

November, 2016
PILOT STUDY



Leading Thunderbird Lodge

Twisted Wire Ranch
Equine Assisted Learning Riding Program

Background & Purpose

Animal Assisted Intervention (AAI) “is a broad term now commonly used to describe the utilization of various species of animals in diverse manners beneficial to humans” (American Veterinary Medical Association, 2016). It is commonly “a goal-directed intervention designed to promote improvement in physical, social, emotional and/or cognitive functioning of the person(s) involved... [It] can also be less goal-directed, more casual or spontaneous” (Animal Assisted Intervention International, 2016).

A 2013 systematic review of equine specific AAIs suggested that they “hold much promise, particularly in terms of child/adolescent social and behavioural issues, and perhaps adult affective disorders. However, the current state of the literature does not allow us to conclude that equine-

assisted interventions are efficacious” (Kendall et al., 2015, p. 57).

This empirical fact sheet shares the history and findings of a pilot study of the Twisted Wire Ranch Equine Assisted Learning (EAL) Riding Program with Leading Thunderbird Lodge (LTL).

The Twisted Wire Ranch EAL Riding Program is a culture-based program that aims to satisfy four major components of promoting a healthy lifestyle, including: 1) promoting physical health by requiring upper body and leg strength, 2) promoting spiritual health by reviving feelings of joy and spiritual connection, 3) promoting emotional health by facili-

tating a therapeutic relationship and connection with the horse, and 4) promoting intellectual health through learning of how to ride and care for the horse.

As part of a multi-site project, the aim of this pilot study is to identify the outcomes/effects of the EAL Program during the sessions.

Drawing from the AAI literature, the concepts of love and support are examined for if and how clients experience them and key outcomes from past studies are measured. This study was not designed to measure the objectives of the EAL program, although insight is offered from the findings. Feedback is collected from LTL youth clients and staff, and the EAL program facilitators.

EAL, Twisted Wire Ranch & Leading Thunderbird Lodge

Equine Assisted Learning (EAL) is a learning program facilitated in a group format. Participants engage in structured, facilitator-led sessions with constant feedback related to the participants’ experiences. The horse is generally considered the teacher and a human facilitator guides the participants on a journey of experiential learning, reflection and understanding.

The **Twisted Wire Ranch EAL Riding Program** consists of a 6 week, 12 hour facilitator-led curriculum to develop the life skills of participants. At times the program is extended in length in response to participant needs. The Twisted Wire Ranch EAL Riding Program centres on the development of horsemanship skills. The natural ranch

environment offered by the Program serves to eliminate negative distractions and pressures. Instead, focus is placed on the horse, and its role as teacher, listener, comforter, distracter and unwavering and unconditional friend. A positive relationship with a horse is seen as a safe step toward practicing the social skills needed to initiate closer relationships with humans. Cooperation and communication skills are developed through participation and completion of individual and group challenges involving the horse. The Twisted Wire Ranch EAL program is recognized as a contributor to individual healing.

Founded in 2007, **Leading Thunderbird Lodge (LTL)** is a residen-

tial youth treatment facility for male, First Nations and Inuit youth involved with drugs, alcohol and solvent misuse. The Lodge offers a 12-week treatment program, including one-on-one and group therapy sessions, supplemented by clinical and educational programming.

Leading Thunderbird Lodge partnered with the Twisted Wire Ranch EAL Riding Program because the program was identified as supporting the Lodge’s commitment to a culture-based model of resiliency, and its holistic approach to youth spiritual, physical, psychological and social well-being.

Name of horse	Breed of horse	Age of horse	Horse in EAL program	How often does the horse work?
Jesse	Paint	15	7	2-3 days/week
Jazz	Paint	15	4	2-3 days/week
Mona	Quarter Horse	16	10	2-3 days/week
Razzel	Quarter Horse	11	2	2-3 days/week
Shorty	Quarter Horse	15	4	2-3 days/week
Leroy	Quarter Horse	18	5	2-3 days/week
Max	Quarter Horse	26	10	1-2 days/week
Olie	Quarter Horse	26	3	1-2 days/week
Smoker	Quarter Horse	8	2	2-3 days/week
Nikkie	Quarter Horse	14	5	2-3 days/week
Molly	Quarter Horse	8	3	2-3 days/week

Research Methods

This pilot study was designed on a limited scale to gain insight into the session outcomes for the Program and to develop a future robust study.

