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A Pilot Study Assessing the Effectiveness of Equine-Assisted Learning with Adolescents

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ABSTRACT

This study contains an observation of six female participants ($N = 6$) who completed 8 weeks of a psychoeducational life skills program. The program included psychoeducational sessions that covered life skills related to partnership, respect, boundaries, communication, emotional regulation, problem-solving, and teamwork followed by an Equine-Assisted Learning (EAL) session. A paired sample t -test was conducted to measure the effectiveness of the equine therapy program with the psychoeducation lesson. A mental health professional, equine specialist, and a ranch worker observed and scored participants' behaviors after each session. A paired-samples t -test was conducted after week 4 and week 7; the results indicated that participants showed improvement in communication, confidence, and respect scores. The participants demonstrated improvements with emotional regulation $t(11) = 2.862, p = .015$.

KEYWORDS

Equine-assisted learning; animal-assisted therapy; life skills; creativity in counseling

Animal-Assisted Therapy (AAT) integrates animals into the therapeutic setting with a mental health professional. Counselors have practiced AAT in various mental health settings since the 1980s. AAT follows specific treatment plans similar to those of traditional counseling. Counselors use a variety of AAT techniques as well as a variety of animals. Dietz, Davis, and Pennings (2012) found that animal-assisted programs are as effective as leading counseling interventions. Animals have a unique ability to relate to humans when words fail. Specifically, animals have been shown to decrease patients' depression and anxiety in therapeutic settings. Animals have also been shown to increase social behaviors and decrease behavioral problems in clients by increasing positive mental health and psychological healing (O'Callaghan & Chandler, 2011). Integrating animals into a therapeutic setting can create an inviting setting for clients who would otherwise avoid traditional therapy.

For the last 30 years, much of AAT research has focused on the effectiveness of the K-9 therapist. Recently, more research has shifted from dogs to horses (Friesen, 2009). People have been drawn to horses for therapeutic purposes because of the deep connection that is felt in the presence of these large and powerful creatures (Dell et al., 2011). The psychological connection can be observed when horses change in the presence of clients with intellectual developmental disabilities (IDD) or Autism

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Spectrum Disorder (ASD) (Siporin, 2012). As Siporin (2012) noted, horses will modify their behavior when presented with ASD or IDD clients; they will transition from stubborn to docile. The interaction that people feel when engaging with an equine partner can be difficult to describe but the results are measurable. Siporin (2012) further noted that while changes in the horses' behaviors are observed, positive mood changes are also observed in the clients with ASD and IDD. The positive effects that horses have on individuals is not only measurable with ASD and IDD, but it is also prevalent with trauma, grief, and a variety of other mental health issues. The psychological connection has been attributed to the fact that horses are prey animals, meaning they are attuned to body language and the heart rate of animals near them. Horses have fine-tuned hearing and olfaction that combine with visual recognition of body language and acute responses to tones of voice (Siporin, 2012). Therefore, horses can easily recognize emotions, body language, and pheromones given off by humans. The prey nature of horses allows them to become in tune with their surroundings and act in a manner different than a human counselor.

Equine-Assisted Learning (EAL) is a model of psychotherapy that focuses on educational goals through equine facilitated learning (EAGALA, 2010). EAL programs are different from traditional counseling primarily because the environment is outside, in an arena, and the therapy team includes a horse. With this type of program, a certified Equine Specialist (ES) and a mental health professional (MH) are present during all therapeutic interventions with the horses. In this study, the ES and MH were certified in the Equine-Assisted Growth and Learning Association's (EAGALA) equine-assisted psychotherapy model. The EAGALA model uses "ground work" rather than riding to work through therapeutic goals (EAGALA, 2010). Ground work is a type of EAL that involves doing activities that are considered non-mounted, so no riding is involved. The goals of therapeutic interventions are similar to traditional treatment plans, however, the interventions in EAL include working with horses.

EAL programs are beginning to find their way into the literature, primarily through studies on prosocial behaviors. For example, the research by Dell et al. (2011) found that adolescents took pride in themselves by being able to identify and communicate with their horse using their body language during therapy sessions. Research has also discovered that the space in the arena with horses provided the adolescents with an authentic relationship that gave immediate feedback. Allowing the adolescents to just "be" with the horses in the arena helped them gain a greater insight into themselves. Siporin (2012) describes this as the "inner world" of the client expressed through interactions with his or her horse during the session. During EAL sessions, participants would also begin to demonstrate increased self-esteem, pride, communication with others, and communication with the horses (Dell et al., 2011). Past research describes a strong connection between pro-social skills and EAL programs for a variety of ages.

