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Animal-Assisted Therapy

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ANIMAL-ASSISTED THERAPY

by

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B.S., Southern Illinois University, 2011

A Research Paper

Submitted in Partial Fulfillment of the Requirements for the
Degree of Master of Science

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in the Graduate School

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ANIMAL-ASSISTED THERAPY

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A Research Paper Submitted in Partial

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Approved by:

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Graduate School

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Introduction

Animals are an important influence on the well-being and health of humans. Exposure to animals in a therapeutic setting has, historically, had physical, physiological, and psychological benefits to humans' health. Animal-assisted therapy (AAT) is a proposed effective therapy method for a variety of populations. People with special needs are a group that has seen vast improvements from AAT. Children with autism spectrum disorder (ASD) pose many challenges for families and professionals because the manifestations of the disorder occur on such a wide continuum. Studies that show the benefits of AAT for these children are increasing and continuing to gain support. This paper aims to address the historical significance of animals, the role animals play in human's lives, and the influence of AAT on children with autism.

Definitions

Animal-assisted activities (AAA) are casual meetings where people are visited by animals with the intentions of enhancing quality of life (Browning, 2012). These meetings do not usually target specific goals and are not structured like therapy sessions. The meet and greets can be as long or as short as necessary and can occur in a variety of environments. An example of an animal-assisted activity would be when a team of professionals or volunteers bring a group of dogs or cats that

have met specific criteria to a nursing home where they can visit and pet the animals. For the purposes of this paper, AAA is not to be confused with animal-assisted therapy (AAT), which is a goal directed intervention.

Animal-assisted therapy (AAT) is a goal-directed intervention delivered by trained professionals in order to promote improved physical, emotional, and cognitive functioning (Browning, 2012). In AAT goals are specified and progress is measured by specifically trained health care professionals. AAT may be provided in many different environments as well and can be delivered in individual or group form. AAT is designed to promote physical, emotional, and cognitive functioning benefits (Browning, 2012). An example of AAT would be a speech-language pathologist (SLP) who brings his/her cat into the therapy session with a child with limited social skills in an attempt to promote joint attention and turn taking behaviors. The goals of AAT can vary from increasing social skills to improving fine motor skills.

Types of Animal-Assisted Therapy

AAT can include animals like dogs, cats, turtles, rabbits, horses, dolphins, hamsters, and fish. A frequently researched and utilized animal partner is a dog. The unique interactions that occur between humans and animals have been increasingly explored. The benefits of AAT are numerous and include physical,

emotional, cognitive, and psychological improvements (All, Loving, & Crane, 1999). Also, the health benefits have been strongly emphasized throughout history because the use of animals allows for less prescribed medicine and the need for restraints (All et al., 1999).

Equine-assisted therapy, also known as hippotherapy, involves the use of horses for the purpose of improving an individual's posture, balance, mobility, and function (All et al., 1999). Hippotherapy can be used in a variety of ways with physical, occupational, and speech therapists to target a number of goals. Some suggest that hippotherapy may be best suited for children with neurological disorders who frequently exhibit motor, cognitive, and social disabilities or a combination of these (Bass, Duchowny, & Lowry, 2009).

Dolphin-assisted therapy (DAT) is a subfield of AAT that was designed to help clients reach goals in therapy through a program that includes many different physical, occupational, and counseling methods (Dilts, Trompisch, & Bergquist, 2011). DAT has been known to have supporting evidence with children with special needs. Goals like improved social skills, emotional skills, and motor skills have all been targeted through DAT.

History of Animal-Assisted Therapy

The first therapeutic practice using animals in the rehabilitation of humans started in England at the York Retreat

for mentally ill patients in the late 18th century (All et al., 1999). The idea was to incorporate animals into the daily lives of the patients to promote socialization and a more relaxed atmosphere. Others had similar opinions about the human-animal bond. In 1860, Florence Nightingale noticed the first signs of how animals affected humans who were ill and encouraged the idea in her book *Notes on Nursing*, (as cited in All, Loving, & Crane, pg. 49, 1999) stating, "a small pet is often an excellent companion for the sick, for long chronic cases especially". Much of the focus in beginning documentation of AAT was on patients who were emotionally disturbed. The idea of a pet serving a socializing or therapeutic function became more and more widespread very quickly. One of the first recorded instances of using animals in a therapeutic setting in North America was at St. Elizabeth's Hospital in Washington D.C. in 1919 (Urichuk & Anderson, 2003). Animals were used as companions for psychiatric patients here, but unfortunately they were replaced with the discovery of psychotropic drugs in the early 20th century (Urichuk & Anderson, 2003). Still, the importance surrounding the effects of animals on humans could not be denied.