The data collection was two-fold via a questionnaire. Qualitative, open-ended inquiry documented client, staff, and facilitators' subjective experiences, meanings and processes (Denzin & Lincoln, 2008). This approach recognizes that others' perspectives lend to the co-creation of individuals' stories such that they can collaboratively unfold (i.e., clients and facilitators) (Creswell, 2013). Quantitative, Likert scales documented outcomes in areas identified from the literature.

The data was collected from May to August, 2014. A total of 5 client encounters were analyzed, with 36 client, 15 staff, and 3 facilitator questionnaires completed. Eleven horses were involved in the data collection with 21 youth that filled out questionnaires. Between four to eight individuals were in each session, ranging in age from 11 to 18. Client demographics do not take into account that clients may have attended more than one session.

The clients were presented with a questionnaire at the completion of each session, and filled it in on-site and out of the presence of facilitators and staff. Staff and facilitators completed questionnaires immediately after the session.

Client Demographics (N = 36 responses)			
Gender	Male	36	100%
Ethnicity	First Nation	36	100%
Age	11	2	6%
	12	1	3%
	13	4	11%
	14	9	25%
	15	5	14%
	16	4	11%
	17	6	17%
	18	5	14%

Staff & Facilitator Demographics	
Facilitator Education	Elder; Equine related certificate from Old College; SK Horse Federation and Equine Canada Beginner Certificate; Youth Care Certificate
Years in Field	Average 30
	The staff who attended from LTL varied in their positions (e.g., primary case workers or casual staff). Most attended with the participants because they were tasked with transporting them to the EAL program.



Data Analysis

The data collected using the Likert scale was analyzed quantitatively for descriptive statistics (i.e., mean and frequency). Means and frequencies were compared to provide an indication of highest means and largest proportion of agreement on items. T-test mean comparisons were conducted on how a client felt before and after spending time with the horse.

The qualitative data was analyzed through an inductive thematic analysis. Such an analysis seeks to identify recurrent patterns, or themes, in textual data. These themes were compared with others and clustered based on similarity in meaning (Saldana, 2010). The frequencies presented here may not sum to the sample size because sentences can be thematically coded more than once. All data was reviewed and interpreted by our multi-disciplinary team.

Partnership & Ethics

This pilot study was initiated through a Canadian Research Initiative in Substance Misuse grant, funded by the Canadian Institutes of Health Research to researchers Dr. Colleen Anne Dell at the University of Saskatchewan, Department of Sociology & School of Public Health, and Dr. Darlene Chalmers at the University of Regina, Faculty of Social Work. The study was carried out through collaboration and partnership with Derek Francis, Dalcyce Francis and Elder Harry Francis of Twisted Wire Ranch, along with Karen Main, Executive Director at Leading Thunderbird Lodge and staff.

This collaborative project builds on existing relations, extensive expertise and scholarly and practice-based experience among a multi-disciplinary team that includes researchers, Indigenous Elders, government decision makers, service providers, communications experts and individuals with lived experience.

Ethics exemption was granted from the Universities of Saskatchewan and Regina Human Research Ethics Board given the project's evaluative focus. Animal Research Ethics Board review was not required given the evaluation did not actively involve the researchers in direct animal use.

The AAI in this Fact Sheet cannot be directly compared to others in the series as they vary in client presenting needs, therapeutic approaches and species (e.g., horses are prey animals and dogs are predator animals).

Becoming an EAL Facilitator and Horse

The three Twisted Wire Ranch EAL Riding Program facilitators offer a range and depth of background expertise. First, all have lifelong and extensive experience with horses. Elder Harry Francis brings an understanding of the horse from a First Nations Worldview, which guides the program and work with the youth. Dalcyce Francis holds an equine related certificate from Old College and also a Instructor of

Beginners certificate from the Saskatchewan Horse Federation and Equine Canada. Derek Francis has a Youth Care Certificate and has worked with young offenders in the justice system.

