libraries or after school centers. These fliers contained the website URL for the online version of the survey questionnaire. In some cases the fliers were displayed in public libraries to call attention to stacks of the paper version of the survey questionnaire. See Appendix C for a copy of this recruitment flier.

A total of 324 survey questionnaires were distributed, and 51 were returned. No subjects submitted the online version of the survey questionnaire. This return rate of 16% (when rounded to the nearest whole number) is far below the 50% considered “adequate for analysis and reporting” (Babbie, 2007). However, it is impossible to calculate an accurate return rate for this study because it is very likely that many of the questionnaires were not given to the subjects for a number of reasons.

One factor that the researcher feels contributed to many questionnaires not being received by subjects is that she gave more questionnaires to the public libraries than she thought they would distribute. The researcher mailed or brought stacks of survey questionnaires to public libraries that were currently holding a program where children read to dogs or had held one in the past. These stacks frequently contained many more surveys than the researcher assumed would be given to or requested by the subjects, especially in the libraries that had held the programs up to a year before receiving the questionnaires. The researcher decided that it would be better to provide extra survey questionnaires that would likely not be received by subjects than to risk not having

enough for the subjects willing to participate, especially if the researcher had somehow underestimated the number of potential subjects.

Questionnaire distribution in after school centers also had issues that make it likely that numerous surveys distributed were not given to the subjects. In order to reach the guardians of children who had read to dogs in after school centers prior to the researcher's survey questionnaire being approved by the Institutional Review Board, she gave an initial bundle of 120 survey questionnaires to the director of the after school center and asked her to distribute them. The researcher did not know for sure how many children had read to dogs in this after school center, but 120 was likely to be many more than the number of participants. An additional factor that likely resulted in subjects not receiving survey questionnaires is that many of these questionnaires were not distributed directly to the subjects at the after school centers, but instead to their children who were then asked to give them to their guardians. The very nature of children makes it likely that a number of these questionnaires were lost before they had a chance to be given to the guardians.

Consent

Throughout the sampling process, subjects could choose to refrain from participating in the study without suffering any negative consequences. A written consent form requiring the subject's signature was unnecessary because it would be the only thing linking the subject to the anonymous survey. Instead, each subject was provided with a consent letter containing the information usually contained in a consent form. Subjects read that completing and mailing the paper survey implies consent. The website with the online version of the survey began with the text of the other consent

letter. The only difference between the two consent letters is that the online version informed the subjects that completing the survey and clicking “Submit” implies consent. A copy of the print version of the consent letter is located in Appendix B. Copies of the online version of the consent letter or survey questionnaire were not included because no subjects chose to submit their questionnaires using the website.

Instrumentation

The instrument used for this study was a survey questionnaire. The first part of the questionnaire consisted of six closed-ended questions to find out background information such as the number of sessions the subject’s child has participated in reading to dogs and the type of setting where the program was held. Some of these had an option to select “other” and enter another answer. These were not directly related to the Research Questions, but they provided important background information about the subjects’ children and their experience with programs where children read to dogs. The last part of the questionnaire consisted of nine closed-ended questions all dealing directly with Research Question One and one open-ended area that allowed the subjects to comment on their children's participation. While this area does not directly deal with Research Question One, allowing parents to share any comments they may have may provide some anecdotal reports relating to benefits from the programs (which is related to Research Question One), which are very common. It also presents an opportunity to relate any negative experiences, which would be important to note and should be weighed in any discussion of possible benefits. Table 1 expresses which items on the questionnaire relate to Research Question One.

Table 1
Research Questions and Items on Survey Questionnaire

Research Question	Item on Questionnaire
1. How is reading to dogs in public libraries and after school programs beneficial for children?	7, 8, 9, 10, 11, 12, 13, 14, 15, 16

The questionnaire was designed to be unobtrusive, brief, and simple in order to maximize the number of subjects participating. Very few subjects were predicted to participate because of recruiting difficulties. The researcher feared that a time-consuming questionnaire with numerous questions in a variety of formats would discourage subjects from participating, and thought that a brief, simple questionnaire would encourage more people to participate. Brevity and simplicity were very important factors in the design of this survey questionnaire.

There were two ways that the subjects could complete and submit this self-administered questionnaire. One option was to complete a paper copy of the survey questionnaire and then send it to the researcher in the self-addressed stamped envelope included with the survey questionnaire. The other option was to complete and submit the survey questionnaire online. The online version of the questionnaire contained the same questions as the paper version. No subjects chose to complete and submit the survey questionnaires online, so a copy was not included in this paper.

CHAPTER IV

FINDINGS, DISCUSSION, INTERPRETATION OF DATA

This chapter analyzed the data collected to answer the research questions posed in Chapter 1:

- RQ 1. How is reading to dogs in public libraries and after school programs beneficial for children?
- RQ 2. How many public libraries in Nassau County, New York, have had programs where children read to dogs?

This chapter presenting the data is divided into three sections. The first section analyzes the 15 survey questionnaire questions and the free response section. A chart, graph, or table addresses each survey questionnaire question, followed by the results. All decimals were rounded to the nearest whole number. The second section presents the number of public libraries in Nassau County that had held programs where children read to dogs as of August 2007. The third section is the summary of the findings in relation to each research question.

Survey Questionnaire Analysis

- 1. How old is your child who has participated in at least one program where he or she read to a dog?**

Table 2

Age of Children Who Read to Dogs

n=51

Age	Frequency of response	Percentage of total*
3 or younger	0	0%
4	0	0%
5	5	10%
6	4	8%
7	16	31 %
8	13	25 %
9	4	8%
10	6	12%
11	3	6%
12 or older	0	0%

* decimals rounded to the nearest whole number

Table 2 represents the age of the children who read to dogs. The average (mean) age was 8 years old. 56.83%, or the majority, of the children were 7 or 8 years old.

2. What gender is your child?

Figure 1

Gender of Children Who Read to Dogs

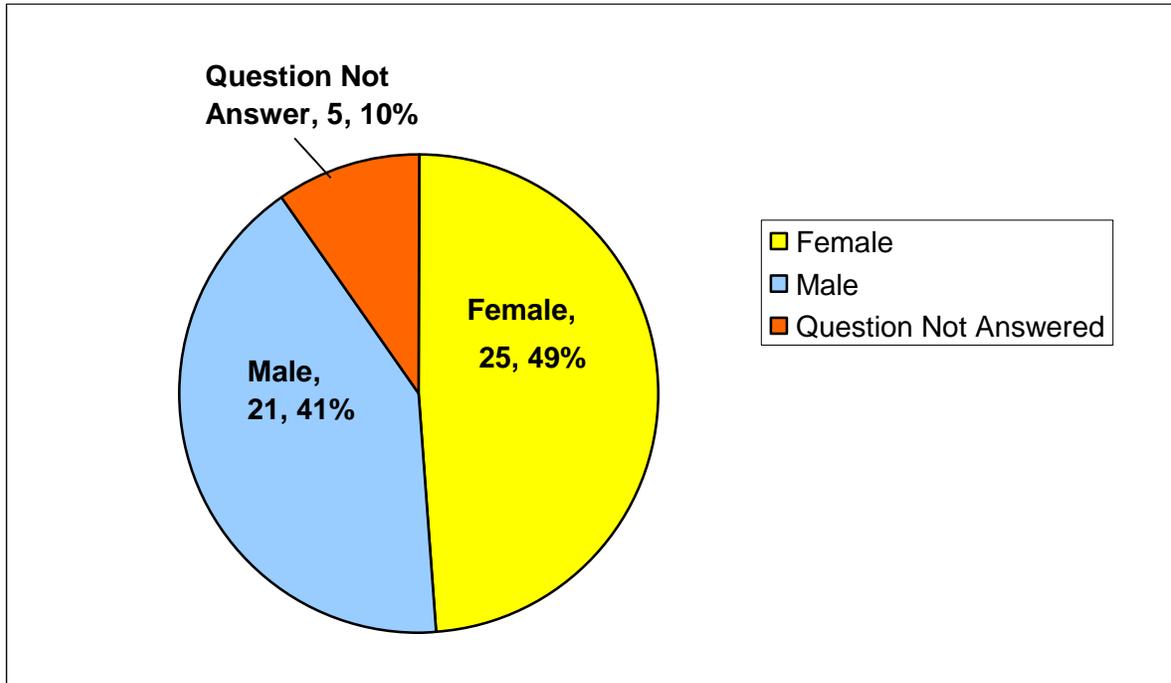


Figure 1 shows the gender of the children who read to dogs. Twenty-five children, or 49 %, were female and 21 children, or 41 % were male. Five respondents (10%) did not answer this question. Neither gender was the majority, but there were more females than males.

3. Where did your child participate in a program where he or she read to a dog?

Figure 2

Settings Where Children Read to Dogs

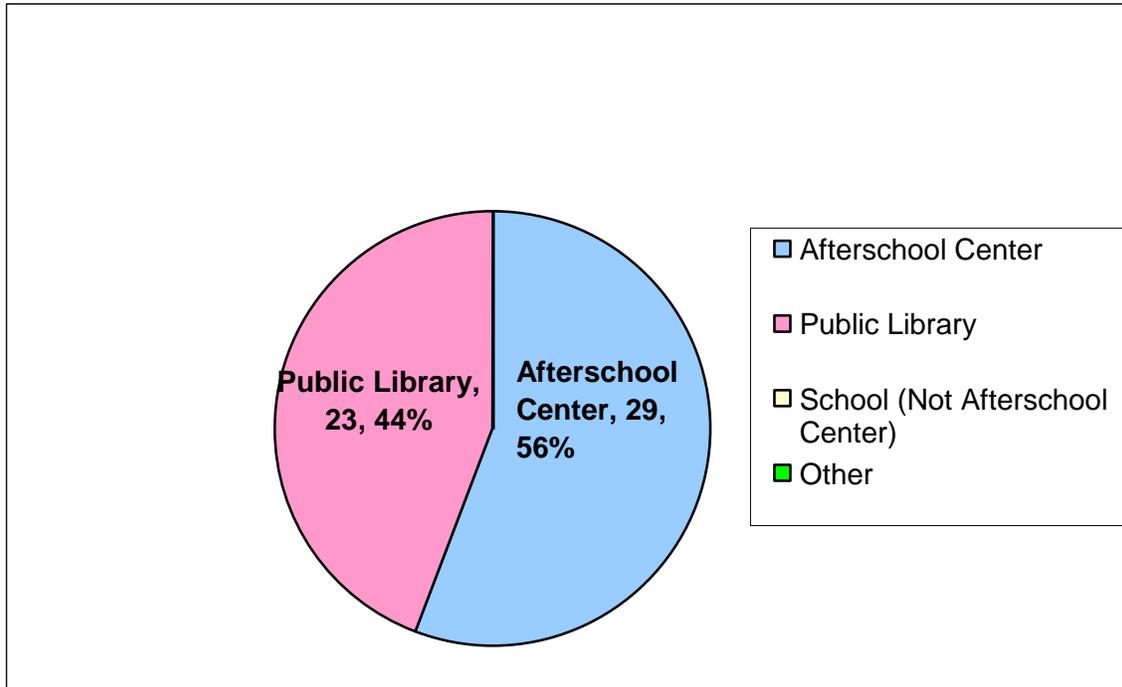


Figure 2 illustrates the settings where children read to dogs. The majority of the children (29 children, or 56%) read to dogs in after school centers. Twenty-three children, or 44%, read to dogs in public libraries. None of the respondents indicated that their children read to dogs in any other setting.

