



First Responders and Horses: Findings from a Canadian evaluation of an Equine-Assisted Therapy pilot

Nelson, Dossett and Walker, 2024, "[Equine-Assisted Therapy for Posttraumatic Stress Disorder Among First Responders](#)", *Psychological Reports*, vol. 127, no. 5, pp. 2203-2219

Introduction

This digest summarises the findings from a Canadian study of a pilot that provided equine-assisted therapy for first responders suffering occupational incapacitation from operational-related PTSD.

Equine-assisted therapy is an adjunctive and emerging intervention that uses structured interactions with horses to support emotional regulation, trauma recovery, and functional rehabilitation. Activities often include grooming, leading, mindfulness exercises, navigating obstacles, observing herd behaviour, and reflecting on emotional responses. The ideas behind it is that horses are naturally attuned to human physiology and can provides immediate, non-verbal feedback for people (at a body awareness level) that enhances traditional PTSD treatment.

PTSD and treatment options

PTSD is common among first responders because their work exposes them to violence, serious injury, death, and other traumatic events. While about 1–2% of the general population has PTSD, rates among high-risk groups (i.e. police, firefighters, paramedics, corrections, military) can range from 8% to over 30%. PTSD can have major personal and organisational impacts, including reduced wellbeing, time off work, long-term disability, and high healthcare and productivity costs. Because of this, effective and accessible treatments are essential.

There are several well-established treatments for PTSD, including Cognitive Processing Therapy (CPT), Cognitive Behavioural Therapy (CBT), EMDR, and medication. These therapies focus on education, processing traumatic memories, exposure, and changing unhelpful thinking patterns. However, very little research has looked at additional or complementary therapies for first responders. This leaves a gap in understanding how alternative or experiential therapies might support recovery.

Equine-Assisted Therapy

Equine-assisted therapy uses guided activities with horses to help people understand their emotions, reactions, and patterns of behaviour. Originally developed for physical disabilities, equine-assisted therapy is now used to support people experiencing anxiety, depression, trauma, and other mental health challenges. Early research, mostly with veterans, suggests it may help reduce PTSD symptoms and improve emotional regulation, self-esteem, and overall wellbeing.

Horses are highly sensitive animals that respond to human body language, mood, and energy, which makes them a kind of natural “biofeedback” system. Because first responders often struggle with hypervigilance, loss of trust, and difficulty connecting with emotions, equine-assisted therapy may be a particularly useful adjunct to traditional PTSD treatment.



Research problem

Through equine-assisted therapy has emerged as an adjunctive integrative health modality in treating individuals experiencing physiological and psychological distress, there is limited research exists to assess the efficacy of such treatment for Posttraumatic Stress Disorder (PTSD) in first responders. The authors of this study claims to be the first to directly examine clinical outcomes of first responders with PTSD participating in equine-assisted therapy.

Research aims

- Measure whether adding equine-assisted therapy to standard CPT helps people with PTSD.
- Track changes in symptoms and overall wellbeing throughout the treatment period.
- Explore how participants describe the benefits of equine-assisted therapy beyond just symptom reduction.

Methods

- Eight (3 female: 5 male) first responders (6 police, 1 firefighter, 1 paramedic) suffering occupational incapacitation from operational-related trauma participated in an 8-week, 90-minute, equine-assisted therapy program. One dropped out so only seven were included in the final results.
- The program was based on the Neuro-Equine Model and held at [Belvoir Estate Farm](#). It included activities such as grooming and leading horses, mindfulness and grounding exercises, working through obstacles, round-pen activities, and observing herd behaviour. Participants learned to read changes in a horse's body language and how horses respond to human emotion and energy. They practised noticing these cues, recognising their own emotional state before working with the horses, adjusting their energy, and seeing how this influenced the horse's behaviour.
- The age range of participants was from 27 to 57 years with a mean age of 43.50 (SD = 10.41).
 - *Inclusion criteria:* working as first responders (such as police, paramedics, or firefighters), spoke English, already had a diagnosed PTSD condition, and were currently off work because of trauma-related issues. Their symptoms needed to be stable (not acute) but still affecting their ability to function.
 - *Exclusion criteria:* allergies to horses, a history of harming animals, significant current substance misuse, active suicidal thoughts, or symptoms of psychosis.
- Five primary outcome measures were assessed via a pen and paper pre- and post-intervention questionnaire that participants completed (i) within two weeks prior to program and (ii) at the final program meeting. These were:
 - Anxiety via the Generalized Anxiety Disorder-7 (GAD-7) questionnaire.
 - Depression via the Patient Health Questionnaire-9 (PHQ-9)
 - Trauma via the Post-Traumatic Stress Disorder Checklist for DSM-5 (PCL-5).
 - Inflexibility via the Acceptance and Action Questionnaire-II (AAQ-II).
 - Avoidance via the Acceptance and Action Questionnaire-II (AAQ-II).
- Additional study, specific measures were developed to examine:



