Introduction

- Children with Autism Spectrum Disorders (ASD) have deficits in social communication, which results in difficulty adapting to social situations.
- Group social skills instruction has been effective in decreasing the social communication deficits in children with ASD.
- It has been proven that Animal Assisted Interventions (AAI) can be helpful to increase social behavior in children with ASD.

Objectives

1. Identify mechanism by which dogs increase group social behavior.
   - Hypothesis: (1) Stress-ameliorating effect of dog on child (presence of dog will reduce physiological signs of stress) (2) Presence of dog will improve quantity and quality of social behavior (3) Most of children's social behavior will be directed towards dog rather than peers.
2. Identify if and how repeated exposure to dog influences social behavior.
   - Hypothesis: Repeated exposure to dog will alter 1) preference to spend time with dog, as measured by changes in time spent in proximity, and 2) social-enhancing effects of the dog.
3. Identify the effects of dog on teacher.
   - Hypothesis: During repeated sessions with dog, teacher will experience less stress, engage in more social and affiliative behavior toward children, and deliver higher quality instruction.

Materials & Methods

Participants:
- [Students] ~35 adolescents (age 11-17) with ASD
- [Teachers] 7 adult therapists (undergraduate & graduate practicum students trained with autism intervention)

Methods:
- Pre and Post Salivary swabs

Experimental Design:
- 3 Semesters of 10-weeks social skills class (data presented is for first two semesters)
  - Students participate for 10-weeks, and teachers for 30-weeks
  - Weeks 1 and 10 consisted of probes for the 8 skills taught during weeks 2-9
  - Weeks 2-9 started with 5 minutes of unstructured free time, then three structured activities (ice breaker, lesson, and behavior jeopardy), and at the end is 5 minutes of unstructured free time
  - The therapy dog is available for the students to interact with throughout the whole group instruction and can be used as a partner while role playing skills
  - Ticket system used to reinforce desired behaviors (e.g. answering questions, participating in role play)

Results

- Figure 1. Average overall change in cortisol concentration by participant type
- Figure 2. Average overall change in students' cortisol concentration by condition
- Figure 3. Average overall change in teachers' cortisol concentration by condition

Discussion

- There is an overall decrease in the students' post cortisol level when the therapy dog was present. (Fig. 1, Fig. 2)
- The teachers’ cortisol level stayed consistent pre/post class with or without the therapy dog. (Fig. 3)
- The teachers’ cortisol concentration decreased overall as the weeks proceeded. (Fig. 3)
- Our data and results show that a therapy dog can function to reduce stress in the students during group social skills class, but it doesn’t change teachers’ stress.

Impact Area

- Health and Well-being
  - Overall, we are trying to determine if Animal Assisted Interventions (AAI) improve the overall health and well-being of individuals with Autism Spectrum Disorder (ASD).
  - The goal is to improve the health and well-being of individuals with ASD regarding social communication.

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