4. To the best of your knowledge, how many sessions has your child attended where he or she read to a dog in a public library or after school program?

Figure 3

Number of Times Children Read to Dogs

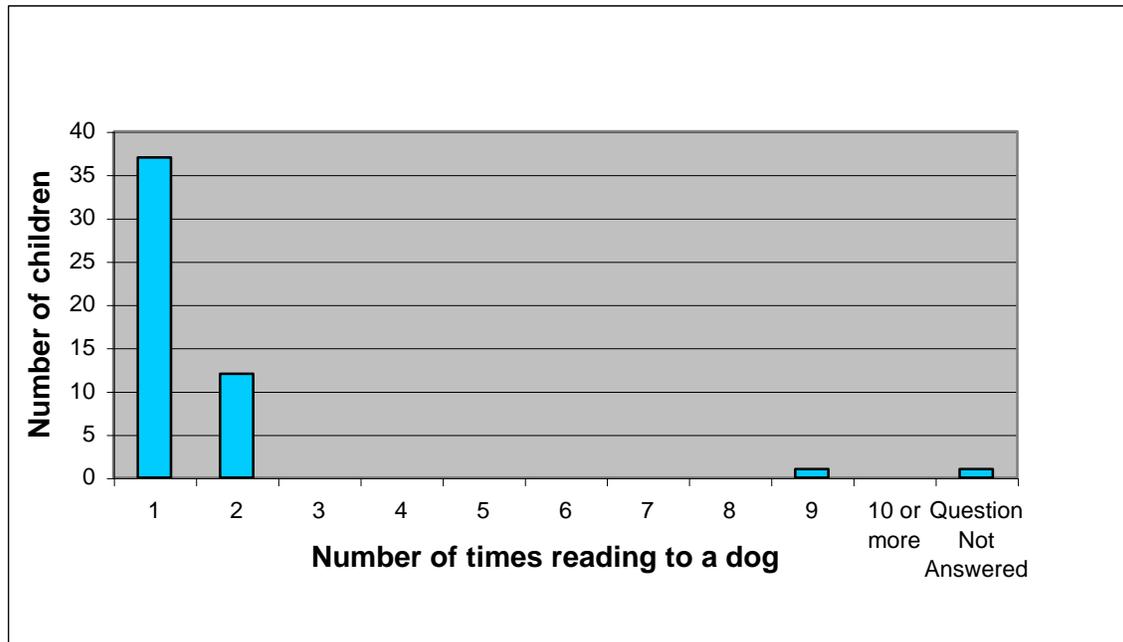
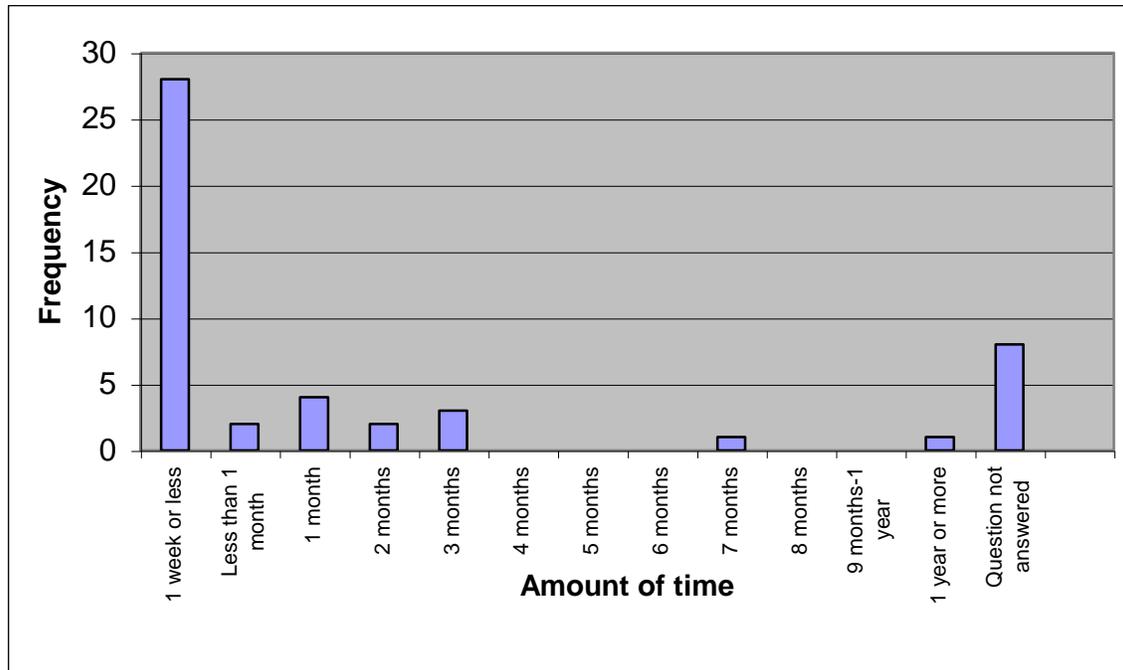


Figure 3 shows the number of times the children read to dogs. The *x-axis* represents the number of times each child read to a dog, and the *y-axis* represents the number of children. As expected, the overwhelming majority of the children (37, or 73%) read to dogs only once. This fits with the Animal Assisted Activities model of animal therapy, and how these types of programs typically operate in public libraries and after school centers. In addition, 24% (or 12 children) read to dogs twice, and one child read to dogs nine times. One respondent did not answer this question.

5. Approximately how long has it been since your child's LAST session reading to a dog?

Figure 4

Amount of Time Since Child's Last Session Reading to a Dog



The data illustrated in Figure 4 show the amount of time since each child's last session reading to a dog. Not surprisingly, the majority of the children (28, or 57%) read to dogs within a week or less of their guardians filling out the questionnaire. Unfortunately, the next largest category consists of the eight respondents (or 16%) who did not answer this question.

It should be noted that two participants' responses to this question had to be disregarded because they hand-wrote answers that did not fit the categories. One respondent wrote "never before," which implies that he or she may have interpreted this question to mean how long ago was the child's previous session reading to a dog. The other disregarded response had two different month amounts checked off, with the hand-written "approximately" between them.

6. Approximately how long ago was your child’s first session reading to a dog?

Figure 5

Amount of Time Since Child's First Session Reading to a Dog

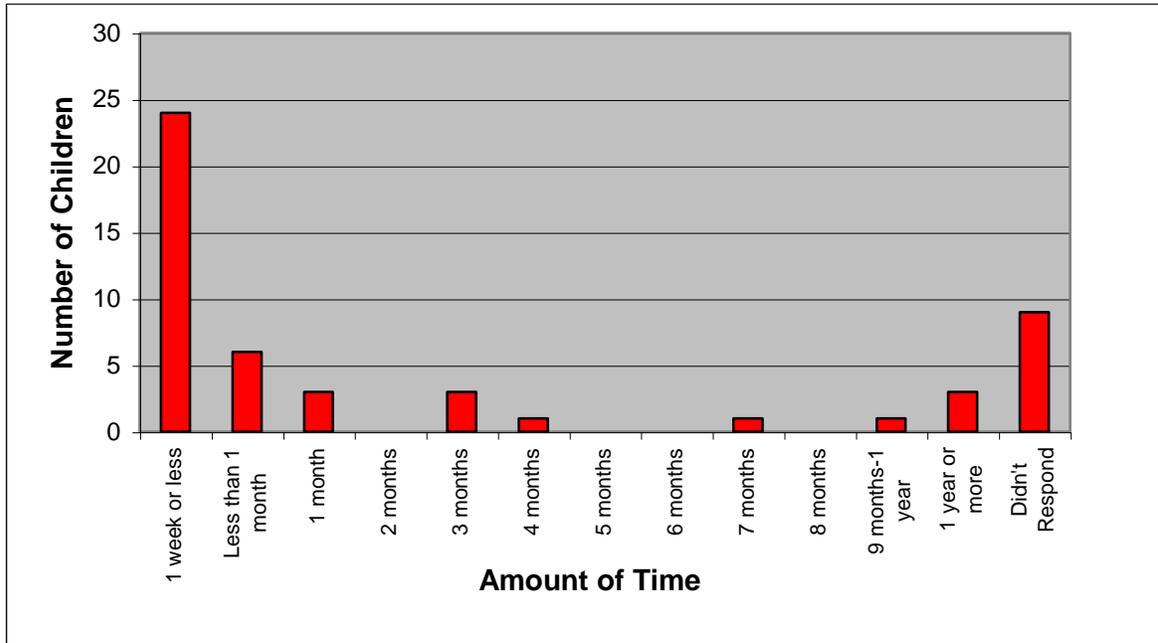


Figure 5 represents the amount of time since each child’s first session reading to a dog. While there was no majority, possibly due to 18% (9) of the respondents not answering the question, the most frequent response was “1 week or less.” Twenty-four children, or 47%, read to dogs for the first time up to 1 week prior to their guardians completing the survey questionnaires. An additional 12% had their first session reading to a dog less than 1 month prior. Interestingly, one child read to dogs for the first time between 9 months and 1 year prior, and three children read to dogs over 1 year ago. These children make up 8% of the total.