The horses in the Program are selected primarily based on their temperament. Ideally, the horses are not extremely broke to ride nor highly sensitive as they can be

overly reactive to the cues given by the youth, whether intended or not. Because the horses in the program work with many youth, they are rotated on a regular basis. Even after meeting the criteria as an EAL horse with the Twisted Wire Ranch's program, some horses are not able to work in the program on a long-term basis and are typically re-homed as childrens' horses.

Findings

Client: Rated Items

Approximately 21 clients (all male) were asked to rate ten items, using a 5-point Likert scale ('Not at all' to 'Yes, a lot' OR Smiley/Sad Faces).

In response to whether they liked spending time with the horse, 49% responded 'Yes, a lot', 34% responded "Yes, a little", with an overall average of 4.3.

Clients strongly rated how they felt in the time they spent with the horse. However, they were less positive about their being comforted/loved by the horse (average 3.4 with 19% responding 'Yes a lot' and 19% unsure). Most clients were in strong agreement with their experience with the instructor (average of 4.5 with 66% indicating "Yes, a lot", and 29% indicating "Yes, a little").

1='Not at all' and 5='Yes, a lot'	All Average
Liked spending time with horse	4.3
Comfy around horse	4.1
Horse loves me	3.4
Instructors were nice to me	4.5

The clients had positive feelings after spending time with the horse, and a large majority rated feeling calm, with an average of 4.1 and 75% in agreement. The rating for feeling in better control of feelings appears to be slightly lower, with an average of 3.7, with 58% in agreement and 28% unsure. Additionally, the clients indicated positive feelings after time with the horse, with only a few rating feeling unhappy (average 1.8 and 14% unsure). The rating for feeling anxious is slightly higher with an average of 2.8 and 31% unsure.

1='Not at all' and 5='Yes, a lot'	All Average
Feeling anxious	2.8
Feeling calm	4.1
Better control of feelings	3.7
Unhappy	1.8

Of the 33 client responses to the final two questionnaire items, on average, clients rated their feelings as about one face happier after being with the horse (3.9 to 4.5), which was statistically significantly higher ($p < .001$).

1='Very Sad Face' and 5='Very Happy Face'	All Average
How felt before with horse	3.9
How felt after with horse	4.5*

*significant at $p < 0.001$

Client: Qualitative

Question: Did you like spending time with the horse today?

Who responded: Client: 32 of the 36 (89%)

Themed frequency:

Unsure/I don't know (10, 31%)
 Beautiful/nice/cool animal/listened good (10, 31%)
 Yes, a lot/made me feel at home (5, 16%)
 Fun riding horses/good time/awesome (3, 1%)
 Calms me down/feel good around them (2, 0.06%)
 Love the horses (1, .03%)

yes, a lot/made me feel at home
 beautiful/nice/cool animal/listened good
 fun riding horses/good time/awesome
 unsure/i don't know
 calms me down/feel good around them

Question: How did spending time with the horse make you feel?

Who responded: Client: 34 of 36 (94%)

Themed frequency:

Happy/good/loved (15, 44%)
 Made me feel nice/great (9, 26%)
 Calm (2, 0.06%)

Questions: Other comments

Who responded: Client: 17 of 36 (47%)

Theme Frequency:

Fun/enjoyed the experience (12, 71%)
 Loved/miss horses (4, 24%)
 Thanks (1, 6%)

Staff and Facilitator : Rated Items

The 15 staff and 3 facilitator responses included rating observations of their clients on three items using a 3-point Likert scale (Yes, Unsure, No).

3= 'Yes'	Staff Average	Facilitator Average
Client felt...		
Loved by horse	2.6	2.7
Supported by horse	2.8	3.0
Supported by handler	2.7	3.0

Overall, on all three items, the staff and facilitator responses were in an almost unanimous agreement that the clients felt loved and supported by the horse, as well as received facilitator support (average between 2.6 to 3). In addition, the staff rated their observations of their clients on six items using a 5-point Likert scale (Strongly Disagree, Disagree, Unsure, Agree, Strongly Agree). On average, the strongest agreement was that the clients' smiled more/showed positive affect, (average of 3.8 with 85% strongly agreed/agreed). The ratings on the other five items were similar or slightly lower averages.

