Come, Follow Me! Behavioral Outcomes in Adolescents with Autism and Related Disorders After a Five Session Animal Assisted Therapy Program

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Introduction

Evidence is emerging demonstrating the efficacy of Animal Assisted Therapy (AAT) in a wide range of therapeutic environments, including the treatment of dementia, symptoms of Autism Spectrum Disorder (ASD), psychiatric trauma, and major depression.[1-4] However, recent meta-analyses of the literature to date suggests the evidence is relatively low-quality, though generally promising.[5] Investigators particularly pointed to perceived "methodological weaknesses."[6] This retrospective analysis assesses social, cognitive, behavioral, and developmental outcomes for adolescents with ASD and related disorders who participated in a once-weekly, five-session AAT program called "Come, Follow Me!"[7]

Methods

Retrospective analysis was performed on clinical session data collected by the licensed clinical social worker consisting of weekly evaluation of 25 "positive behaviors" and 17 "negative behaviors" using a pre-validated "Psychological Session Form" for use in AAT.[8,9] Behaviors were rated on a 5-point Likert Scale (0-none; 1-very low; 2-low; 3-medium; 4-high; 5-very high). A Total Positive Behavior Score (Tpos) was calculated weekly for each participant as an average of all positive behavior scores. A Total Negative Behavior Score (Tneg) was similarly calculated. A Total Behavior Score was calculated as Tpos – Tneg.

A total of 15 adolescent-aged participants receiving behavioral and developmental services at the same facility were enrolled across two applications of the "Come, Follow Me!" curriculum. Two data sets were excluded from the analysis because the participants attended <4/5 sessions (n=13).[7]
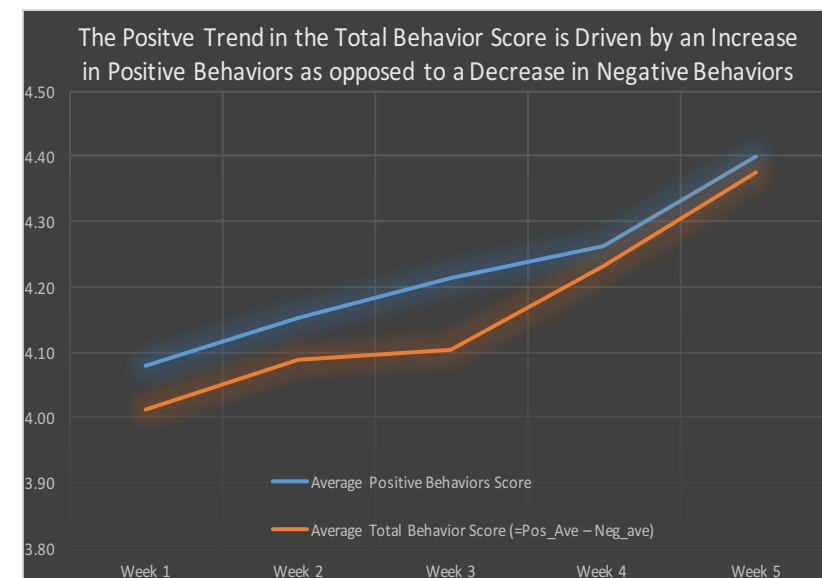
The data was matched by week between the two instances of the intervention, and overall averages were calculated. Matching was possible because the protocol is consistent week-to-week with each application.

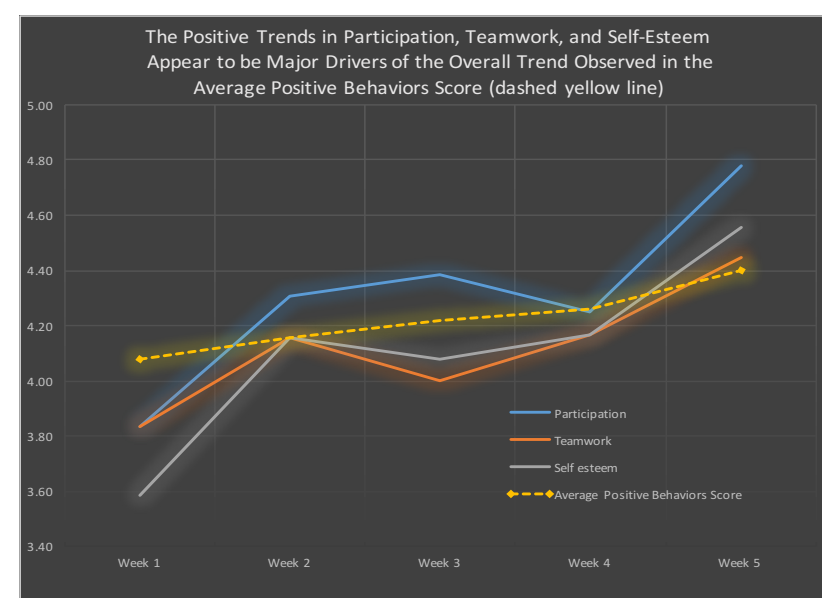Linear mixed models were used to test for change across weeks.