7. I feel that participating in this program was beneficial to my child.

Figure 6

Whether Guardians Feel Participating in This Program Was Beneficial to Their Children

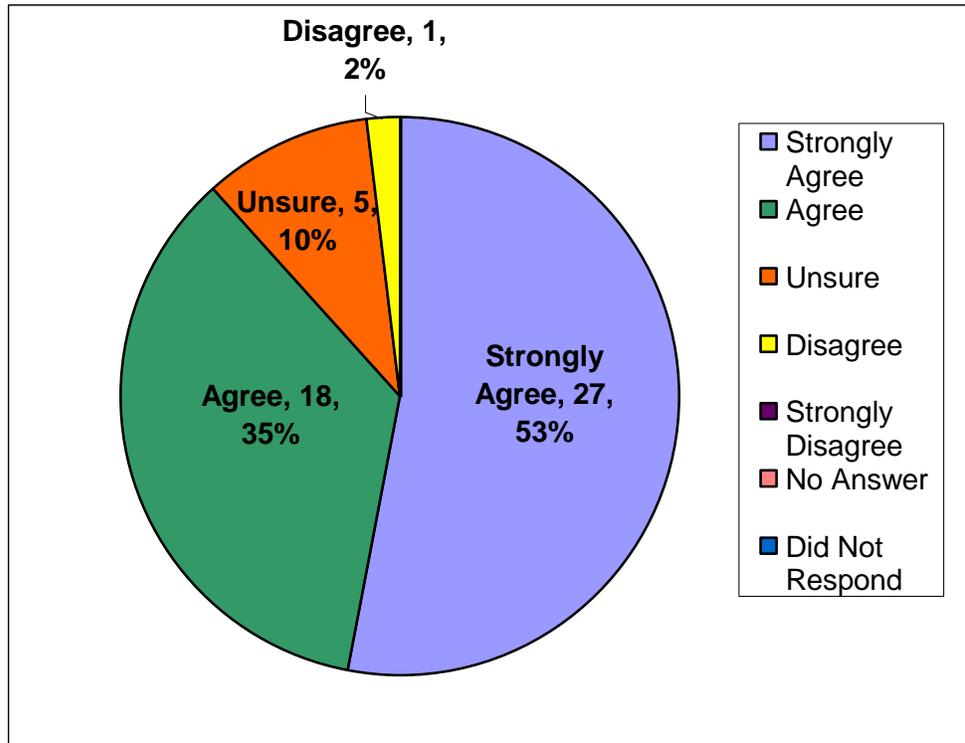


Figure 6 shows respondents’ reaction to the statement “I feel that participating in this program was beneficial to my child.” The majority of the respondents (27, or 53%) indicated that they “Strongly Agree” with this statement. When this category is combined with the 18 respondents who indicated that they “Agree,” these two answers make up 88%, an overwhelming majority. This was an unexpected result. The initial prediction was that respondents would be unlikely to report feeling that the programs were beneficial because most of the children were predicted to have participated in only one session reading to a dog. Five respondents, or 10%, reported that they were “Unsure,”

and one selected “Disagree.” No participants selected “Strongly Disagree” or “No Answer.”

8. I would be willing to allow my child to participate in a program involving reading to dogs again.

Figure 7

Whether Guardians Would Be Willing to Allow Their Child to Participate in a Similar Program Again

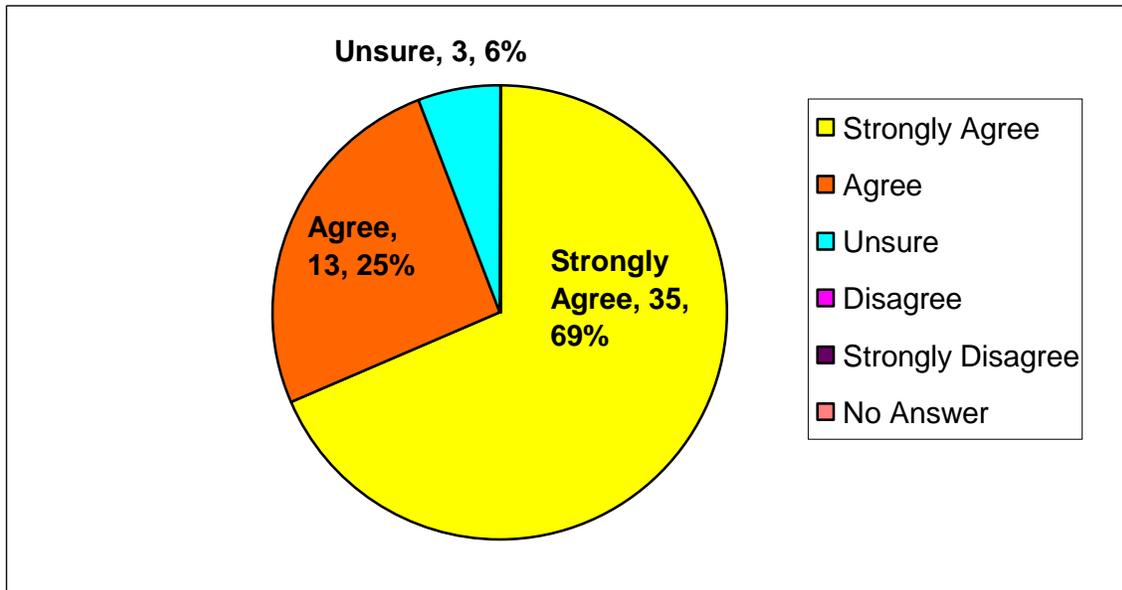


Figure 7 shows respondents’ reaction to the statement “I would be willing to allow my child to participate in a program involving reading to dogs again.” As with the previous question, the majority (69%) of the 51 respondents indicated that they “Strongly Agree” with the statement. When this is combined with the 13 respondents that selected “Agree,” the two categories add to 94%, or 48 of the 51 respondents. This is very encouraging, and indicates that the guardians felt that benefits outweighed any potential

negative consequences. Only three participants indicated any other response, which was “Unsure.” No respondents selected “Strongly Disagree,” “Disagree,” or “No Answer.”

9. My child would be willing to participate in a program involving reading to dogs again.

Figure 8

Whether Guardians Felt Their Child Would Be Willing to Participate in a Similar Program Again

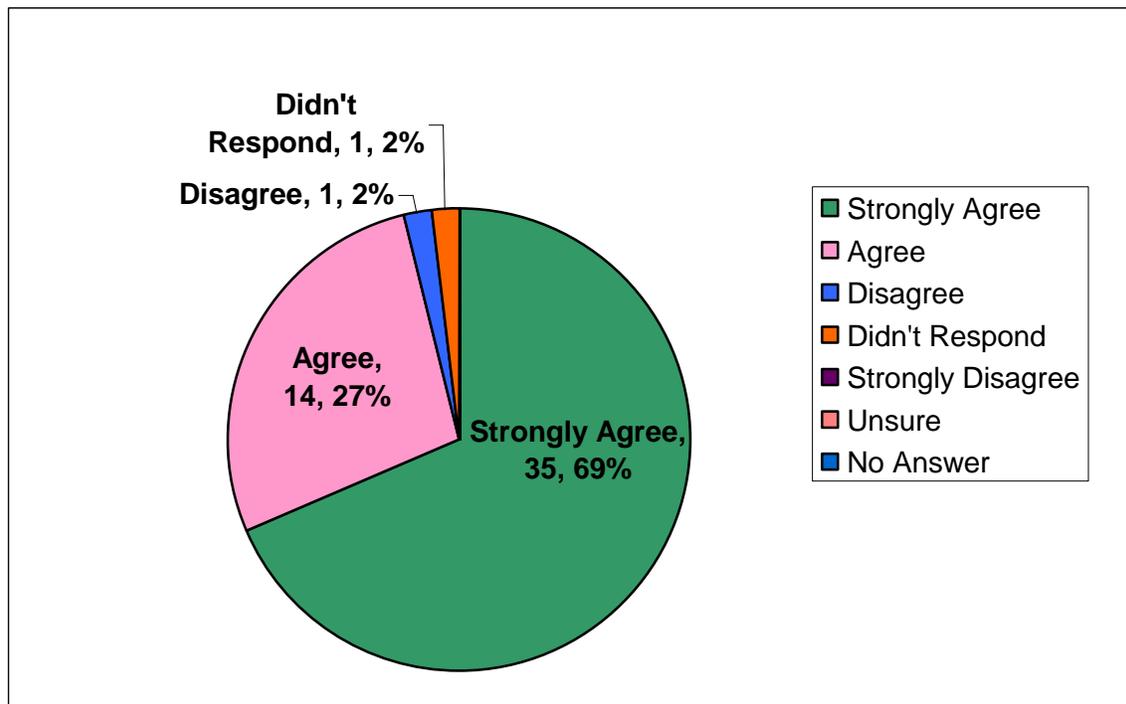


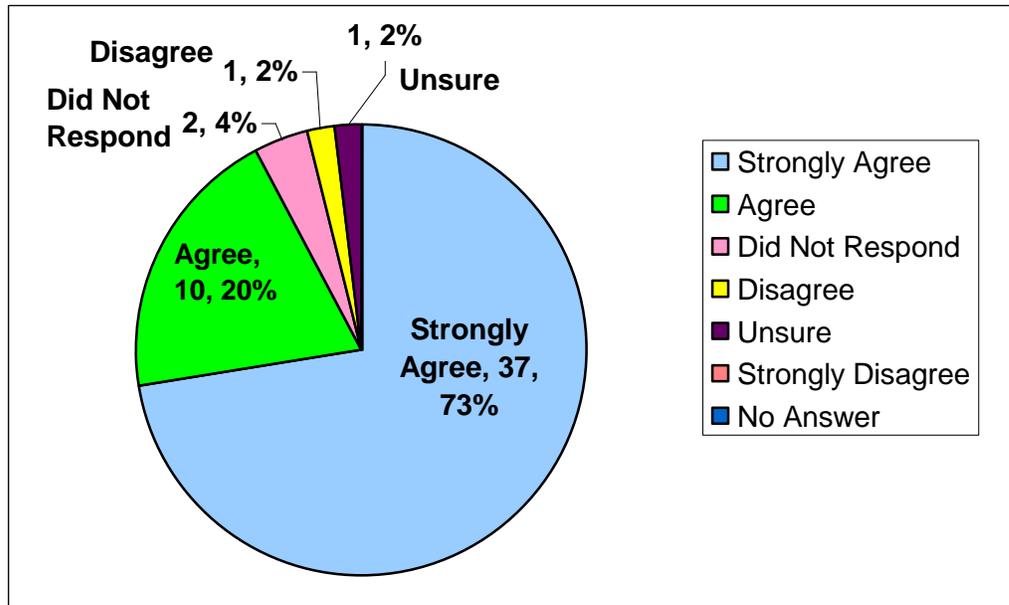
Figure 8 shows whether guardians felt their child would be willing to participate in a similar program again. Thirty-five respondents, or 69%, selected “Strongly Agree” to describe their feelings regarding the statement, and 14 respondents (27%) selected “Agree.” The combined total of these two responses is 96% expressing agreement with

the statement. Interestingly, there is only 2% difference between this sum and the sum of the “Agree” and “Strongly Agree” responses to the previous question (Figure 7) asking the guardians if they would be willing to let their children participate again. This finding suggests that programs where children read to dogs in after school centers and public libraries are something that guardians want their children to attend and in which children are willing participants.