Some EAL programs focus on working with at-risk populations due to the authentic connection horses provide adolescents during their various life stages. Additional research by Burgon (2011) stated that at-risk youth demonstrated positive prosocial behaviors as a result of participating in the equine-assisted therapy programs. At-risk adolescents come from a variety of backgrounds with a variety of issues, but when they are introduced to horses, their relationships with the horses become a major focus. The participants in Burgon's (2011) study stated that they would often feel insecure, have low self-esteem, and experience insecurity and problem-solving

difficulties. Being in an open environment where the horses and the participants were authentically able to communicate gave the participants a new outlook on their situations. The study demonstrated that the equine programs helped them gain empowerment, self-esteem, self-efficacy, and a positive outlook on life (Burgon, 2011). Exploring the approaches that other therapists have taken with equine work has helped fine tune the approaches that current practitioners can employ with clients.

This study was exploratory in nature. The sample size was small and the assessments had to be collected quickly in the field. However, based on prior research, this study proposes the hypothesis that EAL is an effective psychoeducational model. Specifically, this study hypothesizes that the Cowboy Trails program, which involves psychoeducational instruction while working with the horses, would increase life skills of the participants. It is also proposed that working with horses would instill a high level of confidence in adolescents. In addition to increased confidence levels, this study hypothesizes that the participants' communication and respect would also increase from baseline scores. Lastly, this study hypothesizes that participating in an EAL program would increase emotional regulation and problem-solving skills.

Method

Participants

The participants were assigned to the EAL program based on their availability through a local foster care organization. All participants were involved in the foster care system and were currently living in a group home. Their participation in our group was voluntary. All participants attended group therapy on a regular basis. They had the option to attend this EAL program or their regular weekly therapy meetings. The number of participants who attended the program would fluctuate from week to week, but near the end of the program, more participants began to attend. Overall, 18 different participants took part in the program at various times, but for this study, only seven persons were scored because they completed at least 5 of the 8 weeks. One female reported African American ethnicity, and all other participants (six girls and one boy) reported Caucasian ethnicity.

Materials and Procedure

Each week, the adolescents participated in a psychoeducational group session that involved EAL. The participants learned a new life skill during each session as part of the education portion. To demonstrate the life skills, participants were given an activity to complete with their horse partners. The equine activities were designed to reinforce the life skills and incorporate challenging tasks that reflected real life scenarios. The equine portion of the session was the experiential part of the EAL program. Each observer scored the participants' behavior at the end of each week. Three staff members: a mental health professional, an equine specialist, and a ranch worker observed the participants. There were two different assessments used: one assessment was completed after every session by the therapy team and the second was a self-reported pre-test/post-test assessment that was completed by the participants before the program and at the completion of the program.

Equine Activities

Each session started with a 15-minute discussion of the week's objective, which included the life skills the participants would use when interacting with the horses. The participants were then given a task to complete with the horses and 45 minutes to attempt the task. The participants would come together and discuss how the life skills and their experience with the horses related to their lives. Each equine activity corresponded to a specific life skill or personal strength that was covered during the program (See [Table 1](#), for weekly life skills program outline).

Week 1 consisted of a ranch tour and interaction with the horses in order for the participants to develop a partnership. The participants were given an opportunity to introduce themselves to the horses and use horse psychology techniques demonstrated by the equine specialist to build trust. Week 2 focused on respect by building upon the partnership session utilizing the natural horsemanship skills. The participants discussed what respect looks like for humans as well as for horses. They were then given an opportunity to ask the horses to move forward, backward, and side-to-side while observing respect signals from themselves and the horses. Week 3 focused on boundaries through learning how to move the haunches and shoulders of the horses. These activities were also used to facilitate discussions that related to life at home and at school. We primarily discussed when participants would be able to use boundaries most effectively in their life after learning how to use them with the horses. Week 4 demonstrated communication; the participants had an opportunity to direct their horses through an exercise where the horses put either their nose or their feet on an object. For this activity, participants were given different slips of paper describing the directions and were time to complete the activity with the horse. Week 5 emphasized emotional regulation. The horses and the participants went through a tough obstacle course to work through frustration. The barriers included going over jumps, backing-up over poles, walking on tarps, and completing circle games. During Week 6, the participants worked on problem-solving. The participants were given an opportunity to work together as a group to complete tasks that required critical thinking. Week 7 gave the participants an opportunity to demonstrate teamwork by completing a group task involving a low ropes course on the ranch property. The low ropes course consisted of a tarp turning exercise, a log balance, and a teeter-totter balance. Week 8 consisted of reviewing the last seven weeks of psychoeducational life skills and the participants had an opportunity to ride the horses after building a relationship with them over the past seven weeks.

