

# Benefits of therapeutic riding for children with autism extend to classroom

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Jennifer Anderson remembers when she began to see the effects of therapeutic horseback riding for her daughter, Claire.

Claire, who was diagnosed with autism, was sitting on the floor, placing stuffed animals on top of toy horses.

"She was giving them riding lessons," said Anderson. "I had tears in my eyes. ... This was a child who had never done any kind of role playing before, who had never really talked."

Although [parents](#) like Anderson have long reported the benefits of therapeutic riding on children with autism, a new quantitative study conducted by researchers in the William & Mary School of Education is the first to show that those benefits also extend to the classroom setting.

"We saw the transfer of these benefits into the classroom, and we saw these benefits as a result of lessons that focused on riding skills. There is something about the horse and learning riding skills that is impacting these children significantly," said Sandy Ward.

Ward, a professor of school psychology at William & Mary, led the study with the help of Kim Wendell, the primary therapeutic riding instructor, and the administrators at [Dream Catchers at the Cori Sikich Therapeutic Riding Center](#) in Toano. Kelly Whalon, a former William & Mary professor, and alumna, Katrina Rusnak '11 also helped with the research.

"We have always heard from parents of students with autism about the successes and improvements they witness in the children as a result of the therapeutic riding," said Nancy Paschall, executive director of Dream Catchers. "This study demonstrates their intuition with scientific data about the benefits these children experience from our four-legged friends."

## **Measuring improvement**

The study looked at 21 elementary-school children with autism who participated in therapeutic riding at Dream Catchers over a 30-week period during the 2010-11 school year. During that period, teachers rated the children's classroom behavior using the Gilliam Autism Rating Scale (GARS-2) and the Sensory Profile School Companion.

"One of the goals of our study was to determine if there was a transfer of these effects back into the classroom, so that's why it was important for us to have the teachers rate the students' behavior," said Ward. "These measures weren't completed immediately after the lesson. They were completed during the week after the lesson, so the teachers based their ratings on the students' behaviors in the classroom."

The GARS-2 looks primarily at symptoms of autism, including communication, stereotyped behaviors, and social interaction. The Sensory Profile School Companion measures a student's sensory processing and its effect on performance in the classroom. For instance, a student with a low sensory threshold may notice noises that others tune out, such as the clicking of a pen. However, a student with a high sensory threshold may not notice things that would bother many people, like having a shirt on backwards and inside out.

"We were exploring any improvements in their sensory processing, how they responded to sensory information coming in," said Ward.

Though the researchers were examining the variables of sensory processing and social interaction, the therapeutic riding lessons did not address those areas directly. The aim of therapeutic riding is to teach riding skills, said Ward.

During lessons, the students learned how to do things like get the horse to walk on and halt. They also played some games to facilitate the learning of riding skills, like directing the horse to a specific container to place a matching colored beanbag into it. Although the games make the riding lessons more fun, said Ward, the emphasis always remained on learning riding skills.

"The riding instructors are there to teach riding skills," said Ward. "They aren't counselors; they're not classroom teachers. Really, the whole goal is to learn how to ride a horse. And that's what makes the social effects that we obtained in the research so remarkable."

## **Classroom benefits**

Looking at the GARS-2 data, the researchers found that the children significantly improved in the area of social interaction. After six weeks of lessons, which took place once a week, the ratings of students' social behaviors changed from the "highly autistic range" to the "possibly autistic range."

"One thing that the teachers observed was an increase in eye contact. Also, the students were more engaged in learning. They were showing more interest in relationships with others, which we know is a major symptom for many children with autism," said Ward. "They were more relaxed in the classroom, which probably helped them engage more in the learning. They were listening to instruction; they were more helpful."

The researchers also saw marked improvement on the Sensory Profile

School Companion scale. The children were more attentive and less distracted by stimuli – like the clicking of pens – in the classroom. They were also more self-controlled, and needed less external support.

"This means they were paying more attention," said Ward. "They were participating more, and they needed less prompting. They were taking a little more initiative."

The researchers built a planned break into the study after eight lessons to determine whether changes in behaviors were maintained. After six weeks off from riding, the researchers found that the children's behaviors returned to their baseline levels on the two scales. However, once the students resumed lessons, they attained their [social interaction](#) gains at a much faster rate than they did in the first session of lessons, taking just three weeks to see the same results. The children also recouped the sensory gains they made in the first session of lessons; however, that improvement took the entire eight weeks of additional riding to regain.

## **Making recommendations**

The researchers have presented their findings to the Professional Association of Therapeutic Horsemanship International and the Council for Exceptional Children. They also have submitted the study for possible publication in Journal of Autism and Developmental Disorders.

They are also using the results of their study to make recommendations to the field of therapeutic riding. One of their recommendations focuses on the suggested number of riding lessons needed to see results.

"Although eight weeks of lessons seems to be ideal for children with autism in order to see a positive impact, the data also suggest that consistent lessons over time are necessary to maintain the benefits," said

Ward.

The researchers also recommend working in groups for children with autism.

"In the past, because of their weaknesses with social skills and interactions, some would say we don't need to focus on riding groups for [children](#) with autism," said Ward. "But what we're seeing is that they can work very effectively in groups. Just because they have [autism](#) doesn't mean they have to be alone, and actually there are benefits to them riding as a group."

Although the study does delve into new territory in the field of therapeutic riding research, Ward says there are many questions left to be answered, including why therapeutic riding works. Some have asserted that it has to do with the nature of horses (non-judgmental and responsive) and the motion of the riding. However, further research is needed to confirm those hypotheses.

But for parents like Anderson, the only thing that matters is that it works.

Recalling the day that Claire led riding lessons for her stuffed animals, Anderson said that she reached for the phone.

"I had Dream Catchers on the phone immediately, sobbing—and they're sobbing on the other end – saying, I just can't believe that this is what Claire is doing," she said.

Provided by The College of William & Mary

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