5= 'Strongly Agree'	Staff Average Rating
Client ...	
talked more openly	3.7
increased participation	3.5
smiled more	3.8
less agitated	3.8
more relaxed	3.5
increased compliance	3.4

Staff: Qualitative

Question: What did you see or experience that made you think that spending time with the horse made the client feel loved?

Who responded: Staff: 14 of 15 (93%)

Themed frequency:

Connection/bond between horse and client (5, 36%)
 Unsure/did not participate (4, 29%)
 Respectful of the horse/attentive to handler (3, 21%)
 Brings out feelings/take pride in their horse (3, 21%)
 Happy (1, 0.07%)



Question: Do you think that spending time with the horse made your client feel supported?

Who responded: Staff: 14 of 15 (93%)

Themed frequency:

Support/respectful of horses & facilitator/connection (6, 42%)
 Learning experience/feeling confident/sense of responsibility (3, 21%)
 Unsure/did not participate (3, 21%)
 Enjoyed their time (2, 14%)

Question: Do you think that spending time with the EAL facilitators made your client feel supported?

Who responded: Staff :14 of 15 (93%)

Themed frequency:

Support/comfort/answered questions (7, 50%)
 Unsure/did not participate (4, 29%)
 Listened to handler/clients took direction (3, 21%)

Question: How would you describe the experience?

Who responded: Staff: 5 of 15 (33%)

Themed Frequency:

Smiles/Laughter/Enjoyment/Happy (5, 100%)

Facilitator : Qualitative

Question: What did you see or experience that made you think that spending time with the horse made the client feel loved?

Who responded: Facilitator: 2 of 3 (67%)

Themed frequency:

Connection to horse/developed a bond (2, 100%)



Question: Do you think that spending time with the horse made your client feel supported?

Who responded: Facilitator: 3 of 3 (100%)

Themed frequency:

Support/horses followed clients/relied on clients for guidance (3, 100%)

Question: Do you think that spending time with the EAL facilitators made your client feel supported?

Who responded: Facilitator: 3 of 3 (100%)

Themed frequency:

Support/good communication/encouragement/ask questions (3, 100%)

Question: What words would you use to describe your clients' experience with the horse today?

Who responded: Facilitator: 3 of 3 (100%)

Themed frequency:

Brushing/walking with horse (2, 67%)

Great experience (1, 33%)

Enjoyment/interested (1, 33%)



The outcomes/effects of the EAL Riding Program as an option for male, First Nations youth involved with alcohol, drugs and solvent misuse are discussed within the objectives of the Twisted Wire Ranch Equine Assisted Learning Riding Program.

Support for each of the program's reviewed objective was identified, as follows:

1. To promote physical health by requiring upper body and leg strength

Staff & Facilitators

The staff agreed that the clients increased their participation, talked more openly and complied more during the sessions with the horses. The facilitators also noted the youths' involvement.

Although not measured directly in this pilot study, the literature supports that there may be benefits to physical health following participation in an equine program (Adams et al., 2015; Friedmann, Son, & Tsai, 2010), and acknowledgement that motor coordination is an area of concern for youth who misuse solvents (Lubman, Yucel, & Lawrence, 2008).

2. To promote spiritual health by reviving feelings of joy and spiritual connection

Staff & Facilitators

The staff reported that the clients smiled more and/or showed positive affect during the sessions with the horses; they enjoyed themselves during the EAL program.

"Clients are able to be free to smile and express themselves." (Staff)

Clients

The clients rated their feelings significantly more positive after their time with the horses. The clients most common reasons for liking the time they spent with the horse was that the horse was beautiful and/or nice, and it made them feel good and at home.

Inclusion of the horse in EAL programming has been found to impact spiritual wellbeing (Adams et al., 2015). This is because within some First Nations communities, the role of other beings, including horses, holds significance as part of identity, culture, and spirit. The horse is specifically identified as having a strong spiritual power, and is seen as a 'teller of truth' who desires to 'do the right thing'. It is believed that a horse's spirit will lead individuals in the 'right direction' and will assist them in understanding their place in the circle of life (Dell, Chalmers, Dell, Sauve, & MacKinnon, 2008). Some equine assisted interventions have demonstrated an increase in feelings of unconditional love and acceptance among participants (Iannone, 2003). This sense of belonging and community is key to the identity and wellbeing of First Nations youth in Canada (Honouring Our Strengths: Indigenous Culture as Intervention in Addictions Treatment, 2014), and fosters feelings of involvement and/or interconnection in a broader network (Kruger & Serpell, 2006).

