

Exploring Animal-Assisted Programs with Children in School and Therapeutic Contexts

Lori Friesen

Published online: 6 October 2009
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Abstract Animal-Assisted programs with children are becoming increasingly popular in school and therapeutic settings. This article provides an overview of the benefits accrued by children as well as the concerns with programs which involve animals, and therapy dogs in particular, in these environments. Research over the past 30 years indicates that therapy dogs may offer physiological, emotional, social, and physical support for children. The distinguishing features of Animal-Assisted Therapy (AAT) are characterized by the supplemental inclusion of a trained therapy dog in reaching an intervention goal in therapeutic environments, and as a supplement to an educational objective in school contexts. The general assumptions underlying AAT with children are that although therapy dogs are interactive, children seem to perceive them as non-judgmental participants who are outside of the complications and expectations of human relationships. This unique interaction may offer children a valuable form of social and emotional support in educational and therapeutic settings.

Keywords Animal-assisted therapy · Supporting research · Children · School · Therapy dogs

Introduction

Tango, the little white therapy dog, wags her tail in greeting on the school patio as two 5-year-old students prepare to engage in this afternoon's activities with their

speech therapist. Today, the concrete is strewn with a series of colourful shapes with pairs of rhyming word cards placed on top of each (e.g., 'sat' and 'cat'). The children concentrate on saying each of the words correctly, and then get to lift up each colourful shape to see if a paper bone is hidden underneath. In what seems to be a happy trot, Tango follows the students along the trail and sits in anticipation as the children focus on their words. If they find a bone, the children ask the dog to sit (they are working on the initial consonant *s*) to give her a treat. The students squeal with delight as they give Tango her reward, and they then run to the next shape, seemingly eager to demonstrate to Tango how well they are able to pronounce their words. Their conversation and efforts are punctuated by persistent efforts to maintain Tango's attention: "Look Tango, this is the letter *s*. It says *ssss*. See Tango?! We got that one right!" The teacher marvels at how focused and attentive the children are as they complete this task. When one of the children is asked what they like about having Tango participating in their lessons, she looks at the adult incredulously and asks: "Don't you know?! She's a really good listener!"

Supporting Research for Animal-Assisted Therapy (AAT) with Children

Anecdotes such as these are becoming increasingly common in educational and therapeutic environments as innovative programs are developed to assist children in their learning in increasingly varied and creative ways. But does the research support what seems to be largely anecdotal evidence of how therapy animals may uniquely support children's learning and development? Much of what we know today about the benefits for children when they

L. Friesen (✉)
Department of Elementary Education, University of Alberta,
103 10308 114th St NW, Edmonton, AB T5K 2X2, Canada
e-mail: lfriesen@ualberta.ca

interact with animals began with the early work of child psychologist Boris Levinson, who is often referred to in the literature as the pioneer of AAT with children. In the late 1960s and 1970s, Levinson began to incorporate his dog into his therapy sessions. Levinson (1969) found that the dog acted as a ‘social lubricant’ between the therapist and child, which allowed for a more relaxed environment conducive to self-disclosure. Over the last 30 years, the unique form of support that dogs in particular seem to offer to children has been studied in the home (Lookabaugh Triebenbacher 1998), in therapeutic settings (Levinson 1971; Mallon 1994), in classrooms and hospitals (Jalongo 2005; Jalongo et al. 2004), and in special-needs environments (Anderson and Olson 2006; Walters Esteves and Stokes 2008).