Table 1. Weekly life skills program.

	Life Skill	Equine Activity
Week 1	Partnership	Horse Introductions
Week 2	Respect	Parelli Skills
Week 3	Boundaries	Parelli Skills
Week 4	Communication	Nose Target
Week 5	Emotional Regulation	Obstacle course
Week 6	Problem Solving	Horse Chess
Week 7	Teamwork	Low Ropes
Week 8	Review	Riding

Pre-test/Post-test

The pre-test and post-test assessment (See Table 2, for self-report questions and psychoeducational sessions) consisted of a sequence of Likert scale questions that measured the seven life skills covered during the 8-week program. The assessment used for the pre-test was also the same assessment used for the post-test. The pre-test and post-test assessment were completed by the participants before the first session, and the post-test was given again after the last meeting. The assessment consisted of 14 questions. Each characteristic that was presented during the equine sessions was measured with two different questions. The questions were measured on a scale ranging between 0 (never true) and 3 (often true).

Session Assessment

The therapy team was given an evaluation at the end of each session in order to score each participant who was present that day. The assessment was a Likert scale questionnaire (See Table 3, for staff assessment questionnaire) that was designed to measure specific areas of engagement, confidence, respect, communication and work ethic. Each participant was observed by three individual observers in order to increase inter-rater reliability. Each week, the participants in the psychoeducational group were observed. After the completion of the group, each observer completed the assessment forms and scored each

Table 2. Participant self-report pretest/posttest assessment questions and corresponding psychoeducational session.

Psychoeducational Session	Pretest/Posttest Assessment Questions
WK 2 Respect	I am not respectful of teachers/parents
WK 6 Problem Solving	I can't deal with my problems
WK 7 Team Work	I argue with other people
WK 3 Boundaries	I do what I want even when I'm not supposed to
WK 4 Communication	I argue with my parents
WK 5 Emotional Regulation	I feel depressed or sad
WK 6 Problem Solving	I get so mad that I break or throw things
WK 4 Communication	I can't talk to others
WK 5 Emotional Regulation	I worry about things
WK 2 Respect	I do not take care of things lent to me
WK 1 Partnership	I have a hard time speaking up in class
WK 7 Team Work	I have difficulty working with others
WK 3 Boundaries	I can't tell others no
WK 1 Partnership	I don't work well with others

Table 3. Staff assessment likert scale statements.

Measurement Variables	
1	Child was engaged during the session today.
2	Child interacted with animals/horses.
3	Child interacted with others.
4	Child portrayed a strong work ethic today.
5	Child portrayed confidence today.
6	Child demonstrated understanding of the connection between the lesion and their own life.
7	Child showed respect towards the horses/animals.
8	Child showed respect towards others.
9	Child communicated with the horses/animals.
10	Child demonstrated determination today.
11	Child communicated with others.
12	Child actively participated today.
13	Child worked well with others, demonstrated teamwork.
14	Child worked well with animals/horses, demonstrated teamwork.

participant based on what they presented during that particular day of therapy. Each observation was scored on a Likert scale ranging from 1 (never observed) to 5 (observed entire time).

Observers

The observers consisted of a mental health counseling graduate student, a ranch equine therapy volunteer, and an equine specialist certified through EAGALA. Each observer was given adequate time after the completion of the sessions to score all participants. Each member of the therapy team and the volunteer was bound by confidentiality contracts that adhered to the American Counseling Association 2014 Code of Ethics. All members of the treatment team were instructed on how to complete the Likert scale questionnaire for the group at the end of each session. The members of the treatment team were chosen due to their different perspectives. The graduate student had in-depth knowledge about psychology and child development. The equine specialist had experience in horse behavior and basic knowledge of human psychology from their work with EAGALA, and the ranch volunteer had little knowledge about psychology.

Results

Pre-test/Post-test

The participants completed the pre-test/post-test assessment at the beginning and at the end of the program. This assessment demonstrated only one area of significant improvement. A paired-samples t-test was conducted for all seven characters and the results demonstrate that with an alpha of $p = 0.05$ emotional regulation $M = 1.083$, $SD = 1.311$, $t(11) = 2.862$, $p = .015$ demonstrated significant improvement for the participants. The results of the pre-test/post-test assessment indicate that the participants felt their ability to regulate their emotions after working with their equine partners improved over time.

Staff Assessment Results

Due to the fluctuation in attendance, a paired samples t-test was run for Week 1 and Week 4 for each character strength on the staff assessment. Week 4 was chosen because that week had the highest level of attendance for participants and the most data was collected. To further expand the research, a paired sample t-test was also conducted for Week 1 and Week 7, which was the last day for the psychoeducational portion of the program.