10. My child enjoyed his or her experience reading to a dog or dogs.

Figure 9

Whether Guardians Felt Their Children Enjoyed Their Experiences Reading to Dogs



The data illustrated in Figure 9 show that an overwhelming majority of respondents felt that their children enjoyed their experiences reading to dogs. Thirty-seven respondents (or 73%) selected that they “Strongly Agree” with the statement, and

10 (or 20%) selected “Agree.” Together, 93% (or 47) of the 51 respondents selected either “Strongly Agree” or “Agree.” Of the four respondents who did not select “Agree” or “Strongly Agree,” one indicated that they “Disagree” and another selected “Unsure.” Two respondents did not answer the question.

11. Increasing the amount of time spent reading for pleasure

Figure 10

Whether Guardians Felt That Reading to Dogs Increased the Amount of Time Their Children Spent Reading for Pleasure

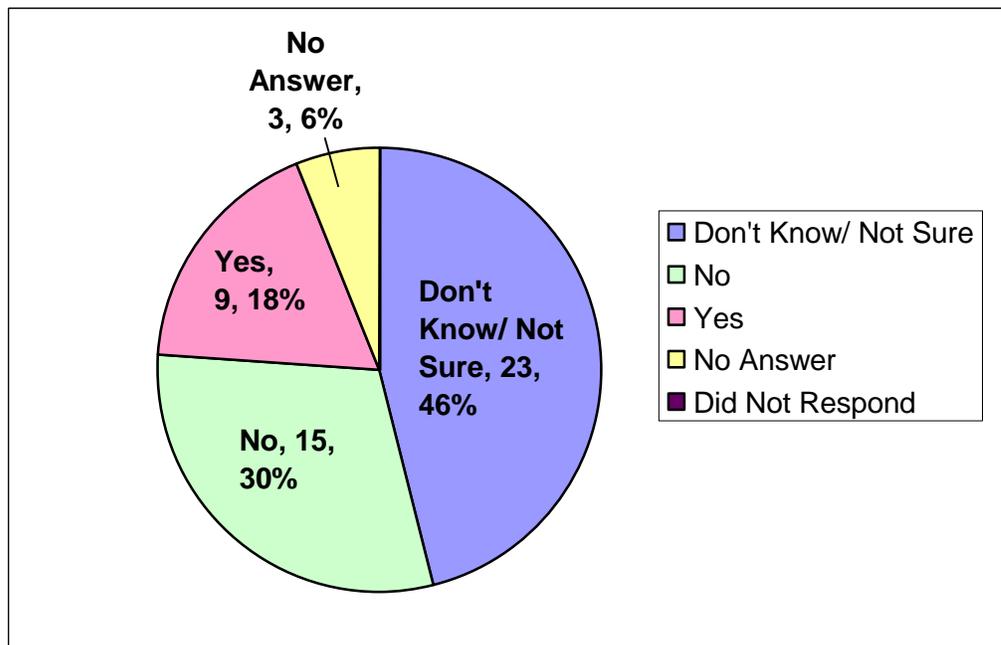


Figure 10 shows whether guardians felt that reading to dogs increased the amount of time their children spent reading for pleasure. Only 9 respondents (18%) selected “Yes.” While no one answer was selected more than 50% of the time, the most frequently-selected answer was “Don’t Know/Not Sure,” which was chosen by 23 respondents (46%). Fifteen respondents (30%) selected “No,” and three (6%) selected

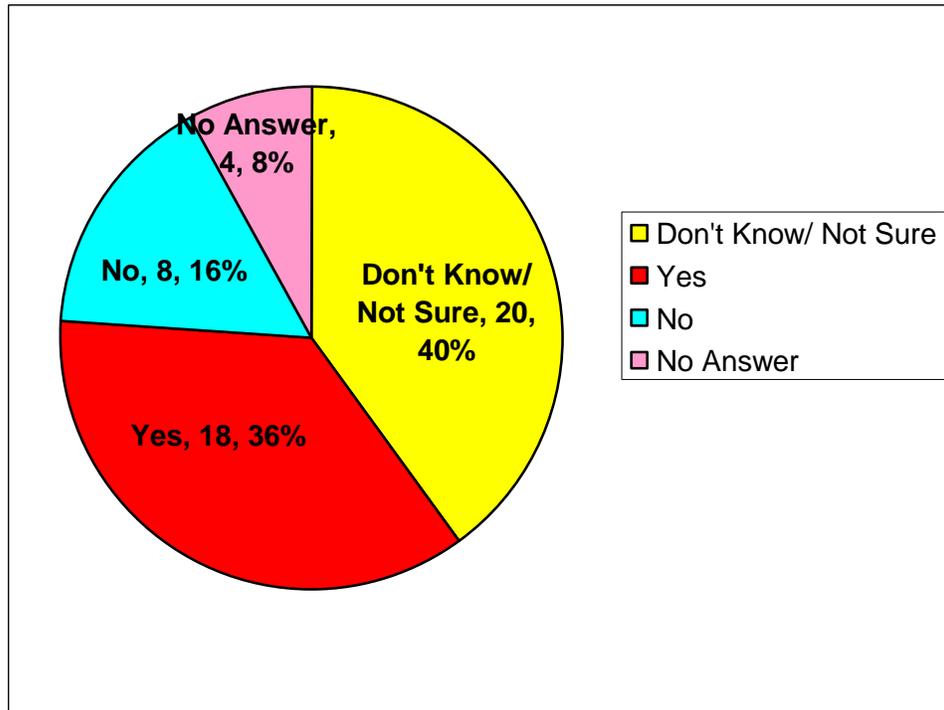
“No Answer.” This conforms to the researcher’s expectations, which predicted that due to most respondents’ children only having read to dogs one or two times, most of the respondents would not report seeing specific beneficial behaviors such as spending more time reading for pleasure.

It should be noted that this figure showing the results of this survey question represents 50 respondents, which is one less than the previous questions. This is because one participant’s response to this and the next four questions was disregarded because he or she did not answer the five questions in a conventional, measurable way. Instead, the respondent drew four arrows pointing to the “Yes” option for the four questions, and wrote underneath “I’m sure it would if she did it regularly but this is her first time.” For the fifth question, he or she wrote a hand-written comment instead, saying, “she already had a positive attitude.” These responses are difficult to interpret, because the respondent is not indicating that they have observed these behaviors, but instead he or she is predicting that they would see them in the future if the child continued the sessions. At the same time, if the researcher counted this participant’s response as “Did Not Respond” this would be inaccurate because he or she did respond, but it was not in a way that conformed to the instructions or that was measurable. The researcher chose to withdraw the participant’s response to these five questions rather than interpret the answer or inaccurately report it as “Did Not Respond.”

12. Improved fluency when reading aloud in front of other people

Figure 11

Whether Guardians Felt That Their Children Reading to Dogs Resulted In Displaying Improved Fluency When Reading Aloud in Front of Other People



The data illustrated in Figure 11 show whether guardians feel that reading to dogs resulted in their children displaying increased fluency when reading out loud to other people. While there is no clear majority, the most frequently-selected response was “Don’t Know/ Not Sure,” which was selected by 20 of the 50 respondents (40%). Eighteen respondents (36%) selected “Yes,” and 16% (8 respondents) selected “No.” Four respondents (8%) chose “No Answer.” The researcher expected the majority of the respondents to choose “Don’t Know/ Not Sure,” “No Answer,” or “No.” While those three choices made up 64% of the responses, 18 respondents (36%) answering “Yes” was

an unexpected result. The researcher predicted that guardians would not be able to notice an increase in fluency after only one or two sessions reading to dogs.

13. Being more willing to read aloud in front of other people

Figure 12

Whether Guardians Feel That Their Children Reading to Dogs Resulted in Being More Willing to Read Aloud in Front of Other People