Research which examines children’s interactions with animals has demonstrated marked benefits for children physiologically (Odendaal 2000), emotionally and socially (Anderson and Olson 2006; Walters Esteves and Stokes 2008; Zasloff and Hart 1999), and physically (Gee et al. 2007). Physiologically, the presence of a dog has been found to significantly lower behavioural, emotional, and verbal distress in children when participating in a mildly stressful activity such as a visit to the doctor’s office (Nagengast et al. 1997), and lower blood pressure and heart rate when a child reads aloud (Friedmann et al. 1983). Dogs have been found to contribute to elementary students’ overall emotional stability and to more positive attitudes towards school in children diagnosed with severe emotional disorders (Anderson and Olson 2006), and contribute to student self-esteem by providing a ‘friend’ to bond with and love in the classroom setting (Zasloff and Hart 1999). Further, students tend to be more attentive, more responsive, and more cooperative with an adult when a dog is present in the classroom (Limond et al. 1997). In therapeutic settings, children have experienced increased alertness and attention span, and an enhanced openness and desire for social contact when involved in therapy sessions with dogs (Prothmann et al. 2006). Other benefits associated with children’s interactions with therapy dogs include the acceptance and non-judgemental bond offered by these animals (Mallon 1994) and the unique position of ‘child as nurturer’ in this relationship (Melson 2001). In 2003, Barker et al. published a bibliography of 84 refereed articles which focus on the benefits of interacting with companion animals for various populations, including children, adolescents, and the elderly. Since that time, the increase in carefully designed studies which explore the benefits for children in therapeutic environments and in classrooms suggests that research into the human-animal bond is a burgeoning and multi-disciplinary field of study worthy of attention (Jalongo 2005; Jalongo et al. 2004).

Common Concerns and Criticisms of AAT with Children

Special considerations are necessary to ensure the safety and well-being of everyone involved in programs with children and animals. Generally, adult concerns about cleanliness and allergies are the primary deterrent for AAT programs. However, in an article exploring the potential risks associated with using pet therapy in healthcare settings in the *Journal of Clinical Nursing*, it was determined that “only 6% of people seen by allergists in North America have an allergic reaction as a result of animal dander” (Elliot et al. 1985). The authors conclude that “the incidence of pet-induced allergies can be reduced [by]... choosing the correct pet and by careful and regular grooming” (Brodie et al. 2002, p. 454). Selecting an animal that does not shed, which is bathed and groomed regularly, is vaccinated and is pre-treated before classroom visits and therapy sessions with an anti-allergen powder to help reduce dander are all important considerations to minimize potential allergies. To protect both the children and the dog, pre and post hand washing with a hand sanitizer is desirable. In addition, regular washing of a specific pillow or blanket for the dog to be used during the sessions, or if possible, holding the sessions outdoors, will help to reduce potential dander transfer. Finally, pre-arranging that the dog and handler arrive and leave through a designated entrance after classes have begun will decrease potential contact with children who do have allergies.

Another common concern of AAT programs involves safety for the children. As noted by Jalongo (2008), dog bites are common among young children but can be prevented with age-appropriate lessons focused on helping children to become empathetic towards a dog’s unique needs. Learning to interact with a dog in a quiet and gentle manner, when and how it is appropriate to approach a dog, learning how to play fair, and how the child should act if he or she is afraid of the dog (Jalongo 2006, 2008) are all important lessons for children to learn prior to introducing a dog into the school or therapeutic context. In their meta-analysis of animal-assisted therapy, Johnson et al. (2002) recommend that administrative and staff concerns regarding safety and allergies need to be addressed early on, so an on-site meeting should be arranged to establish agreed-upon procedures prior to the beginning of a program.

In some cultures, (i.e. Middle Eastern or South-east Asian) dogs are perceived to be ‘unclean’ and therefore interaction between children and these animals is strongly dissuaded (Jalongo et al. 2004). It is important to note that in any AAT program, informed consent needs to be given by both the child and his or her parent prior to any interaction between the child and the dog. In some cases, familiarity with the positive perception of animals in North

American culture is more readily accepted by children who interact with their friends' pets while on play dates at their homes. In other cases, families may become more accepting of interaction with a dog when they are provided with opportunities to see for themselves how well-groomed and obedient the animal is and how closely the interaction would be monitored by a responsible adult. It is essential that clear procedures, professional training (of both the dog and the handler), and the type of interaction that will be taking place are established and respectfully communicated to parents before the beginning of the program so that families who choose not to involve their children can do so without prejudice.

Finally, other concerns regarding AAT with children include considerations for the animals themselves. To ensure the health and comfort of animals when participating in AAT programs, water and a dog kennel should be provided for the animal at all times, and regular exercise breaks are required. The animal needs to be closely monitored for signs of stress, including shaking, ears back or tail between the legs, or persistent licking. Treats, if allowed by the insurer, should only be given to the dog under the direct supervision of the handler, and under no circumstances should an animal be left unsupervised when interacting with a child. Finally, it is desirable if the dog and handler are provided with opportunities to visit the AAT site prior to beginning the program so that the dog can become familiar with the environment.