Child psychologist Boris Levinson, is the first man to be recognized by the literature for incorporating his dog, Jingles, into his therapy sessions in 1962 (All et al., 1999). He believed he could reach disturbed children much quicker with the

help of his dog than when his dog was not present. In his book *Pets and Human Development* (as cited in Eggiman, 2006), he described a situation where a mother came to him about her son who she described as socially withdrawn and whose past therapy experiences have not been successful. Coincidentally, Levinson's dog was present the day the boy was brought in who greeted the boy happily and the boy responded positively. Levinson described this effect by explaining that the dog evokes a feeling of trust and is able to establish a positive relationship with the boy. The findings from that encounter were presented to the American Psychological Association by Levinson in 1961, which received mixed reviews (Eggiman, 2006).

Today, Pet Partners is an international non-profit organization that provides therapy, service, and companion animals to people in need with the mission to promote mutual relationships that improve their health, independence and quality of life (Browning, 2012). Dr. Leo Bustad and brothers, Dr. Michael McCulloch and Dr. William McCulloch began thinking that the observations they have made throughout their careers may have much deeper underlying implications. The Delta Foundation was formed in 1971, which later became The Delta Society in 1981 to reflect expanding research and researchers interested in this topic (Browning, 2012). Also in 1981, Bill McCulloch helped launch the American Veterinary Medical

Association's (AVMA) Human-Animal Bond Task Force to assist in reviewing the profession's role in recognizing and promoting the human-animal bond (Browning, 2012). The influence of this group encouraged the passage of the Housing and Urban Rural Recovery Act of 1983, which caused the government to publicly recognize the therapeutic value of pets on American lives. The Delta Society gained lots of popularity and strength allowing new programs to be developed so that community based direct services could be provided. Currently, the name is Pet Partners to better convey their objective and they continue to provide the leading research findings from professionals in a variety of specialties.

Animals' Role in Human Lives

Previous research describes health benefits of pet ownership. According to the National Pet Owners Survey in 2011-2012, about 62% of households own a pet (The Humane Society, 2011). There are 78.2 million dogs and 86.4 million cats owned in the United States (U.S) (The Humane Society, 2011). These statistics suggest that many people throughout the U.S. are already receiving the advantages of interacting with animals. This also means that majority of people might be more inclined in participating in therapy if an animal is present. The human-animal bond is one that has been recognized and researched since the beginning of time.

Physiological Benefits

Physiological benefits have been known to include decreased blood pressure, lower heart rate, decreased anxiety, and decreased depression (All et al., 1999). Just simply petting an animal is said to be a soothing activity for people in with high levels of stress (All et al., 1999). Research studies have been done to test the physiological changes that occur when humans and animals interact.

One study examines the effects of a short visitation to patients with heart failure from a therapy dog (Cole, Gawlinski, Steers, & Kotlerman, 2007). Hemodynamic measures, neurohormone levels, and anxiety levels were the dependent variables in determining whether the dog had a positive or negative, if any, impact on the patients (Cole et al., 2007). After obtaining informed consent, 76 patients diagnosed with advanced heart failure admitted to the cardiac unit were randomly placed in one of three groups. One group was visited by a volunteer only, one by a volunteer and therapy dog, and one received normal care as usual. The visitations lasted for about 12 minutes. Patients were assessed at three times during the study; at baseline, at eight minutes, and at 16 minutes. Compared to the volunteer-only group, all three determining levels decreased from baseline and supported previous claims about the physiological impacts of an animal.