Results

Overall Average of Weekly Positive Behaviors Scores
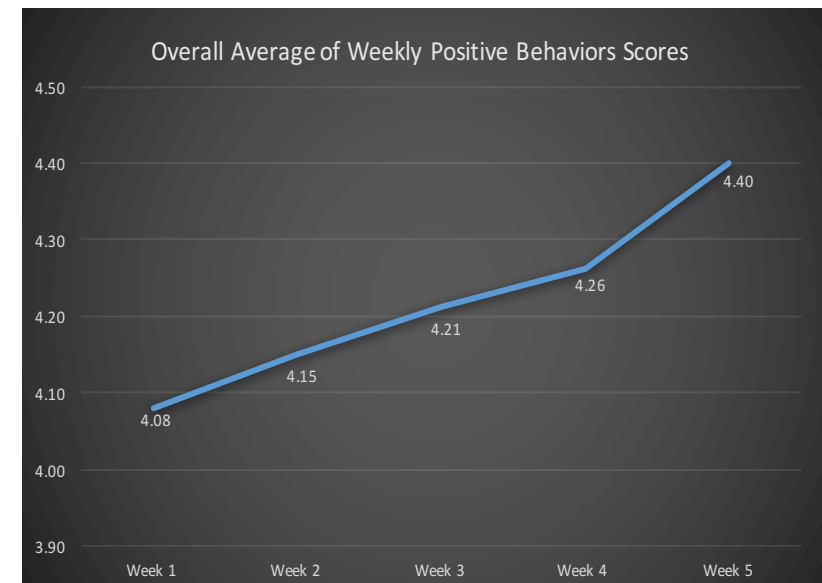
- b-value (change per week) = 0.079
- p-value < 0.001

The Positive Trend in the Total Behavior Score is Driven by an Increase in Positive Behaviors as opposed to a Decrease in Negative Behaviors

Comparison of the overall trend in Total Behavior Score to the Positive Behaviors Score alone reveals that clinical outcomes were driven by improvements in positive behaviors, rather than by a decline in negative behaviors.

Average Weekly Positive Behavior Scores by Specific Behavior and Overall Average of Positive Behaviors Score (dashed red line)
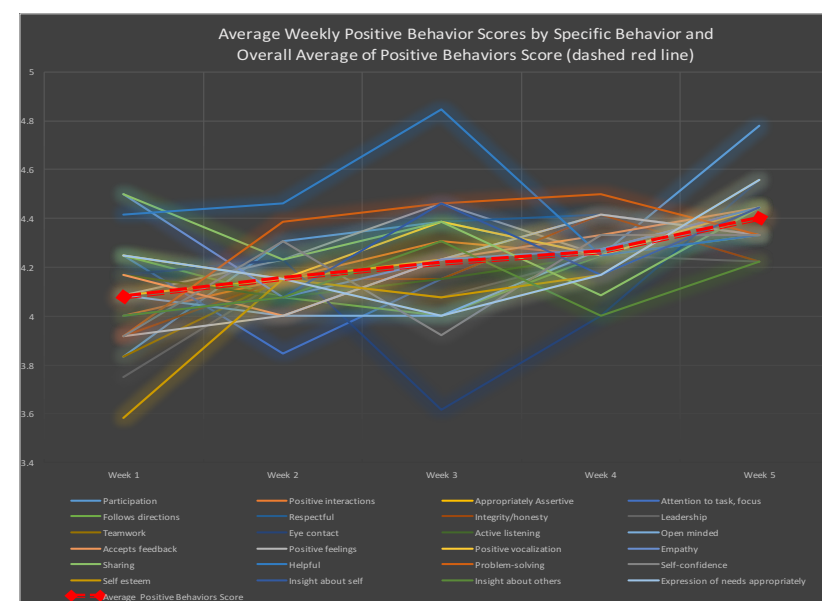
- There is significant variability among the 25 positive behavioral outcomes (solid lines)
- The overall increase in positive behaviors is an average of these 25 individual trends (red dotted line)

The Positive Trends in Participation, Teamwork, and Self-Esteem Appear to be Major Drivers of the Overall Trend Observed in the Average Positive Behaviors Score (dashed yellow line)

Participation
- b-value = 0.114
- p-value = 0.006

Teamwork
- b-value = 0.122
- p-value = 0.026

Self-esteem
- b-value = 0.233
- p-value = 0.005

Discussion

The "Come, Follow Me!" intervention resulted in statistically significant improvements in positive behaviors overall, with notable effectiveness in participation, teamwork, and self-esteem. Notably, a measurable decline in negative behavioral outcomes was not observed. Future applications of the "Come, Follow Me!" curriculum might focus more on positive behavioral outcomes, while continuing to measure negative behavioral outcomes may not be as clinically useful.

Important methodological limitations include small sample size and lack of an available control. An appropriate control protocol in future studies would help identify specific confounding factors and further categorize the direct impact of this AAT intervention on clinical outcomes.

Despite these limitations, these findings provide convincing evidence in support of animal-assisted interventions as an effective modality in achieving measurable improvements in specific positive behaviors among adolescents with ASD and related disorders.

Acknowledgements

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