

Horsing Around in Childhood Really Can Change Your Life

First evidence-based study to measure positive levels of stress hormones in children in touch with horses

By [Fran Jurga](#) | Apr 28, 2014



What is it about kids and horses? A new study measures a change in juvenile participants' levels of the stress hormone cortisol after working around horses.

We all know it's true, but now there's proof: horses have a positive effect on children.

A study published this month in the American Psychological Association's [Human-Animal Interaction Bulletin](#) documents work done at [Washington State University \(WSU\)](#). The WSU study, "Randomized Trial Examines Effects of Equine Facilitated

Learning on Adolescents' Basal Cortisol Levels" is the first evidence-based research within the field of human-equine interaction to measure a change in participants' levels of the stress hormone cortisol.

The study is much more than a reinforcement of the “feel-good” benefits of being around animals. In particular, the researchers designed the study to see if there was a way their research could be utilized in the prevention of mental health problems later in life.



Students were randomly selected to be evaluated before and after their work period with horses. Their cortisol levels were compared with a group of children who did not have the chance to work with horses. Children who worked with horses had lower stress hormone levels.

"We are especially interested in optimizing healthy stress hormone production in young adolescents," said lead researcher [Patricia Pendry, PhD, a developmental psychologist at WSU](#), "because we know from other research that healthy stress hormone patterns may protect against the development of physical and mental health problems." The beauty of studying stress hormones is that they can be sampled quite non-invasively and conveniently by sampling saliva in naturalistic settings as individuals go about their regular day," Pendry said.

While human-animal interaction programs with horses, dogs, cats and other companion animals have been credited with improving social competence, self-esteem and behavior in children, scientifically valid research to support these claims – and an

understanding of the underlying mechanism for why people report a positive experience in these programs – has been limited.

With the support of a \$100,000 grant from the [National Institutes of Health](#), Pendry's research project engaged students in grades 5-8 in a 12-week equine facilitated learning program in Pullman, Washington.



Stephanie Roeter, WSU graduate student and co-author, processes saliva samples to measure stress hormones.

Dr. Pendry has been riding and working with horses since she was a child and reacquainted herself with therapeutic horsemanship through [PATH](#) (Palouse Area Therapeutic Horsemanship) at the WSU College of Veterinary Medicine, before the study began.

Working with PATH director Sue Jacobson and Phyllis Erdman from the WSU College of Education, Pendry designed and implemented an after-school program serving 130 typically developing children over a two-year period that bused students from school to the barn for 12 weeks.

Pendry said stress hormone functioning is a result of how we perceive stress as well as how we cope with it. Stress is not just what you experience, she said, but it's how you interpret the size of the stressor. A child in front of a large, unfamiliar horse may experience more stress than when he or she encounters a smaller, more familiar animal.



From left: Sue Jacobson, Patricia Pendry and Phyllis Erdman with two PATH horses. (Photo by Kate Wilhite, WSU)

Children were randomly assigned to participate in the program or be waitlisted. Based on natural horsemanship techniques, the program provided 90 minutes weekly to learn about horse behavior, care, grooming, handling, riding and interaction.

Participants provided six samples of saliva over a two-day period both before and after the 12-week program. Pendry compared the levels and patterns of stress hormone functioning by measuring cortisol.

“We found that children who had participated in the 12-week program had significantly lower stress hormone levels throughout the day and in the afternoon, compared to children in the waitlisted group,” she said. “We get excited about that because we know that higher base levels of cortisol – particularly in the afternoon – are considered a potential risk factor for the development of psychopathology.”

Pendry said the experimental design underlying the study gives more scientific credit to the claims of therapeutic horsemanship professionals, parents and children who have reported a positive impact from these types of programs.



Washington State University's Dr. Patricia Pendry combined the resources of her university's education and veterinary medicine departments, as well as equine therapy staff from the PATH equine therapy program and local children to design this study.

In addition, she hopes the results will lead to development of alternative after-school programs.

While the research focused on prevention, Pendry said she believes it could provide a starting point to look at the impact on children of high levels of stress and physical or mental health issues.

“Partly because of NIH’s effort to bring hard science to the field of human-animal interaction, program implementers now have scientific evidence to support what they are doing,” she said.

[Download the full paper at this link to the study at the American Psychological Association’s *Human - Animal Interaction Bulletin* website.](#)

All photos courtesy of Dr. Pendry except the top image, which is by [Trey Ratcliff of the amazing "Stuck in Customs" HDR blog](#), and shows his daughters grooming a miniature horse (and decreasing their cortisol levels) in New Zealand.

Thanks to [Rachel Webber of WSU Communications](#) whose original article on the study included Dr. Pendry's quotes, some of which are used here, along with the WSU photos, with permission

- See more at: http://equusmagazine.com/blog/horsing-childhood-wsu-evidence-cortisol-stress-hormone-16393?utm_source=EQUUSFB&utm_medium=link&utm_campaign=Facebook#sthash.qAGsEtWW.vyAlgVWq.dpuf

This article supports the idea that horses “help” kids. The first five years of a child’s life is critical to proper brain development that will give the child an opportunity to have a fulfilling life by having a brain that is fully functioning. It is important that we do everything we can to support ‘kids’ programs with horses. And this does not just refer to ‘kids’ riding programs ... but ‘kids’ spending time with horses in any manner where they have the opportunity to “touch and feel.”

At the **Arabian Horse Reading Literacy Project**, we see miracles occurring all the time. This research and other research just like it, provides tremendous support for the concept that these programs are not only good for ‘kids’, but necessary for ‘kids’ and their development as human beings. Support and encourage a ‘kids’ with horses program in your area.

The horses are amazing teachers!

Gary

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