



The Effects of Therapeutic Horseback Riding on Children with Autism

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See other side for specific results.

IMPLICATIONS

- All instructors commented on the importance of the horse/rider combination to the success of the lesson which the data support.
- The data indicate that the instructor/rider combination is also important for personality match and understanding of the child's concerns.
- Specific education of the instructors on the characteristics of autism will provide them with more appropriate ways to frame/label behaviors. Consideration of the child with ASD's partner in the lesson is also important, especially if social communication is a goal. Lesson partners can be matched to facilitate communication.
- The students in this study had difficulty attending to multi-step instructions (needed frequent prompting). It is recommended that directions be kept simple and direct with concrete prompts.
- A successful strategy for enhancing independence may be to fade the directness of the prompting. After repeated success with explicit prompts, the instructor can ask, "What do you tell your horse to do?" instead of, "Tell your horse to . . ." Remember, not all children with ASD will be able to succeed with faded instructions and will need continuous direct prompts.
- Eye contact is not a reliable predictor of attention during a lesson for these children. They were frequently able to follow directions without making eye contact with the instructor.
- Students enjoyed lessons. It may be worthwhile to find a way for them to share this experience with others, which would address social communication.
- Faster movement was engaging for these students. It is hypothesized that the movement of the horses meets these students' sensory needs. Instructors might consider interspersing movement throughout lesson to motivate/reward the students rather than waiting until end of lesson. Students may also attend more if moving rather than standing

FUTURE RESEARCH

1. Improvements in the students from this preliminary study were in the area of sensory processing. Larger studies on the impact of therapeutic horseback riding on children with ASD should focus on sensory issues.
2. Outside factors/stressors can impact the students' behaviors. Any future research would need to take such variables into consideration in trying to identify the specific aspects of horseback riding that are effective.
3. Instructor variables and their impact on students' response to lessons should be investigated.

Contact Info

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PURPOSE: To explore the effects of therapeutic horseback riding on the observed behaviors of 4 children with Autism Spectrum Disorder (ASD)

DESIGN: Exploratory Qualitative Case Study

Observation

- Extensive field notes taken during each session.
- All sessions were audio-recorded and transcribed.
- At least 30% of sessions included multiple observers

Interviews

- Pre/Post- interviews with instructors
- Post – interviews with parents
- Instructor interviews focused on the goals of the session, plans to achieve the goals, and perceived improvement (including specific examples), and perceived reasons for improvement.
- Family interviews focused on goals of the session, perceived improvement (including specific examples), and perceived reasons for improvement.

DATA ANALYSIS: Inductive analysis

- 4 unique male cases all with diagnosis of Autism
- Coded behaviors of riders and instructors
 - Reviewed transcriptions of audio recorded field notes and interviews for patterns
 - After reading each line of the transcripts, a representative code was assigned describing rider/instructor behavior
 - Assigned codes were kept the same until a new rider or instructor behavior was noted. At that time, a new, corresponding code was assigned
- All codes and categories emerged from the data
- In addition to coding observed behaviors, unobserved behaviors were also noted
- The degree of change in rider behaviors identified in instructor and parent interviews as goals were described
- Peer debriefing
 - Data were analyzed independently by 2 coders
 - Coders debriefed to discuss findings and identify patterns

Dream Catchers Therapeutic Riding Center is a NARHA Premier Accredited Center that provides therapeutic riding and other horse related activities to people with special needs in a caring and safe environment. All instructors are NARHA Registered Level instructors. Students enroll in a session that includes a series of 10 lessons. Each lesson has clear measurable objectives. Riding skills are broken into very small elements that progress to increasing levels of control. Control includes making the horse walk, stop, turn both directions, weave poles, circle barrels, and change gait. Riding skills include communication with the horse (verbal and/or sign/tactile language), the instructor, and the side walkers (volunteer on each side of the rider). www.dreamcatcherswilliamsburg.org



RESULTS

The outcomes of the lessons in terms of degree of change in rider behaviors fell into 7 primary categories.

Behavioral Outcomes (based on consistency in findings across observations and interviews)

	Student #1: Age 7-11	Student #2: Age 7-10 Nonverbal	Student #3: Age 9-5	Student #4: Age 10-2 Serious sensory difficulties
Some form of independent riding	Almost independent reining of the horse.	Inconsistent improvement in riding skills.	Used reins to steer horse in direction intended. More control of horse. More independent: <i>required less prompting.</i> Improved posture.	Continued to need prompting throughout lessons.
Communication	Increase in spontaneous speech (vs. scripts) during the lessons. Dramatic increase in social communication: <i>conversed with volunteers; used more "I" statements; more attention to other children in school; student asked to have his birthday party with friends for the first time; he has something to talk to peers about (i.e. horseback riding) instead of scripts.</i>	Imitated signs from instructor, but not spontaneous. <i>Whispered, "walk on."</i> Communicated with horse via touch but needed prompting.	Improvement in social communication: <i>made a friend during lesson, played pretend game with another child before lesson, more spontaneous interactions with instructor/volunteers, shared riding experiences with peer.</i>	Started to respond appropriately to another person's greeting; <i>said "hello."</i> Repeated joke.
Attention/Focus	More attentive when challenged/doing something. Remembered routine. Followed directions. Inconsistent eye contact.	Inconsistently complied with prompts but still highly distractible after the series of lessons. Inconsistent eye contact.	Remembered directions Remembered posture; <i>after 6th lesson it was not an issue.</i> Inconsistent eye contact.	Attended consistently to instruction in later lessons. Responded more immediately to prompts. Limited eye contact.
Enjoyment	Riding is motivating for student: <i>he will complete homework to attend lessons; apparent excitement (verbal and behavioral) while riding.</i>	Seeks and responds to approval. More enjoyment when horse moved faster: <i>giggled, smiled, yelped on horse.</i> Shows more interest in horses at barn and home.	Apparent enjoyment of lesson; especially when horse goes faster. Responded positively to reinforcement over time.	Responded favorably to positive reinforcement in later lessons. Participated in lesson routine in later lessons.
Self-confidence	Increase in independence during lesson and at home: <i>does more things for self, increased interaction with friends.</i>	Dramatic decrease in separation anxiety from parent throughout the lessons.	Less fearful overall even when a change in horse was necessary. More in control of the horse without prompting.	
General Behavior	Makes transitions easier to new activity with ease.	Able to calm self more over course of lessons. Able to tolerate noise (<i>parent report of first time able to take him to a restaurant</i>).	Makes transitions easier.	Able to transition to new horses in later sessions without tantrum. Ability to wait improved. On the horse and immediately after the lesson his sensory behaviors decreased significantly.
Movement	Enjoys faster movement (trotting) on horse; <i>more engaged and focused when moving on horse.</i>	Enjoys faster movement (trotting) on horse.	Enjoys faster movement (trotting) on horse.	Enjoys faster movement (trotting) on horse.