Assessing the Effectiveness of Therapy Dogs for Children with Autism in an Educational Setting

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Abstract
Animal-assisted therapy has been shown to help children with physical, behavioral, and cognitive disabilities, especially in an educational setting. However, most of the evidence is anecdotal or poorly controlled. To track the effectiveness of a dog therapy program in a local school for children with autism and other developmental disabilities, eight sessions with a therapy dog and a comparative, structured group activity were video recorded in two classrooms. The recordings were coded for behaviors in the areas of social skills, language and communication skills, body control, emotion control, and attention. There was significant improvement in the social skill of rule following over the eight weeks that was specific to the interaction with the dog. Other improvements were not unique to the dog therapy sessions. The findings have implication for the use of therapy dogs in enhancing the educational experiences of children with social and communication disorders within educational settings.

Introduction
- Autism is a developmental disorder characterized by impairments in social interaction and restricted or repetitive behaviors and interests (Weiss, 2014). Approximately 11 per 1,000 children in the U.S. Affects 4x more boys than girls
- Effects include (DSM-5):
  - deficits in social-emotional reciprocity, non-verbal communicative behaviors, and in developing, maintaining, and understanding relationships
  - the development of stereotyped behaviors
- Animal-Assisted Therapy (AAT) is a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment or rehabilitation process (Pet Partners)
- AAT could be a promising treatment to enhance the verbal language of children with autism (Fung & Leung, 2014)
- AAT is used in schools to provide a positive influence on children with a variety of disabilities. (Heimlich, 2001)
- Autistic children who participated in dog therapy showed improved in eye contact, voice expression, and improved relationships with their peers (Kogan et al., 1999).
- Current research methods are not strong, however, and more systematic research should be performed (O’Hare, 2013).

Research Purpose
- While there is a lot of anecdotal evidence of the positive effects of animal-assisted therapy, few studies have had a control condition to compare to the animal-assisted therapy session and most previous studies focused on one-on-one interactions.
- The current study examined the effectiveness of dog therapy in an educational group setting over time and by comparing different types of therapies (i.e., dog therapy vs. group focused activity).

Method
Participants
- 10 males, age 4 - 9 years. All parents provided informed consent
- Students had varying degrees of physical, behavioral, and mental disabilities.
- Two classrooms at the Elizabeth Lee Black School in the Barber National Institute in Erie, PA, USA
- 3 participants had dogs in their homes
- 0 participants had emotionally or physically unsettling encounters with dogs
- 1 participant was previously enrolled in programs involving animal interaction

Therapy Dog
- Jessie, a 3.5 year-old Bichon mix.
- Jessie is certified through Therapy Dogs International
- Her job is to engage children in petting, learning turn taking, paying attention, and practicing social skills.

Observations/Measurements
- Filmed over 8 weeks
- Two 15-minute sessions per classroom
- Structured Group Activities in the classroom vs. Dog Therapy
- Pre- and Post-Study Parent and Teacher Surveys
- Weekly teacher survey evaluating class overall behavior

Behaviors
- 11 behaviors were coded, separated into 5 categories

Social Skills/Language/Communication
- Rule Following: Appropriately to Command on First Prompt
- Makes Verbal Response: Conversation
- Initiates: Conversation
- Body Control
- Hand-flapping
- Negative Sitting Behaviors
- Leaves Seat
- Running Away
- Emotional Control
- Negative Verbal Outburst
- Positive Verbal Outburst
- Paying Attention
- Teacher Redirects
- Student

Results
- Students showed more improvement in rule following in the dog therapy condition than in the structured classroom instruction, F(2,16)=10.803, p<.001.

Discussion
- Our data showed that rule following and responding appropriately to a command on the first prompt improved during dog therapy, possibly due to the interactive nature and emotional engagement of the tasks done with Jessie. This consistent with prior reports that AAT could be a promising treatment to enhance the verbal language and social skills of children with autism (Fung, 2014; Kogan, 1999).
- Some findings did not support our hypothesis:
  - Leaving seat behavior decreased over time in the structured classroom sessions, while it increased during dog therapy (Setting*Time: F(2,16)=5.063, p<.020). This may be due to the children’s eagerness to participate with Jessie.
  - Negative verbal outbursts increased over time in both interventions (F(2,16)=3.106, p<.072). This may be due to a child becoming agitated at having to wait for a turn or a child having a bad day.
- Some improvements were due to the structured classroom sessions, including decreases in leaving one’s seat and decreases in running away. It is important to emphasise that structured school settings can provide great treatment for children with developmental disorders, and there is already a well-established program at the Elizabeth Lee Black School at the Barber National Institute.

Future Directions
- We plan to continue to analyse the Parent and Teacher Pre- and Post-surveys, as well as the weekly classroom surveys.
- Beginning in the Fall of 2016, we plan to begin a replication of this study with a new sample at the Elizabeth Lee Black School in the Barber National Institute. We will be using streamlined methodology and surveys, more specific behaviors and operational definitions, and an improved method of video recording.

References

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