It is clear that AAT programs involving children and animals, and dogs in particular, in school and therapeutic context require that educators and therapists attend to unique and specific concerns as indicated above. AAT programs in other settings and involving other animals, such as therapeutic horse-riding programs (hippotherapy) and programs designed to facilitate interaction between children and dolphins are subject to further criticism. Research exploring AAT programs with horses indicates that goal-oriented interaction with horses may offer a variety of benefits for children, including but not limited to "increased flexibility, balance, gross motor coordination, and cardio-respiratory function, as well as speech and language abilities" (Granger and Kogan 2006, citing Biery 1985; Macauley and Gutierrez 2004). However, the value of hippotherapy programs is called into question when one takes into consideration the expense of housing, feeding, and providing veterinary care for large animals such as horses. In addition, logistical concerns such as arranging transportation for children to and from the stables, which are often located in rural areas, may provide an additional hurdle. Finally, if a program is not carefully designed, safety issues can arise such as when an inappropriate horse and saddle is used with children who have physical handicaps which can then lead to further damage, or when

prescribed medication produces side-effects such as seizures when riding on the horse (McCowan 1987).

AAT swim programs involving children and dolphins have also been criticized not only for the expense involved but because there is a lack of a research basis to support such programs (Humphries 2003; Iannuzzi and Rowan 2009; Marino and Lilienfeld 2007; Nathanson 2007; Serpell 2006). Practical issues such as limitations on how much time can be spent in the water with the dolphins, the very availability of dolphins, and the unpredictability of dolphins' health and behaviour in captivity make the logistics of this type of therapy challenging (Nathanson 2007). Further, as Serpell (2006) notes, "several detailed studies have documented serious risks to the welfare and survival of cetaceans involved in these programs, particularly those involving captive animals that must be captured in the wild and, in some cases, transported for thousands of miles to established aquaria" (p. 462). As Marino and Lilienfeld (2007) acknowledge, AAT programs involving dolphins are costly, lack a research basis, may pose a risk for infection transmission for both humans and dolphins, and therefore cannot be justified ethically. It is essential that individuals and organizations who are interested in beginning an AAT program of any kind become familiar with research-based best-practice. Publications such as Fine's (2006) *Handbook on Animal-Assisted Therapy* provide a valuable overview of both the supporting research and valid criticisms of AAT with populations across the lifespan, and should be considered a primary resource for individuals involved in these programs.

In contrast to AAT with other animals such as those noted above with horses or with dolphins, visitation programs which involve dogs in schools and in therapeutic environments are relatively inexpensive and convenient. However, the question remains: does AAT offer a unique form of support to children not possible through other interventions? Further research and large-scale studies are required to determine precisely how human–animal interaction (HAI) may affect children's health and development. In August of 2009, the National Institutes of Health (NIH) in the USA announced their first sponsorship of research to explore the benefits of child–animal interaction. Although the results of these studies will not be available for at least two more years, NIH funding will provide researchers with an opportunity to build an empirical research basis and establish the potentially unique benefits of animal-assisted programs for children's learning and well-being.

Distinguishing Features and General Assumptions of AAT with Children

Recently, I attended the annual SPCA sponsored Humane Education Conference at Green Chimneys Farm in

Brewster, New York, where I conversed with scholars from 12 countries working with children in AAT programs in various contexts. The conference, titled *Experiential Learning in Humane Education*, “brought together educators, animal welfare professionals and others interested in the human-animal bond” (<http://www.greenchimneys.org/>). Green Chimneys (2009) is an internationally renowned and state-funded boarding school established by the Ross family in 1947 which has been recognized for its innovative programs in AAT with children. The school “enables youngsters to reconnect and re-establish bonds with living things in their care, helping to restore their ability to smile, care and succeed” (Green Chimneys Board Presentation May 5, 2007). It was a unique and empowering experience to be in the company of so many individuals who had gathered to explore possibilities for children’s learning from and with animals. However, as is reflected in current literature, it became clear that AAT is a relatively new field of study and requires further attention with regard to the defining characteristics of this approach to teaching and learning.