- vi. feelings about the self via a 7-point Likert scale measuring five aspects of how they see themselves: self-esteem, self-confidence, self-acceptance, spiritual wellbeing, and feelings of social support. These dimensions were chosen based on previous research on the effects of equine-assisted therapy.
- vii. Usefulness of program parts via a 7-point Likert scale (with option for adding comments) measuring participants perception of the usefulness of each of the six program components: time with horses, exposure to the labyrinth, natural surroundings, social support, staff, and involving loved ones.

In addition to these data, researchers and instructors made notes of behavioural observations throughout the course of the program.

Data Analysis

- Frequencies, percentages, means, and standard deviations were calculated to define the sample.
- Paired t-tests to compare pre- and post-treatment scores were used to assess the main outcomes.
- Paired t-tests were also used for the additional, study-specific self-perception measures since they were exploratory and not standardised
- Qualitative data were analysed for themes related to participants' experiences, and observations from researchers and instructors are also reported.

Limitations of study

- Small sample size
- One participant found working alongside other first responders challenging, highlighting that group-based equine programs may not suit everyone.
- Scheduling difficulties also affected participation, which is common in first responder populations.

Findings

Primary Outcome Measures

- There was no statistically significant change for **anxiety**. Five out of seven participants still showed reduced anxiety after the program, and the same number moved into a lower severity range.
- **Depression** symptoms significantly improved. Before the program, four participants met criteria for depression; afterward, only two still did.
- **PTSD** Symptoms also significantly decreased. Five participants met the PTSD cut-off before the program; only three still met it afterward.
- **Psychological Flexibility** and **Avoidance**: There was no statistically significant change, but five participants showed improved flexibility (less avoidance).



Self-Perception

Most participants felt better about themselves after the program. The biggest improvements were in:

- Feeling supported by others
- Spiritual interest
- Self-esteem and self-confidence (smaller but consistent increases)

A few participants showed mixed changes in self-acceptance.

Usefulness of Program Components

All parts of the program were rated very highly (over 6.3/7). Participants said:

- Time with the horses was the most helpful
- Horses helped them feel calm, present, and mindful
- They felt more trusting, more hopeful, and less alone
- Being with other first responders was supportive for most, though one person found it challenging

Staff were consistently described as knowledgeable, friendly, and understanding.

Instructor Observations

Instructors noticed:

- Clear growth in confidence around the horses
 - Early on, only two participants were willing to work with a loose horse; by the end, everyone was confident doing so
- Strong peer encouragement from the first session
- Participants becoming more open about their emotions and experiences over time
- Group connection and companionship were major contributors to progress

These observations matched what participants reported in their written feedback.

Discussion

Overall, this pilot project suggests that adding equine-assisted therapy to trauma-focused psychological treatment can meaningfully help first responders with PTSD. As expected, participants showed significant reductions in depression and trauma-related symptoms, and several who met diagnostic criteria for depression or PTSD before the program no longer met those criteria afterward. There were early signs of reduced anxiety and avoidance, but more data are needed to confirm these effects.

The qualitative feedback reinforced these improvements. Participants described feeling calmer, more grounded, more mindful, and better able to trust themselves and others. This suggests a major shift in light of the finding that PTSD often erodes trust and connection. Many also valued the sense of belonging that came from working alongside other first responders with similar experiences. These



themes align with previous research showing that equine-assisted therapy can support emotional regulation, self-esteem, and self-mastery.

Conclusion and Recommendations for future research

This pilot project is the first to examine equine-assisted therapy as an adjunct to trauma-exposure-based treatment for first responders with PTSD. Early findings show meaningful benefits and add to growing evidence supporting equine-assisted approaches. These results point to the value of larger-scale research so that more first responders experiencing PTSD, depression, and anxiety may have access to this promising intervention. Specifically:

- Clinicians should consider readiness for group work and practical barriers when recommending this type of program.
- Future research should test this approach in a larger clinical trial and examine how equine-assisted therapy works as both an add-on and a stand-alone treatment.
- Larger samples would also allow exploration of differences across gender, race, and comorbid conditions. Long-term follow-up would help determine whether benefits last beyond the program.