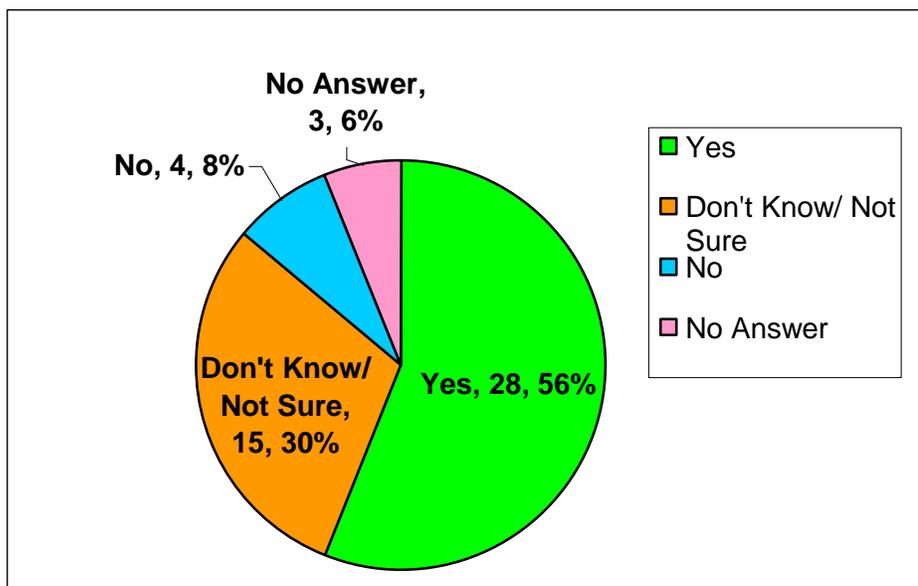
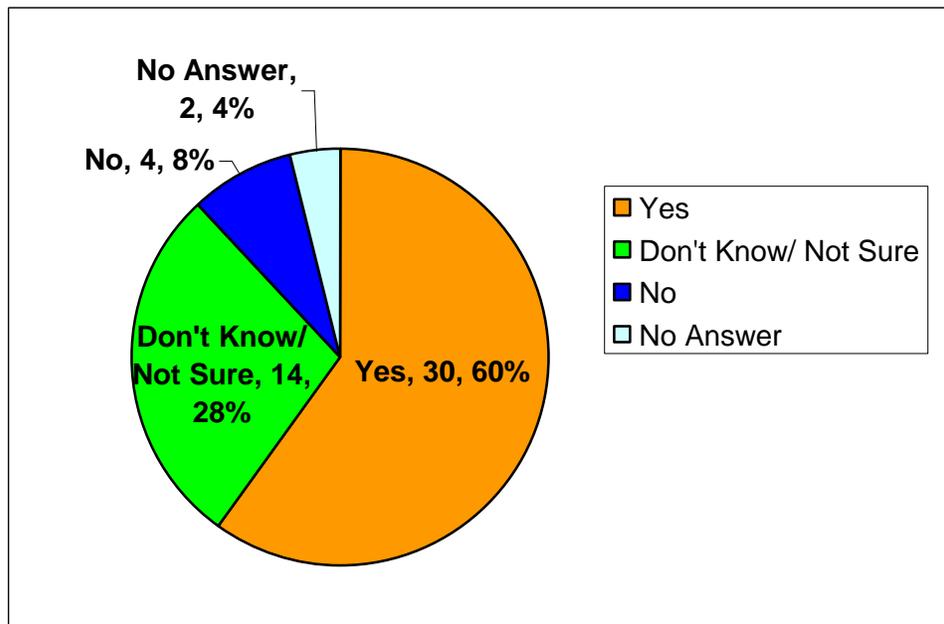


Figure 12 shows whether guardians feel that reading to dogs resulted in their children being more willing to read aloud in front of other people. Contrary to initial expectation, the majority (28 respondents, or 56%) selected “Yes.” The researcher did not expect guardians to be able to observe this behavior when almost all of the children had only read to dogs one or two times. Thirty percent (15 respondents) selected “Don’t Know/ Not Sure,” which is the response that the researcher had expected would be the majority. Four respondents (8%) selected “No,” and three (6%) selected “No Answer.”

14. An increase in confidence regarding reading

Figure 13

Whether Guardians Feel That Their Children Reading to Dogs Resulted in Displaying More Confidence Regarding Reading



The data illustrated in Figure 13 shows whether guardians feel that their children reading to dogs resulted in displaying an increase in confidence regarding reading. The majority of the respondents (30 participants, or 60%) selected “Yes,” which was contrary to initial expectations. Almost all of the children read to dogs a maximum of two times, and the researcher did not expect guardians to report this increase in confidence after so few sessions. The researcher had expected the majority of the respondents to select “Don’t Know/ Not Sure,” but only 14 respondents (28%) selected this response. Four respondents (8%) selected “No,” and two respondents (4%) selected “No Answer.”

15. A more positive attitude towards dogs

Figure 14

**Whether Guardians Feel That Their Children Reading to Dogs
Resulted in a More Positive Attitude Towards Dogs**

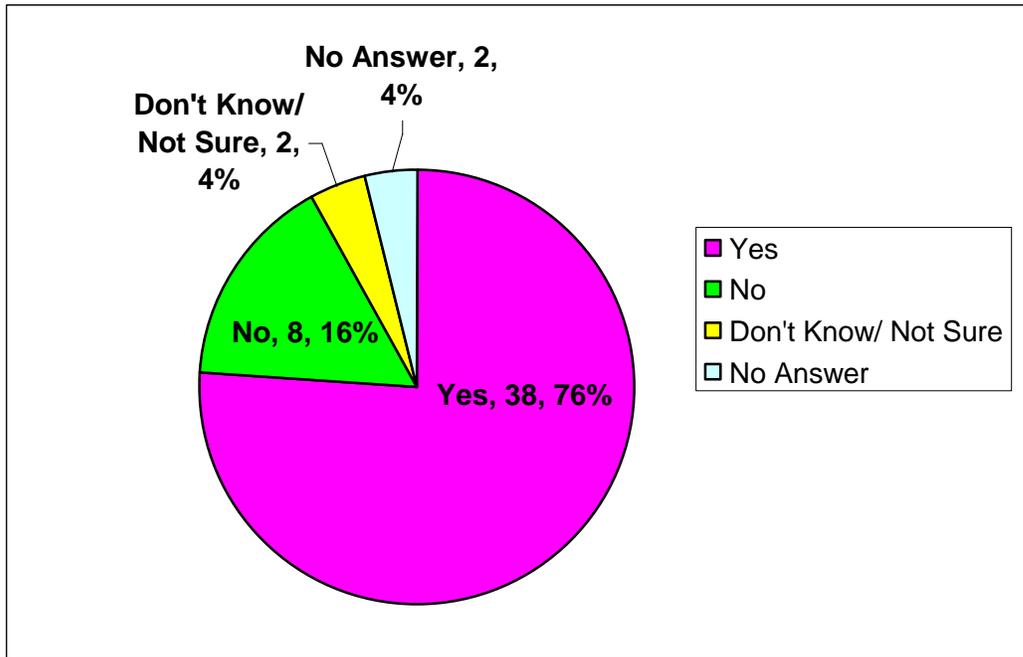


Figure 14 illustrates whether guardians feel that their children’s experience reading to dogs resulted in a more positive attitude towards dogs. Contrary to initial expectations, the overwhelming majority of the respondents (38 participants, or 76%) selected “Yes.” The researcher predicted that most of the children would have positive attitudes regarding dogs prior to reading to them, as evidenced by their agreement to read to dogs, and so reading to dogs would not necessarily result in an attitude improvement. However, the researcher included this question in the survey questionnaire in order to find out if any of the guardians felt that their children experienced an improved attitude towards dogs, especially among the children who may have been nervous around

dogs prior to their first reading session. Eight respondents, or 16%, selected “No.” Two participants each selected “Don’t Know/ Not Sure” and “No Answer.”

16. If you have any comments that you would like to share, negative or positive, related to your child's participation in a program where he or she read to a dog, please write them here. You may continue on the back if necessary.

In this section of the survey questionnaire, participants were invited to share comments regarding their children’s experience reading to dogs. Sixty-five percent of the respondents (33 out of the 51 total) included some kind of written comment. The comments were overwhelmingly positive.

Table 3

Participants' Comments Considered Positive

N=33 total comments (but many are included in more than one category)

Comment	Frequency of Response	Percent out of 33
Their child enjoyed it	20	61%
Noted that the child already liked dogs prior to session	6	18%
Mentioned child being interested in reading to dog at home	5	15%
Noted that child needs to read to dogs longer in order to see more of a difference (but wrote something else that was positive)	5	15%
Mentioned positive response for children who receive reading intervention services or have disabilities	4	12%
Child became more comfortable around dogs after previously being afraid	3	9%
General comment about benefits of program without specifically referring to his or her child	3	9%

Table 3 shows the participants' comments that were considered positive, divided into categories. More participants commented that their children enjoyed reading to dogs than any other comment. Twenty (60%) of the 33 participants who wrote comments noted that his or her child enjoying reading to dogs. For example, one respondent wrote "My daughter loved sharing the story and petting the dog while reading. She couldn't

believe the dog, Bailey, was looking at the pages she was reading!” The comment that appeared second most frequently was that the participant’s child already liked dogs prior to participating in the program. This was noted by eighteen percent (6 total) of the 33 participants who wrote comments, and likely referred to Question 15 on the questionnaire, which asked if participating in the program resulted in the child displaying a more positive attitude towards dogs. Three other respondents (9%) referred to Question 15, commenting that this program helped their children become more comfortable around dogs after previously being afraid.

Five participants (15% of the 33 who commented) reported that their children were interested in reading to their own dogs at home, which amounted to a continuation of the practice at home. One parent wrote “She would like to participate again and even specified what kind of book she would like to read to another dog- ironically- ‘Cat in the Hat.’ [She] expressed an interest in reading to our dog at home too!” In addition to a positive comment such as their child enjoying the experience, five participants also noted that his or her child would need to read to dogs for a longer period of time or for a greater number of sessions in order to see more results.

Four participants (12% of those who commented) noted that their children who have disabilities or receive reading intervention services responded positively to the program. This was unexpected, especially because the researcher assumed that many of the parents would not choose to volunteer that their children have difficulties. One parent wrote:

I was not present but I'm told by the director of the after school program that my daughter loved the experience. She has high-functioning autism, is very nervous

about dogs, and loves to read. She seemed very calm the entire evening after the reading. Perhaps this was a contributor.

Finally, three participants (9% of those who wrote comments) wrote generally about benefits from programs involving children reading to dogs without specifically referring to their children's experience. For example, one respondent commented "This is a great program to make children read to an 'undemanding' non-critical audience. It helps them to relax and enjoy a dog's company too!"

Table 4

Participants' Comments Considered Negative or Neutral

N=33 total comments (but many include more than one category)

Comment	Frequency of Response	Percent out of 33
Noted that child needs to read to dogs longer in order to see a difference (without writing something else positive)	1	3
Suggestion of how to do it better	1	3
Child was uncomfortable	1	3
Child was confused	1	3

While the positive comments made up the overwhelming majority, there were four comments that could be considered negative or neutral. Table 4 shows these four comments. One of these noted that the child was uncomfortable reading to the dog, and

another stated that the child was unsure why she was reading to a dog (although the respondent noted that the child enjoyed the experience). The third respondent’s comment that was considered negative or neutral suggested that the program would be improved if children sat in small groups taking turns reading to a dog. In addition, one respondent noted that his or her child would need to read to a dog for approximately 2 or 3 months in order to notice a change. While five other respondents wrote that their children would need to read to dogs longer in order to see a difference, this respondent’s comment was considered neutral because this respondent was the only one who did not also add a positive note, such as the child enjoying him or herself.