Therefore, to better understand how AAT might contribute to children’s learning and development, it is necessary to explore the distinguishing features and general assumptions of existing programs in AAT with children and therapy dogs in special-needs classrooms and in therapeutic environments. My exploration is somewhat confined to special-needs classrooms because there has been scant research which explores AAT in the typical classroom. As will be discussed in this section of the article, although the term *therapy dog* may not accurately describe the service that these dogs provide, the general assumption underlying AAT seems to be that it is the children’s perception of the dog as a non-judgemental participant which may offer children unique and valuable forms of social and emotional support in the therapeutic and special-needs classroom context.

Distinguishing Features of AAT with Children

In their 2007 quantitative meta-analysis, Nimer and Lundahl define AAT as “the deliberate inclusion of an animal in a treatment plan” where “the introduction of the animal is designed to accomplish predefined outcomes believed to be difficult to achieve otherwise or outcomes best addressed through exposure to an animal” (p. 225). In AAT, the therapy dog and its handler (the dog’s owner) work alongside teachers and therapists to help children achieve an educational objective (e.g., pronunciation of the initial consonant *s*) or a therapeutic goal (e.g., increased positive communication with others). In contrast, Animal-Assisted Activities (AAA):

...provide opportunities for motivational, educational, recreational, and/or therapeutic benefits to

enhance the quality of life. AAA’s are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers in association with animals that meet specific criteria. Key features include absence of specific treatment goals; volunteers and treatment providers are not required to take detailed notes, and visit content is spontaneous (Delta Society n.d. as cited in Granger and Kogan 2006 p. 264).

Although these definitions in theory help to distinguish the difference between AAT and AAA, they are not adhered to consistently in the literature. Granger and Kogan (2006) note that “the term “pet therapy” is used commonly to convey forms of human-animal interaction, without differentiating between animal-assisted therapy and activity” (p. 264). In the context of this paper, I refer to AAT in *therapeutic* environments, including therapy clinics where children receive one-on-one therapy sessions with a therapist (Levinson 1969; Prothmann et al. 2006); in residential treatment centres for children (Mallon 1994); and in *special-needs* environments, including classrooms designed to meet the special needs of children within the regular school setting (Gee et al. 2007; Walters Esteves and Stokes 2008) and school/classroom settings designed specifically to meet the special needs of children (Limond et al. 1997).

Nimer and Lundahl (2007) clarify that AAT is a *supplemental* intervention treatment which has been used in various settings, including hospitals, therapy clinics, libraries, and special-needs classrooms. The word *therapy* is defined in the Merriam Webster’s collegiate dictionary (2007) as the “treatment of bodily, mental, or behavioural disorder(s)” (p. 1296); the term *therapy dog* may imply that these animals have the ability to treat children’s emotional, behavioural, or physical difficulties and therefore may not appropriately describe the work that such dogs do in the context of AAT. However, in the absence of a more appropriate term, for my purposes here, the term *therapy dog* is used.

In AAT settings, the dog is always accompanied by its owner. Due to the specific nature of AAT intervention, the role the owner/handler plays depends on the nature of the intervention and is therefore difficult to define independent of the context. Generally, the therapist or special education teacher working with the child selects AAT as an intervention supplement when, based on an intimate understanding of a child’s unique needs, he or she deems that AAT intervention would be particularly appropriate in assisting the child to meet intervention goals. For example, as was illustrated in the anecdote beginning this article, the children involved had expressed an interest in animals previously, but had demonstrated limited interest in the objective (i.e. learning to correctly articulate rhyming words orally) prior to the introduction of the dog. Other

programs, such as those designed to provide opportunities for children to read with and to a therapy dog with the ongoing support and assistance of the adult handler, may inspire children who were previously reluctant to read to engage in oral reading tasks when invited to read to a ‘non-judgemental’ audience (Friesen 2009a; Intermountain Therapy Animals 2008; Jalongo 2005).