Patients in the volunteer-dog group exhibited decreased systolic pulmonary artery pressure and pulmonary capillary wedge both during and after the intervention (Cole et al., 2007). Compared to the volunteer-only group, the volunteer-dog group displayed greater decreases in epinephrine and norepinephrine levels during and after the intervention (Cole et al., 2007). These findings show that with just a short visit from an animal, even people's bodies seem to react more positively. Patients in the volunteer-dog group also exhibited the largest decrease in anxiety levels from baseline to after intervention (Cole et al., 2007). Research continues to show how animals can act as a calming and therapeutic agent in people who have health issues, but a growing area of interest is the effects of animals with people with special needs.

Social/Emotional Benefits

Mental and emotional benefits of animals have been documented and continuously researched as well. Some of the first therapeutic uses of animals were with patients who have mental and social-emotional disorders. After success was observed at the York Retreat in England and the inclusion of animals in practice became more popular, hospitals, psychiatric units, and nursing homes began to see more and more animal-assisted programs become part of their regimen. One study

describes the outcome when residents were visited by a group of volunteers and therapy animals.

A sample of four purposely selected elders were chosen from a skilled nursing facility to participate in a study to explore the effects of animal-assisted therapy on social and agitated behaviors. The group was videotaped for 15 minutes across 28 days while the behaviors were recorded every three minutes based on presence and frequency by two different raters. The intervention consisted of an opening song, a discussion about the preceding activity, one activity with the therapy animal, and a closing song. The Agitation Behavior Mapping Instrument (ABMI) and the Social Behavior Observation Checklist (SBOC) were used to determine the differences in behaviors between pre- and post-tests. When compared with the baseline, significant differences showed an increase in social behaviors, which shows support for the effectiveness of AAT (Sellers, 2005). Results also indicated a decrease in the number of agitated behaviors between baseline and treatment.

Children with special needs have a variety of disabilities and can receive numerous benefits from interacting with animals. Studies have shown effects such as increased attention, improved self-concept and self-esteem, and verbal and nonverbal communication (All et al., 1999). Boris Levinson suggested that animals can act as a catalyst for communication in that

children's interactions with a therapy animal can be generalized to interactions with humans (Grado, 2011).

AAT and Children with Autism

According to the Centers for Disease Control and Prevention (CDC) in 2012, (ASD) was identified in about one out of 88 children in the U.S. ([Center](#) for Disease Control, 2012). The number of children diagnosed with ASD is continually increasing. The CDC also shows that the prevalence of ASD today has increased by 23% since 2009 and 78% since 2007 (Center for Disease Control, 2012). Because this trend has been increasing, the need for more innovative treatment methods also increases. Some of the main characteristics of ASD include social, sensory, and motor difficulties (Kern et al., 2011). Animal-assisted therapy is known to address all of these areas. AAT may be beneficial for children with ASD because it offers a novel idea to the thought of therapy. The methods used in therapy sessions are multi-sensory, which provides a very stimulating experience for the child (Kern et. al, 2011). Children have been seen to have increased attention (Bass et al., 2009), verbal and nonverbal communication (Grandgeorge, Deleau, Lemonnier, Tordjman, & Hausberger, 2012), improved sensory processing (Lane, Young, Baker, & Angley, 2009), and improved motor functioning (Silkwood-Sherer, Killian, Long, & Martin, 2012). Research is steadily exploring the effects of using AAT with

children with ASD and much of it supports the historical claims of using animals in therapy.

Attention

One study done in Florida at the Good Hope Equestrian Training Center looked at 34 children with ASD social functioning after they participated in 12 weeks of therapeutic horseback riding compared to children on the waiting list. The sessions involved five minutes of mounting and dismounting the horses, 10 minutes of warm-up exercises to prepare for the lesson, 15 minutes of riding skills that targeted sensory domains, 20 minutes were for mounted group games such as "Simon says" and "red light/green light" that target social communication. The last part of the session was for horsemanship activities like grooming and bathing that targeted verbal communication. The study showed through pre- and post-questionnaires from parents that the children who participated in the horseback riding lessons exhibited improved social motivation and engagement as well as decreased inattention and distractibility (Bass et al., 2009). The children maintained a higher level of directed attention during the lesson, which is atypical of children with ASD and suggests the intervention elicited a higher level of focus.