Public Libraries in Nassau County That Have Held Programs

Involving Children Reading to Dogs

Figure 15

Number of Public Libraries in Nassau County That Have Held Programs

Involving Children Reading to Dogs

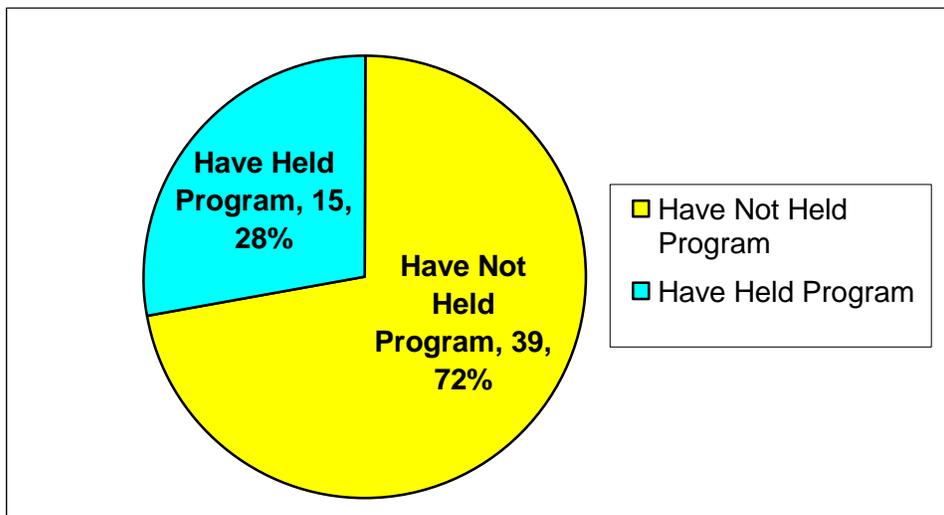


Figure 15 illustrates that of the 54 public libraries in Nassau County making up the Nassau Library System, 15 (28%) have held at least one program where children read to dogs. Thirty-nine (72%) have not. As expected, the majority of the libraries in Nassau County have not held these programs. However, the number of the libraries that have held these programs was higher than the researcher's initial expectation.

Summary of the Findings

RQ 1. How is reading to dogs in public libraries and after school programs beneficial for children?

The results of the survey questionnaire show that the vast majority of the respondents considered their children's participation in programs involving reading to dogs in public libraries and after school programs beneficial, and would be willing to allow them to participate again. In addition, almost all of the guardians also felt that their children enjoyed themselves and would be willing to read to dogs in additional sessions. These findings reveal guardians' perception that the programs are generally beneficial and enjoyable.

In an attempt to identify specific benefits relating to programs where children read to dogs in public libraries and after school centers, the survey questionnaire asked respondents about certain behaviors. The most frequently-reported benefit was a more positive attitude towards dogs that guardians felt resulted from the child's participation in this type of program, which was reported by 76% of the respondents. Another benefit appears to be an increase in confidence regarding reading, as reported by 60% of the participants. In addition, 56% of the guardians felt that participating in programs

involving children reading to dogs resulted in their child being more willing to read aloud in front of other people. While only 36% of the participants reported noticing an improvement in their child's fluency while reading aloud in front of others, it is still beneficial for those 36%. This is also true for the 18% of the guardians who reported that their children spent more time reading for pleasure as a result of their participation. While this number is far from the majority, reading to dogs appears to have made a big difference for this 18% of the children.

These findings partially support the first hypothesis. This hypothesis predicted that while the respondents would report that their children enjoyed their experience and would be willing to read to dogs again, they would not necessarily report that the children exhibited the specific beneficial behaviors because of their experience. The overwhelming majority of the respondents reported that their children enjoyed the experience and would be willing to repeat it, but the majority of participants also reported observing three of the five specific benefits (a more positive attitude towards dogs, an increase in confidence regarding reading, and being more willing to read out loud in front of other people).

The second hypothesis is also partially supported by the findings. This hypothesis predicted that the guardians of children who attended the most sessions would be the most likely to report noticing an improvement in fluency when reading aloud in front of other people and increases in reading motivation and skills. Of the 50 respondents who revealed how many sessions their child read to a dog, 37 participated one time, 12 participated twice, and one child participated nine times. Table 5 (below) shows the percentage of respondents whose children read to dogs once as well as the percentage of

respondents whose children read to dogs two or nine times. Unexpectedly and contrary to the hypothesis, 18% fewer respondents whose children read to dogs two or nine times reported an increase in the amount of time spent reading for pleasure than those whose child participated in only one session. In addition, 7% fewer respondents whose children participated multiple times reported observing improved fluency when reading aloud in front of other people when compared with the respondents whose children read to dogs for only one session. However, guardians of children who participated in multiple sessions were more likely to report observing that their child had become more willing to read aloud in front of other people, showed an increase in confidence regarding reading, and had a more positive attitude towards dogs. The findings regarding these last three specific benefits support the hypothesis.

Table 5

**Specific Benefits Reported By Respondents Whose Children Read to Dogs Once and
2-9 Times, in Percentages**

	Yes	No	Do Not Know/ Not Sure	Did Not Respond
Increasing the amount of time spent reading for pleasure				
Percent Whose Child Read to Dogs Once	22%	24%	46%	8%
Percent Whose Child Read to Dogs 2-9 times	8%	46%	46%	0
Improved fluency when reading aloud in front of other people				
Percent Whose Child Read to Dogs Once	38%	14%	38%	11%
Percent Whose children read to dogs 2-9 times	31%	23%	46%	0
Being more willing to read aloud in front of other people				
Percent Whose Child Read to Dogs Once	54%	5%	32%	8%
Percent Whose Child Read to Dogs 2-9 times	62%	15%	23%	0
An increase in confidence regarding reading				
Percent Whose Child Read to Dogs Once	54%	8%	32%	5%
Percent Whose Child Read to Dogs 2-9 times	77%	8%	15%	0
A more positive attitude towards dogs				
Percent Whose Child Read to Dogs Once	70%	19%	5%	5%
Percent Whose Child Read to Dogs 2-9 times	92%	8%	0	0

Interestingly, the respondent whose child participated in nine sessions selected “Don’t Know/ Not Sure” to the questions asking if the participant thought the sessions resulted in displaying an increase in the amount of time spent reading for pleasure and improved fluency when reading aloud in front of other people. This is the opposite of what was predicted in the hypothesis, although the respondent answered “Yes” to the next three questions concerning the specific benefits.

CHAPTER V:

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

Summary

The purpose of this exploratory study was to find out what, if any, benefits result from children reading to dogs in public libraries and after school centers. In addition, this project also sought to find out precisely how many of the public libraries in the Nassau Library System in Nassau County, New York have hosted this type of program. The lack of research pertaining specifically to these types of programs as they occur in public libraries and after school centers made this exploratory study especially important.

Initially the researcher predicted that the survey would find that the subjects would report that their children enjoyed their experience reading to dogs or that they and/or their children would be willing to participate in a similar program at a different time. However, the researcher did not think the subjects would report seeing their children exhibit specific beneficial behaviors because of their participation in the programs. This was mainly because it was assumed that most of the children would have only read to dogs for one or two sessions that last approximately 30 minutes, and so the researcher thought it would be unlikely that the subjects would report seeing specific benefits after such a short time participating. Related to this idea is the other prediction that the subjects whose children attended the most sessions would be the most likely to report seeing specific benefits.

In order to investigate the possible benefits of these types of programs, the researchers utilized a survey methodology, with a survey questionnaire serving as the instrument. Survey questionnaires were distributed at an after school center and public

libraries that were holding this type of program or had held them in the recent past. A version of the survey questionnaire was also available online, but no subjects chose to submit their questionnaire using this format. In addition, recruitment fliers giving the website URL of the online survey questionnaire were distributed to four public libraries that had held these programs previously. A total of 324 survey questionnaires were distributed, although it is likely that many of them were not received by the subjects, and 51 were returned.

Examining how many public libraries in Nassau County had hosted programs where children read to dogs required a different methodology. First, the researcher asked the human member of a therapy dog team to identify the libraries in Nassau County that hosted them. Next, the researcher looked at the website of each of the 54 libraries that make up the Nassau Library System, and tried to find any mention of programs involving dogs. The researcher then called the remaining 48 libraries and asked a children's librarian in each if they had ever held a program where children read to dogs.

Conclusions

These survey results suggest that programs where children read to dogs in public libraries and after school centers are beneficial. Guardians overwhelmingly reported that their children enjoyed their experiences and that guardians and children would both be willing to participate again, as was expected. The majority of the subjects also revealed their belief that participation in the program led to their child displaying a more positive attitude towards dogs, an increase in confidence regarding reading, and being more willing to read aloud in front of other people. In addition, 36% of the participants reported noticing an improvement in their child's fluency while reading aloud in front of

others and 18% of the guardians reported that their children spent more time reading for pleasure as a result of their participation. While the majority of the respondents did not report these last two specific benefits, the results represent a significant number of children who benefited from reading to dogs in these additional ways. Despite the fact that all but one of the children participated in a maximum of two sessions reading to dogs, guardians reported seeing many beneficial behaviors that they believe are related to their children's participation in these programs.

These findings suggest that programs where children read to dogs in public libraries and after school centers are beneficial and enjoyable activities. Reading to one dog for 20 minutes may not dramatically increase a child's reading fluency and is not likely to result in an immediate improvement in test scores. However, the survey results suggest that attitude changes and increases in confidence are likely, and these are certainly beneficial behaviors.

This study also revealed that 28% of the public libraries in Nassau County had hosted programs involving children reading to dogs as of August 2007, which is more than the researcher had initially expected. While the majority of the libraries in Nassau County have not yet hosted this type of program, a possible incidental benefit of this project is that it may have raised awareness of programs where children read to dogs. Some of the librarians who the researcher spoke to over the phone reacted in a way that implied unfamiliarity with these types of programs. Because of this project, each library in the Nassau Library System now has at least one children's librarian who has heard of programs where children read to dogs. This may lead to an increase in the number of public libraries in Nassau County hosting the program

Recommendations

Due to time and geographic constraints, this study was limited to public libraries and after school centers in Nassau County. While this allowed the researcher to thoroughly cover one geographic area, this choice considerably limited the sampling. The short-term and temporary nature of these programs in after school centers and public libraries meant that very few of the public libraries were holding these programs at the time of the survey distribution. The researcher recommends for future research a larger sample covering a larger geographic area, in addition to allowing more time for the distribution and return of survey questionnaires. Another related recommendation for future research is conducting a follow-up study to see how many of the libraries in the Nassau Library System have held the programs as of a year or longer past this study's August 2007 cutoff. This would allow researchers to investigate any increase in the number of libraries holding these types of programs within this geographic area. It would also provide an opportunity to see if a potential increase in awareness of the programs resulting from contacting the libraries for this completed project had any effect.