3. To promote emotional health by facilitating a therapeutic relationship and connection with the horse

Clients

Clients expressed feeling a bond and/or connection with the horse, and that this connection contributed to an understanding of their own emotions and feelings. A majority of clients agreed that they felt calm, and more in control over their emotions after their time with the horse.

"When I ask him questions, [it] seems like he answers, so he [is] cool." (Client)

Staff & Facilitators

The staff almost unanimously agreed that the clients felt loved and supported by the horses, as well as supported by the facilitators. Support was interpreted as the relationship that was established between the horse and client during a client's time with a horse. The facilitators also reported feeling that the clients made emotional connections with the horses.

The EAL program promotes emotional health through interpersonal relationships with the horse and horse program facilitator. The horse-human relationship is based on the development of mutual respect and trust, and opportunities to interact with animals provides a starting place to begin to explore and develop trust and a relationship with another living beings (Latella, 2003; Wilkes, 2009). According to the available literature, a strong intimacy/nurturing bond can form between humans and horses (Yorke, Adams & Coady, 2008), whereby animals provide an emphatic space (Ashbrooke in Wilkes, 2009, pp. 103). Contributing to this emphatic space is the program facilitator, who also develops a relationship with the youth (Dell, Gust, & MacLean, 2011).

4. To promote intellectual health through learning of how to ride and care for the horse

Staff & Facilitators

The facilitators reported witnessing overt behaviours displayed by the horses that suggested the horses relied on and/or were responsive to the clients. These behaviours included following the clients, and requiring guidance from the clients during activities.

"Horses followed clients through a weaving obstacle allowing the clients to take on the leadership role." (Facilitator)

Life skill development following participation in EAL programming has been documented in the literature. This includes development of communication skills (Toukonen Cuffari, 2011), mastery in a new experience (Dell et al., 2011; Toukonen Cuffari, 2011), behaviour change (Carlsson, Ranta, & Traeen, 2014; Trotter, Chandler, Goodwin-Bond, & Casey, 2008), leadership skills (Hawkins, Cummins, & Marlatt, 2004) and ability to work on a team (Roberts et al., 2001).

Practice & Research Recommendations



Continue to develop the EAL program, paying attention to how the client-horse connection within each session is supported. This includes the concepts of love and support provided by the horses and support from the facilitators.



Explore innovative approaches to enhance youth engagement with a focus on emotional constructs and tasks with the horses.



Undertake future research with a larger sample and ideally conduct a randomized control trial.



Explore the healing properties of connecting with horses and nature.



Recognize the horse and First Nations culture are historically linked, and that there is room for further understanding about this in the context of Twisted Wire's EAL Horse Riding Program.



Formally acknowledge the impact of the program facilitator (and staff), because to date limited research explores their unique and essential role in assisting clients in EAL programs.



Continue to make linkages between the EAL horse riding program and First Nations Worldview for the youth, when possible.

PILOT STUDY CONCLUSION

The outcomes/effects of the Equine Assisted Learning Riding program support its four measured objectives, and this should be fully explored in a future, robust study.

“Wellness from an Indigenous perspective is a whole and healthy person expressed through a sense of balance of spirit, emotion, mind and body. Central to wellness is belief in one's connection to land, beings of creation [e.g., horses], and ancestry, supported by a caring family and environment” (Dumont and NNAPF, 2014: p. 3)

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Department of Sociology
Arts 1109 - 9 Campus Drive
University of Saskatchewan
Email: colleen.dell@usask.ca
Phone: (306) 966-5912
Fax: (306) 966-6950



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Primary Investigators:

Drs. D. Chalmers, C. Dell & J. Gillet

Data Input & Analysis:

Dr. B. Rohr, E. Bulai, A. Husband, S. Wingert, M. Steeves

Twisted Wire Project Members:

Elder Harry Francis, Derek Francis, Dalcyce Francis

Leading Thunderbird Lodge Project Members:

Executive Director Karen Main and LTL staff

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