Verbal and Nonverbal Expression

Children with ASD not only have difficulty maintaining and establishing relationships, but also have very limited verbal and nonverbal abilities that contribute to those difficulties. A single case study done in 2011, found that a 12 year old boy diagnosed with ASD exhibited more positive behaviors (smiling and positive physical touching) and fewer negative behaviors (aggressive manifestations) in therapy when a therapy dog was present (Silva, Correia, Lima, Magalhaes, & De Sousa, 2011). Future studies should focus on whether positive effects can generalize to other contexts outside the therapeutic environment as well as ones without the presence of a dog.

A study done at Comenius University, used guinea pigs to show the differences in the social contacts (eye contact, tactile, verbal) of nine children with ASD (Krskova, Talarovicova, & Olexova, 2010). The study involved placing the children in a room with an acquaintance and an unfamiliar person for a length of time and with the acquaintance and the therapy animal for a length of time. The type and frequency of social contacts were recorded and showed an increase in five of nine children when the therapy animal was present (Krskova et al., 2010). More children made contact with the therapy animal than not, which suggests improvements in nonverbal interactions with regard to directed attention and initiation of contact.

When the therapy animal was not present, five children used eye contact, two used tactile contacts, one used verbal, and one did not have any interaction with the unfamiliar person or acquaintance (Krskova et al., 2010). When the therapy animal was present, five children used eye contact, four used tactile contacts, but none made any verbal contacts (Krskova et al., 2010). There were also some interesting findings over the course of the two observation periods that showed different trends for preferred type of contact when the animal was present in comparison to the unfamiliar person. Child A preferred to use tactile contacts with the unfamiliar person and used more eye contact with the therapy animal, while Child A and Child C preferred tactile contacts with the unfamiliar person and eye contact with the therapy animal (Krskova et al., 2010). Child G preferred verbal contact with the unfamiliar person and tactile with the therapy animal and Child I preferred eye contact and tactile with the unfamiliar person and used all three contacts with the therapy animal (Krskova et al., 2010). The results from this study conclude that overall, the therapy guinea pig influenced the social contacts of children with ASD.

Another finding explored in the past is the response of a child with Autism to an unfamiliar animal. A study done in France suggests the first evidence of the behavioral trends when children with Autism (CAD) encounter an unfamiliar animal

(guinea pig) versus children with typical development (CTD). Twenty-seven CAD and 59 CTD between the ages of six and 12 participated in the "Strange Animal Situation" test by having their behaviors recorded when put in a room with a parent, a guinea pig with its cage door open, a person to video record the interaction, and other objects like toys and a television (Grandgeorge et al., 2012). The sessions were 15 minutes and focused on latency of approach and latency of first touch. Some of the behaviors observed included verbal interaction, visual/facial interaction, tactile interactions, interest in unfamiliar objects, and other behaviors. Specifically, the behaviors observed in CAD were separated into three profiles: CAD that presented "towards humans," the expression of "autistic behaviors" like verbal and motor stereotypes, and CAD who demonstrated "secure" behaviors similar to the children with typical development (Grandgeorge et al., 2012). The first profile was observed most frequently. Researchers predicted that the children with Autism would behave differently from the typically developing children and, according to their study were correct. The typically developing children were separated into four profiles: confident, anxious, indirect, and careful (Grandgeorge et al., 2012). Within these profiles there were some interesting findings both between and within groups.

Although every child in both groups approached the animal, there were some differences in the types of interactions with the therapy animal. The children of typical development approached the animal more quickly than the children with Autism did (Grandgeorge et al., 2012). Some of the most frequent behaviors of both groups included looking at the animal first and then the parent or observer, talking to the animal, touching, and smiling at the animal, parent, or observer. Every child looked at the animal first when brought into the observation room, (14.8%) of the children talked to the animal, and (37.0%) touched the animal (Grandgeorge et al., 2012). Since the most frequent profile observed for CAD was the "towards humans" behaviors, the study suggests that the inclusion of animals in therapy may draw children with disabilities closer to humans. The CAD actually looked at their parents more, touched the animal less, and smiled more than the CTD. There were few verbal and vocal behaviors observed for both groups and in fact, the children with Autism spoke about the animal and to the animal more than the children of typical development (Grandgeorge et al., 2012). The animal acts as topic of conversation that elicits verbal and nonverbal language with another person. These findings are not all that surprising considering children with ASD are frequently characterized as needing more time to process incoming information and unfamiliar

situations. The study also shows that children who had previous experiences with animals or pets were less interested in the therapy animal, which also can be explained by the tendencies of Autism.