General Assumptions of AAT with Children

Upon closer examination of Nimer and Lundahl’s definition of AAT, the underlying assumption of AAT is that therapy dogs provide “a unique form of support to children’s learning, physical health, and emotional well-being” (Jalongo et al. 2004, p. 10), not otherwise possible through human interaction and intervention alone. By a ‘unique form of support,’ I mean that by incorporating a dog into the setting, interaction between a child and adult may become possible when human attempts alone prove insufficient. This kind of support is evident in Canadian child-psychologist Boris Levinson’s seminal work, *Pet-Oriented Child Psychotherapy* (1969). As previously discussed, Levinson observed that interaction between a therapist and child became possible through the dog’s acceptance of the child, particularly when the child was otherwise unresponsive to extensive therapy. Ultimately, Levinson concluded that incorporating the dog into sessions with children can facilitate the child-therapist relationship. The implications regarding how a therapy dog may influence the child-teacher relationship or relationships amongst peers in the typical classroom is an exciting and promising area of future research in AAT (Walters Esteves and Stokes 2008).

Although much of Levinson’s early work in AAT has been criticized for consisting of merely anecdotal reports, research in AAT has gained scientific support in recent years through an increase in controlled studies. Consequently, all current research studies cited in this article are controlled studies and are identified by the authors as such, with the exception of the early qualitative work of Levinson (1969) and subsequent work by Mallon (1994) in therapeutic settings, as well as one study by Anderson and Olson (2006) conducted in a special-needs classroom. The conclusion of researchers, regardless of methodological approach, suggests that animals have a positive influence on children’s well-being (Nimer and Lundahl 2007).

AAT supporters suggest that it is specifically the non-human quality of therapy dogs’ inability to “form an opinion by discerning and comparing” (Merriam Webster’s collegiate dictionary 2007, p. 677), in other words, their perceived *non-judgemental* nature, which makes therapy dogs a desirable and unique supplement to intervention programs with children. This perception of therapy dogs as non-judgemental is often cited as support for their

inclusion in treatment programs in therapeutic (Levinson 1969; Mallon 1994) and special-needs environments (Gee et al. 2007; Limond et al. 1997; Prothmann et al. 2006). For example, a study by Gee et al. (2007) examined how therapy dogs might affect the speed and accuracy of motor skills tasks in 14 children aged 4–6 years. In this study, the children were asked to perform 10 motor skill tasks such as long jump, high jump, throwing, and balancing on a balance beam. “In the dog-present conditions, the dog either performed the task immediately prior to, or at the same time as, the child” (p. 377). Using a two-way mixed model analysis of variance, the researchers determined that the children “performed faster, but without compromising accuracy, in all tasks but one” when the dog modelled the activity compared to when the dog was absent (p. 375). As perceived by the researchers, the inclusion of the therapy dog may have helped to lower stress in the children because of their “reduced fear of criticism from a non-judgmental source” (p. 382). Upon closer examination of this claim, the underlying assumption is that there was a perceived form of negative judgement about the child by the teacher prior to introducing the therapy dog. This perception of the teacher may be a consideration worth examining; regardless of a teacher’s best intentions to be supportive and non-judgemental, one common factor in environments in which AAT has been used is the unequal power relationship between therapist or teacher and child. In the end, it is the educator’s *job* to make informed judgements about how well a child is able to master objectives, and it is the therapist’s responsibility to determine how well his or her client has met their goals. However, the power balance seems to shift by incorporating the ‘non-judgemental’ therapy dog as well as what may be perceived by the child as a neutral or ‘highly likable’ adult into the intervention (Geries-Johnson and Kennedy 1995; Wells and Perrine 2001). The assumption in AAT is that although therapy dogs and their handlers are present and interactive, they are perceived by children to be outside of the complications and expectations of relationships commonly experienced at school or in therapeutic settings.

AAT research suggests that interacting with dogs can help to encourage children’s social interaction with peers and adults in special needs classrooms because of therapy dogs’ perceived non-judgemental nature. In the literature, it seems that interaction in AAT settings is encouraged in one of three ways: the dog may offer a unique form of unconditional social support for children with severe emotional disorders through acting as the child’s ‘friend’ as perceived by the child (Anderson and Olson 2006), the dog’s spontaneous enthusiasm for social interaction may provide the stimulus for the child’s own social behaviour (Prothmann et al. 2006), or the dog may increase positive initiated interactions toward the teacher both while

interacting with the dog (Limond et al. 1997; Walters Esteves and Stokes 2008) and when in the classroom following interaction with the dog (Walters Esteves and Stokes 2008). As was noted by Anderson and Olson (2006), the “integration of the dog...provided each [child] with lessons in respect, responsibility, and empathy” (p. 47). To encourage positive social interaction amongst students and between students and their teacher, Walters Esteves and Stokes (2008) suggest that:

Dogs can also be used as an assistant in the classroom in teaching a specific task such as daily living skills, or as part of a curriculum such as reading, writing, story time, circle time, etc. A dog can act as the subject for creative writing, for reading stories about dogs, or can participate with children in group activities, with the dog being counted as a member of the group. This may increase participation for the children in some activities. It may not be beneficial to have the dog present throughout the school day, however, as this would be exhausting for the dog and disruptive for the children (p. 14).

Because social engagement and verbal communication is desirable in both classroom and therapeutic settings, research in AAT indicates that interaction with therapy dogs may support and encourage social risk-taking in these environments, particularly for children who are otherwise either unwilling or reluctant to engage socially.

Although therapy dogs may help to increase socialization in classroom and therapeutic environments because of their interactive nature, therapy dogs are also thought to have a profound calming effect on children perceived to be under stress (Mallon 1994; Prothmann et al. 2006). In fact, it seems to be precisely *because* children feel less anxiety when interacting with therapy dogs that they are willing to engage with peers and adults. Studies exploring the physiological effects of the presence of an animal suggest that interacting with a dog may significantly reduce verbal, behavioural, and emotional anxiety in children. Specifically, AAT may lower blood pressure and heart rate when a child reads aloud¹ (Friedmann et al. 1983) and when a child

participates in a mildly stressful activity such as a visit to the doctor’s office (Nagengast et al. 1997). Because AAT intervention usually takes place in therapeutic, medical, and classroom environments, it seems likely that these settings invite stress in children, but that calming interaction with the dog may help to alleviate some of these anxieties.

Concluding Remarks

In summary, the distinguishing features of AAT with children in therapeutic environments are characterized by their incorporation into treatment plans as a supplement to an intervention goal, and in special-needs environments as a supplement to an educational objective. Particularly because therapy dogs often work in public environments, they require extensive obedience and temperance training and are always accompanied by their handler or by the handler/therapist. Potential candidates for AAT are identified by the special education teacher or by the therapist based on a clear understanding of a child’s educational or therapeutic goals.

The general assumptions underlying AAT with children are that the children seem to perceive therapy dogs as a neutral or non-judgemental participant in the therapeutic or classroom environment. Educators tend to think of the word *support* as indicating direct and verbal involvement when working with children. Ironically, these animals may be able to offer children unique and valuable social and emotional support precisely because they are active and willing participants, but with the qualifier that it is outside the realm of their communicative abilities to verbally criticize or judge the child’s progress (Friesen 2009b). As Melson (2001) states, animals may offer children “...a time-out from the anxieties of human exchange... Despite most children’s acknowledgement that [animals] cannot literally comprehend what they are saying, children have the feeling of being heard and being understood” (p. 51).

The nature of the interaction between children and animals in school and therapeutic environments does not exclusively include treatment of maladjustment as the term *therapy dog* implies. Instead, research exploring AAT with children indicates that therapy dogs act as a non-judgemental supplement to an intervention and seem to commonly offer benefits for children who are socially unresponsive, shy, or withdrawn and/or who may experience heightened anxiety. Therefore, perhaps a more accurate term for what is currently referred to as Animal-Assisted Therapy in school environments might be *Animal-Assisted Learning*, which may more fully “capture the essence of the relationship” (Nagengast et al. 1997, p. 329) between children and these animals.

¹ Friedmann et al.’s (1983) study examined the influence of a dog on children’s blood pressure (BP) and heart rate (HR) and involved 36 children aged 9–16 years. In this study, each child rested comfortably for 2 min before reading for 2 min from a book of children’s poetry. “In one condition a friendly dog was present in the room and in the other it was not” (p. 462). The children had not met the dog prior to the experiment. The researchers determined that the dog’s presence “was associated with lower BP and HR” (p. 464) while the children read. Further, the authors “speculate that the presence of a pet modifies the subject’s perception of the experimenter and the environment by making both less threatening and more friendly, which leads to a decrease in resting BP and in the BP response to verbalization” (p. 464).

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