Week 4 Results

The results for Week 4 demonstrated significance in the areas of engagement, $M = -1.056$, $SD = .639$, $t(17) = -7.007$, $p = .000$, interaction with animals $M = -.889$, $SD = .832$, $t(17) = -4.531$, $p = .000$, interaction with others $M = -.500$, $SD = .857$, $t(17) = -4.531$, $p = .024$, work ethic $M = -.778$, $SD = 1.003$, $t(17) = -3.289$, $p = .004$, confidence $M = -.778$, $SD = 1.060$, $t(17) = -3.112$, $p = .006$, understanding $M = -1.111$, $SD = .963$, $t(17) = -4.893$, $p = .000$, respect animals $M = -.611$, $SD = .979$, $t(17) = -2.650$, $p = .017$, communication with animals $M = -.889$, $SD = .832$, $t(17) = -4.531$, $p = .000$,

determination $M = -.722$, $SD = .752$, $t(17) = -4.075$, $p = .001$, and communication with others $M = -.444$, $SD = .784$, $t(17) = -2.406$, $p = .028$.

Week 7 Results

The results for Week 7 demonstrate that there was a significant difference in the scores for engagement $M = -1.111$, $SD = 1.167$, $t(8) = -2.857$, $p = .021$, interaction with animals $M = -.889$, $SD = 1.054$, $t(8) = -2.530$, $p = .035$, interaction with others $M = -.667$, $SD = .866$, $t(8) = -2.309$, $p = .050$, work ethic $M = -1.222$, $SD = .972$, $t(8) = -3.773$, $p = .005$, understanding $M = -1.222$, $SD = .972$, $t(8) = -3.773$, $p = .005$, communication with animals $M = -1.000$, $SD = .707$, $t(8) = -4.243$, $p = .003$, and determination $M = -.778$, $SD = .833$, $t(8) = -2.800$, $p = .0213$.

Discussion

The results of this study have important implications for the EAL programs. These results show a relationship between positive behaviors and working with horses among participants in a psychoeducational group. The hypothesis proposed that working with the horses as part of the Cowboy Trails program would increase life skills of the participants. The first life skill that demonstrated improvement was the participants' ability to communicate. To measure communication, the therapy team observed interaction levels and communication scores between the equine partners and the other individuals in the group. The communication skills demonstrated significance into Week 7, but the communication scores peaked at Week 4. The next hypothesis stated that confidence levels would also improve due to the EAL program. The results indicate that confidence skills were improving into Week 7, but also showed a significant peak at Week 4. The last hypothesis that was measured with observation scores stated that the participant's respect scores would increase during this program. The results indicated that respect peaked at Week 4, but was not significant in Week 7. As noted with each hypothesis, an improvement in scores was reported during Week 4, but was diminished or absent in Week 7. It is believed that the lack of attendance in Week 7 was a possible contributor to this trend. Further research should assess the length of equine programs and the peak retention level for participants. Two additional areas that demonstrated marked improvements for participants between both weeks 4 and 7 were *work ethic* and *understanding the lesson from the day*.

The last hypothesis was related to the pre-test/post-test assessment which, was the self-report assessment completed by the participants. This hypothesis stated that emotional regulation and problem-solving would increase by the end of their equine program. The results support that emotion regulation improved, but did not support improved problem-solving skills. The results of this study demonstrate that many of the participants believed they showed significant results at the end of the program.

Limitations and Future Research

The limitations of this research include the small sample size. To counter this, we looked at all the individual variables observed over the course of this program with

three different observers. Furthermore, due to the small sample size, only six individuals (female) completed the pre-test/post-test assessment.

Future research should consider the differences between genders and utilizing larger sample sizes. Further research should also consider differences between equine models of treatment, including different equine-assisted therapy models. Additionally, future studies should compare different populations of participants to determine if one population benefits more from EAL work. Lastly, research considerations should look at the difference between EAL programs.

The theoretical implications of this research support that animal-assisted therapy models can be an effective form of treatment for developing specific life skills. Even with a small sample size, this study demonstrated improvement in positive behaviors and character strengths. The results supported all the hypothesis suggestions that EAL programs increase communication, confidence, respect, and emotional regulation. Furthermore, the study demonstrated that participants gained improved understanding and work ethic during this program. The results of this psychoeducational program suggest that the participants were able to connect the content of the session to real life skills. Participants who were involved in the programs developed competencies in a safe setting—a setting they chose to actively engage in by their own choice.

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