Ethical Issues

There are some issues that need to be taken into consideration not only for the trained professionals who work with the therapy animals and the clients, but for the animal as well. Like humans, animals are subject to being overworked. While some programs have standards that protect most animals from this, there has been some argument in the past that call the welfare of companion animals into question. Pet Partners has been instrumental in the development of standards for therapy animals so they can be protected (Fine, 2000). Also, selecting clients that might benefit from the inclusion of animals in therapy should be treated very carefully. Some people are fearful of animals or can be allergic. Screening procedures have been developed and are currently used to determine who is suitable for AAT (Urichuk & Anderson, 2003).

Tzachi Zamir, author of "The Moral Basis of Animal-Assisted Therapy" argues that the lack of freedom for these animals cannot be justified by the minimal code of ethics requirements (2006). The conditions in which therapy animals are exposed to before being deemed appropriate to work with clients is a huge

concern for critics. The amount of training therapy animals have to go through to become working animals can be intense, pose injuries, and cause emotional distress (Zamir, 2006). A similar argument can be made for service dogs assigned to children with Autism, but with regard to who the animal's attachment.

A study done at the Ontario Veterinary College in 2008 explored the factors influencing 11 autism service dog's performance and welfare that were placed into homes with children with autism. A total of 36 interviews including 8 home visits were conducted for five dogs that were followed for 12 months and six dogs that were followed for six months (Burrows, Adams, Millman, 2008). Each dog was selected from National Service Dogs and matched with children based on temperament; energetic dogs with reserved children and calm dogs with energetic children (Burrows et al., 2008). Several factors were found to impact the dog's performances throughout the study. Physical factors include being in the work jacket for long periods of time, negative attention from the child with autism, and lack of relief time for urination or defecation (Burrows et al., 2008). Also, the dogs usually took commands from the child's parent, which tended to cause a stronger bond with them rather than the child. It was difficult for family members to limit the dog's interactions to just with the child. The animals tended to want to follow the parent or person giving the

commands, which seemed to be counterproductive to helping the child.

Other common criticisms of AAT include concerns about cleanliness and allergies. According to the American College of Allergy, Asthma, & Immunology, "approximately 10% of the population may be allergic to animals" (ACAAI, 2010). Different people are allergic to animals in various ways including pollen or dust that can collect in the pet's fur, the animal's saliva, and dander from skin flakes (ACAAI, 2010). These issues can be minimized by choosing an animal that does not shed, is well groomed regularly, and is vaccinated (Friesen, 2009). Simple procedures and precautions can be put into place to ensure the environment is clean and safe for all parties. Ensuring the patient washes their hands before and after therapy sessions, cleaning the blanket or area where the animal usually is, and, if possible, holding sessions outside are considerable options for professionals who use AAT (Friesen, 2009).

Conclusion

Research shows animals have a profound effect on human well-being and health. History supports this notion and continual research is showing the vast physical, physiological and psychological benefits of animal-assisted therapy. A number of animals can be selected for therapy if they meet certain standards and patients should be screened also to ensure

suitability for AAT. Due to the multi-faceted nature of AAT, a variety of populations are seeing benefits. Specifically, children with autism can make ideal candidates for the inclusion in AAT because of their deficits. AAT can target social, sensory, and motor abilities throughout therapy sessions in a unique way that traditional therapy does not. Future directions for AAT should continue to focus on quantitative research studies as well as qualitative research to further support the previous claims. The effectiveness of AAT with various populations is an area of focus that would give the opportunity to build on current research for the professionals in this field.

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