An additional limitation of the study is that so much centers on the guardians' perception of how the programs affected their children. Future research that allows the children to describe how they feel the program affected them would allow investigators to get right to the source. Comparing what the children describe with their guardians' observations could also be revealing.

The programs where children read to dogs taking place in public libraries and after school centers are typically very different from the long-term programs where children read to dogs in schools for numerous sessions. However, due to the paucity of

research focusing on either type of program, this researcher recommends future research studying these programs as they take place in both types of settings. There have been no large-scale studies of either of these types of programs published in a refereed journal. In fact, there have been no large-scale studies published at all. The researcher recommends for future research a large-scale, controlled study of a program in which the same children read to dogs over the course of numerous sessions. The children's reading should be tested using a standardized instrument before the first session, throughout their participation in the program, and after the last session. In addition, a control group of children who do not read to dogs should also be tested at the same intervals. If a study conducted in this way finds benefits from long-term programs reading to dogs, it can give legitimacy to the short-term programs taking place in public libraries and after school centers. This type of study focused on the programs as they take place in public libraries and after school centers would not be practical or realistic due to the short-term nature of these programs, but positive results from long-term participation could suggest that participation in a short-term program could also be beneficial.

Appendix A (IRB approval)

Appendix B

April 24, 2007

Dear Parent or Guardian,

My name is Mary Shannon. I am a Graduate student working under the direction of Professor Cool in the Graduate School of Library and Information Studies at Queens College. I am conducting a project dealing with children reading to dogs. The purpose of this project is to find out how children may benefit from these types of programs, especially as perceived by parents/guardians of children who have read to dogs. Your participation in this project will involve completing the attached survey.

Your participation in this study is voluntary. If you choose not to participate, there will be no effect on any services that you might receive from Queens College in the future. If you choose to participate, the possible benefit of your participation is that it contributes to the small but growing body of literature about programs involving children reading to dogs. Your responses to this questionnaire will be completely confidential, and it is preferred that you do not identify yourself in any way on the survey. Reports will not include any information that will make it possible to identify a participant.

If you choose to participate, please return the attached survey in the enclosed self-addressed stamped envelope by July 1, 2007. An online version is also available at <http://www.readtothedogs.org>. Please note that responses to the online version of the questionnaire will technically not be anonymous because Internet IDs can be traced. However, responses will be completely confidential.

If you have any questions about this project please call me at (516) 867-6084 or email me at MaryKateShannon@yahoo.com. My professor, Dr. Colleen Cool, can be reached at (718) 997-3788. Return of the enclosed questionnaire will be considered your consent to participate.

Thank you very much for your time.

Sincerely,

Mary Shannon

Appendix B

Thank you for participating in this study! Please answer the following questions, keeping in mind that you may skip any questions at any time.

When you are finished, please send in the enclosed self-addressed stamped envelope, or return to:

**Mary Shannon
1730 Charlson Court
Merrick, NY 11566**

This survey is also available online at <http://www.readtothedogs.org>

How old is your child who has participated in at least one program where he or she read to a dog?

- | | |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> 3 or younger | <input type="checkbox"/> 8 |
| <input type="checkbox"/> 4 | <input type="checkbox"/> 9 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 10 |
| <input type="checkbox"/> 6 | <input type="checkbox"/> 11 |
| <input type="checkbox"/> 7 | <input type="checkbox"/> 12 or older |

What gender is your child?

- | | |
|-------------------------------|---------------------------------|
| <input type="checkbox"/> male | <input type="checkbox"/> female |
|-------------------------------|---------------------------------|

Where did your child participate in a program where he or she read to a dog? (Please check off ALL that apply)

- | |
|--|
| <input type="checkbox"/> Public Library |
| <input type="checkbox"/> After School Center or Program |
| <input type="checkbox"/> School (NOT After School Program) |
| <input type="checkbox"/> Other _____ |
| _____ |
| _____ |
| _____ |

To the best of your knowledge, how many sessions has your child attended where he or she read to a dog in a public library or after school program?

- | | |
|----------------------------|-------------------------------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 6 |
| <input type="checkbox"/> 2 | <input type="checkbox"/> 7 |
| <input type="checkbox"/> 3 | <input type="checkbox"/> 8 |
| <input type="checkbox"/> 4 | <input type="checkbox"/> 9 |
| <input type="checkbox"/> 5 | <input type="checkbox"/> 10 or more |

Please place a checkmark in the box with the answer best expressing how you feel.

Do you think the session(s) reading to a dog have resulted in your child displaying any of the following things?

Yes	No	Don't Know/ Not Sure	No Answer	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Increasing the amount of time spent reading for pleasure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Improved fluency when reading aloud in front of other people
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Being more willing to read aloud in front of other people
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	An increase in confidence regarding reading
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A more positive attitude towards dogs

If you have any comments that you would like to share, negative or positive, related to your child's participation in a program where he or she read to a dog, please write them here. You may continue on the back if necessary.

Thank you again for participating!

Appendix C

Did Your Child Read To a Dog?



- Was it in a public library or after school program in Nassau County?
- If so, you can participate in a survey!

My name is Mary Shannon, and I am a Graduate Student at Queens College working on a project about the possible benefits of children reading to dogs. No names or identifying information from the surveys will be used in the project.

The survey is available online at <http://www.readtothedogs.org> and as a paper copy. If you have any questions, please email me at MaryKateShannon@yahoo.com.

Thank you very much!

<http://www.readtothedogs.org>
marykateshannon@yahoo.com

References

- Allington, R. & Strange, M. (1980). *Learning through reading in the content areas*.
Lexington, Massachusetts: D. C. Heath and Company.
- Alvermann, D.E. (2003). *Seeing themselves as capable and engaged readers: Adolescents and re/mediated instruction*. Retrieved from May 18, 2007, from <http://www.learningpt.org/pdfs/literacy/readers.pdf>
- American Pet Products Manufacturers Association, Inc. (n.d.) *Industry statistics & trends*. Retrieved April 1, 2007, from http://www.appma.org/press_industrytrends.asp
- Babbie, E. (2007). *The practice of social research* (11th ed.). Belmont, CA: Thomson Wadsworth.
- Beck, A. M. (2000). The use of animals to benefit humans: Animal-assisted therapy. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 21-40). San Diego: Academic Press.
- Beck, A. M. & Katcher, A. (1996). *Between pets and people: The importance of animal companionship* (Rev. ed.). West Lafayette, IN: Purdue University Press.
- Burch, M. R. (2003). *Wanted! Animal volunteers* (Rev. ed.). New York: Howell Book House.
- Cavallo, S. (2005, Summer). Sit, stay, read! Someone to believe in them. *Healing Connections*. Retrieved May 19, 2007, from <http://www.handinpaw.org/summer-2005.pdf>
- Clark, C. L. C. (2003). Animal-assisted therapy: The feasibility of a Greater Victoria Public Library reading program for children with canine reading partners.

- Unpublished master's thesis, University of Victoria, Victoria, British Columbia, Canada.
- Delta Society. (n.d.) *Introduction to animal-assisted activities and therapy (AAA/AAT)*. Retrieved April 4, 2007, from <http://www.deltasociety.org/AnimalsAAAAbout.htm>
- DeMello, L. R. (1999). The effect of the presence of a companion-animal on physiological changes following the termination of cognitive stressors. *Psychology and Health, 14*, 859-868. Retrieved March 25, 2007, from Academic Search Premier.
- Duncan, S. L. (1998). The importance of training standards and policy for service animals. In Wilson, C. C. & Turner, D. C. (Eds.), *Companion animals in human health* (pp. 251-267). Thousand Oaks, CA: Sage.
- Duncan, S. L. & Allen, K. (2000). Service animals and their roles in enhancing independence, quality of life, and employment for people with disabilities. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 303-323). San Diego: Academic Press.
- Dunham, A. A. (2006). *Literacy program with school aged children and the use of therapy dogs: Wagging Tails for Reading*. Unpublished master's thesis, University of Puget Sound.
- Fine, A. (2000). Animals and therapists: Incorporating animals in outpatient psychotherapy. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 179-211). San Diego: Academic Press.

- Friedmann, E., Katcher, A. H., Thomas, S. A., Lynch, J. J., & Messent, P. R. (1983). Social interaction and blood pressure: Influence of companion animals. *Journal of Nervous and Mental Disease*, 171(8), 461-465.
- Gerben, R. (2003). Kids + dogs = Combination for paw-rrific reading adventures. *Interactions*, 21(2), 4-8. Retrieved March 25, 2007, from <http://www.deltasociety.org/download/kidsplusdogs.pdf>
- Granger, B. P. & Kogan, L. (2000). Animal-assisted therapy in specialized settings. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 213-236). San Diego: Academic Press.
- Hart, L. A. (2000a). Methods, standards, guidelines, and considerations in selecting animals for animal-assisted therapy. Part A: Understanding animal behavior, species, and temperament as applied to interactions with specific populations. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 81-97). San Diego: Academic Press.
- Hart, L. A. (2000b). Psychosocial benefits of animal companionship. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 59-78). San Diego: Academic Press.
- Havener, L., Gentes, L., Thaler, B., Megel, M. E., Baun, M. M., Driscoll, F. A., et al. (2001). The effects of a companion animal on distress in children undergoing dental procedures. *Issues in Comprehensive Pediatric Nursing*, 24, 137-152. Retrieved March 25, 2007, from Academic Search Premier.
- Healy, P. (2003, December 10). Nursing homes face challenge as the young fill the beds. *New York Times*. Retrieved April 8, 2007, from <http://www.newyorktimes.com>

- Healy, P. (2004, February 9). 889 nursing home beds in need of a treatment plan: Chronic ills threaten an aging Long Island care center. *New York Times*. Retrieved April 8, 2007, from <http://www.newyorktimes.com>
- Hooker, S. D., Freeman, L. H., Stewart, P. (2002). Pet therapy research: A historical review. *Holistic Nursing Practice, 16*(5), 17-23. Retrieved March 31, 2007, from Health Source: Nursing/Academic Edition.
- Hughes, K. (2002). See spot read. *Public Libraries, 41*(6), 328-330. Retrieved February 13, 2007, from Library & Information Science (Wilson).
- Intermountain Therapy Animals (2004, March 1). *R.E.A.D.[®] program - 'Tails From The Field.'* Retrieved May 19, 2007, from http://www.therapyanimals.org/read/view_article.php?articleID=106
- Intermountain Therapy Animals (2006, January 21). *Reading Education Assistance Dogs (R.E.A.D.[®]) frequently asked questions.* Retrieved April 8, 2007, from http://www.therapyanimals.org/read/view_article.php?articleID=86#28
- Jalongo, M. R. (2005). 'What are all these dogs doing at school?' *Childhood Education, 81*(3), 152-158. Retrieved February 13, 2007, from ProQuest Research Library.
- Jalongo, M. R., Astorino, T., & Bomboy, N. (2004). Canine Visitors: The influence on therapy dogs on young children's learning and well-being in classrooms and hospitals. *Early Childhood Education Journal, 32*, 9-16. Retrieved February 13, 2007, from ProQuest Research Library.
- Jenkins, J. L. (1986). Physiological effects of petting a companion animal. *Psychological Reports, 58*(1), p. 21-22.

- Kaymen, M. S. (2005). Exploring animal-assisted therapy as a reading intervention strategy (ERIC Document Reproduction Service No. ED E D490729). Retrieved May 20, 2007, from ERIC.
- Kotrschal, K. & Ortbauer, B. (2003). Behavioral effects of the presence of a dog in a classroom. *Anthrozoös*, 16, 147-159.
- Kruger, K. A. & Serpell, J. A. (2006). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (2nd ed., pp. 21-38). Boston: Elsevier/Academic Press.
- Martin, S. (2001). R.E.A.D. is a pawsitive program for kids of all ages. *Interactions*, 19(3). Accessed February 13, 2007, from <http://www.deltasociety.org/VolunteerArticlesRead.htm>
- Morey, D. F. (2006) Burying key evidence: The social bond between dogs and people. *Journal of Archaeological Science*, 33, 158-175. Retrieved March 31, 2007, from ScienceDirect.
- Nagengast, S. L., Baun, M. M., Megel, M., & Leibowitz, J. M. (1997). The effects of the presence of a companion animal on physiological arousal and behavioral distress in children during a physical examination. *Journal of Pediatric Nursing*, 72, 323-329. Retrieved March 25, 2007, from ScienceDirect Journals.
- National Institutes of Health. (1987, September 10-11). *The health benefits of pets. NIH Technology Assess Statement Online 1987 Sep 10-11*. Retrieved April 1, 2007, from <http://consensus.nih.gov/1987/1987HealthBenefitsPetsta003html.htm>

- Newlin, R. B. (2003) Paws for reading: An innovative program uses dogs to help kids read better. *School Library Journal*, 49(6), 43. Retrieved March 25, 2007, from ProQuest Research Library.
- Parshall, D. P. (2003). Research and reflection: Animal-assisted therapy in mental health settings. *Counseling and Values*, 48, 47-56. Retrieved March 25, 2007, from Academic Search Premier.
- Phillips, B. N. (1978). *School stress and anxiety: Theory, research, and intervention*. New York: Human Sciences Press.
- Reichert, E. (1998). Individual counseling for sexually abused children: A role for animals and storytelling. *Child and Adolescent Social Work Journal*, 15, 177-185. Retrieved October 4, 2007, from Academic Search Premier.
- Savolainen, P., Zhang, Y., Luo, J., Lundeberg, J., & Leitner, T. (2002). Genetic evidence for an East Asian origin of domestic dogs. *Science*, 298, 1610-1613. Retrieved March 31, 2007, from <http://www.sciencemag.org/cgi/reprint/298/5598/1610.pdf>
- Scofield, J. (Producer/Director). (2005, June 15). *Jane Goodall: When animals talk* [Television broadcast]. Silver Spring, Maryland: Discovery Communications, Inc./Animal Planet.
- Serpell, J. A. (2000). Animal companions and human well-being: An historical exploration of the value of human-animal relationships. In Fine, A. H. (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (pp. 3-19). San Diego: Academic Press.
- Siegel, W. L. (2004). The role of animals in education. *ReVision*, 27(2), 17-26. Retrieved March 31, 2007, from Academic Search Premier.

- Strimple, E. O. (2003). A history of prison inmate–animal interaction programs. *American Behavioral Scientist*, 47, 70-78. Retrieved April 1, 2007, from ABI/INFORM Global.
- U.S. Department of Justice. (2002, April). ADA business brief: Service animals. Retrieved March 31, 2007, from <http://www.usdoj.gov/crt/ada/svcabrs3.pdf>
- Vormbrock, J. K. & Grossberg, J. M. (1988) Cardiovascular effects of human-pet dog interactions. *Journal of Behavioral Medicine*, 11, 509-517. Abstract retrieved March 25, 2007, from Dialog MedLine.
- Wendt, L. M. (1996). Dogs: A historical journey. The human/dog connection through the centuries. New York: Howell Book House.
- Yoong, S. (2007, April 10). DVD-sniffing dogs to stay in Malaysia. *Yahoo! News*. Retrieved April 11, 2007, from http://news.yahoo.com/s/ap/20070410/ap_en_mo/malaysia_movie_piracy

Author Index

A

Allen, Karen, 13
 Allington, Richard, 31-32
 Alvermann, Donna E., 32
 American Pet Products Manufacturers
 Association, Inc., 11
 Astorino, Terri, 13, 18, 25

B

Babbie, Earl, 43
 Baun, Mara M., 23, 24
 Beck, Alan M., 13-14, 16, 19, 21
 Beiraghi, Soraya, 23
 Bomboy, Nancy, 13, 18, 25
 Burch, Mary R., 13-16, 25

C

Cavallo, Sheila, 2, 33
 Clark, Catherine Louise Carter, 2, 24,
 27-31, 33-34, 37-38

D

Delta Society, 15-16
 DeMello, Lesley R., 21-23
 Driscoll, Frank A., 23
 Duncan, Susan L., 13
 Dunham, Arin A., 2, 36

F

Fine, Aubrey, 17-19, 25
 Freeman, Linda Holbrook, 13-14, 16
 Friedmann, Erika, 4, 20

G

Gentes, Lisa, 23
 Gerben, Rebecca, 26, 27
 Granger, Ben P., 2, 18, 32
 Grossberg, John M., 21

H

Hart, Lynette A., 12, 19-20, 31
 Havener, LeAnn, 23
 Healy, Patrick, 20
 Hooker, Shirley D., 13-14, 16
 Hughes, Kathleen, 2, 6, 27, 38

I

Intermountain Therapy Animals, 2, 26-
 33

J

Jalongo, Mary Renck, 13, 18, 25-26, 28-
 29, 31
 Jenkins, Judy L., 21

K

Katcher, Aaron, 4, 13-14, 16, 20-21, 25
 Kaymen, Maria S., 2, 30-32, 35-36
 Kogan, Lori, 2, 18, 32
 Kotrschal, Kurt, 25
 Kruger, Katherine A., 15

L

Leibowitz, J. Michael, 24
 Leitner, Thomas, 11
 Lundeberg, Joakim, 11
 Luo, Jing, 11
 Lynch, James J., 4, 20-21

M

Martin, Sandi, 2, 4-6, 27, 29-34, 37
 Megel, Mary, 23, 24
 Messent, Peter R., 4, 20
 Morey, Darcy F., 12

N

Nagengast, Sunny Lyn, 24
National Institutes of Health, 14
Newlin, Robin Briggs, 2, 35

O

Otbauer, Brita, 25

P

Parshall, Debra Phillips, 13, 16-17, 19
Phillips, Beeman N., 32

R

Reichert, Elisabeth, 18

S

Savolainen, Peter, 11
Scofield, Joanne, 18
Serpell, James A., 13-14, 18
Siegel, Wendy Lowe, 4-5, 25-27
Stewart, Pamela, 13-14, 16
Strange, Michael, 31-32
Strimple, Earl O., 14

T

Thaler, Barbara, 23
Thomas, Sue A., 4, 20

U

U.S. Department of Justice, 12

V

Vormbrock, Julia K., 21

W

Wendt, Lloyd M., 11

Y

Yoong, Sean, 12

Z

Zhang, Ya-ping, 11

Subject Index

A

- aliteracy, 32
- animal-assisted activities, 15-16, 19-21, 27, 29, 38-40, definition, 16
- animal-assisted therapy, 15-16, 19-21, 27-28, 32, 34, 35, 38 definition, 15
- animals
 - physical calming effects, 4, 20-24, 30
 - therapeutic use, 11, 13-18, 38, 40
 - counseling, 16-18
 - early history, 13-15

C

- consent letter, 43-44

D

- Delta Society, 30
- dogs
 - see* pets, guide dogs, hearing dogs, reading to dogs, seizure dogs, service dogs

G

- guide dogs, 4, 13, 29
 - see also* service dogs

H

- hearing dogs, 13
 - see also* service dogs

I

- instrumentation, 45

M

- methodology, 74-75

P

- pets, 4, 11, 14, 21-22, 25

R

- reading, 2-11, 20, 26-58, 60-70, 72-77, 86-91
- reading to dogs, 3-7, 9-10, 31-40, 45-47, 55-58, 60-67, 70, 74, 76, 78
- anecdotal reports, 2, 6, 31, 33-34, 37-40, 45
- possible benefits
 - improved attitude towards dogs, 10, 33, 59, 63, 66, 69-72, 75-76
 - increase in time spent reading 9, 58-59, 70-73, 76
 - increased confidence towards reading 2, 6, 10, 33-34, 37, 62, 69-72, 75-76
 - increased reading fluency, 9, 42, 60, 70, 72, 73, 75, 76
 - increased self-esteem, 32-34
- programs in public libraries and after school centers, 2-3, 5-10, 26-30, 34-35, 37-43, 46-47, 50-51, 57, 68-69, 74-77, 86, 89, 91
- programs in schools, 2-3, 6, 26-27, 34, 77
- Reading Education Assistance Dogs (R.E.A.D.) 26-35, 37, 89-90
- recruitment flier, 43, 75, 85
- research questions, 7, 40, 45-47
- return rate, 47

S

- seeing-eye dogs
 - see* guide dogs
- seizure dogs, 13
 - see also* service dogs
- service dogs, 4, 11-13, 25, 29
 - see also* guide dogs, hearing dogs, seizure dogs
- stress, 19, 24, 31
- survey questionnaire, 7, 9, 35-36, 41-47, 53, 63-64, 69, 74, 77, 82-84

W

- working dogs, 11, 12