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Pilot Testing a Survey to Evaluate EAAT Professionals' Views on the Effects of Equine-  
Assisted Activities and Therapies on Hope and Depression in Court-Involved Youth

A thesis submitted in partial fulfillment of the requirements for the Dale Bumpers College of  
Agricultural Food and Life Sciences Honors Program

By

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## **Abstract**

Equine Assisted Activity and Therapy (EAAT) programs have proven beneficial for individuals with mental, physical and psychological ailments. Only in the last few years have court systems begun to utilize the complex nature of the human-horse relationship to benefit the lives of court-involved youth. Despite its novelty, the few existing studies in this field yield positive results (Frederick et al., 2015). To address the need for further research in this area, a pilot study was conducted. An exploratory survey was given to EAAT professionals to determine their views on the effects of EAAT programs on hope and depression in court-involved youth. The first survey questions are related to the EAAT professionals' demographics, work style, and EAAT training. The remaining survey questions were based on the Adolescent-Domain Specific Hope Scale, the Major Depression Inventory, and existing literature. These questions asked EAAT professionals to reference their personal observations of court-involved youth who participated in an EAAT program to determine if the behaviors exhibited by the youth indicated increased hope and decreased depression. The results of this pilot study revealed that EAAT professionals observed signs of increased hope and decreased depression in court-involved youth who participated in an EAAT program. Additional benefits highlighted by participants were increased self-confidence, reduced anxiety, an improved ability of court-involved youth to relate to others, and greater success in other areas of life outside the EAAT program. This pilot study can be expanded in the future to conduct research aimed at helping EAAT professionals determine perceived success or failure of an EAAT program for court-involved youth.

## Introduction

The human-horse relationship has changed dramatically throughout history, but one of the newer ways that horses have improved the lives of humans is through Equine Assisted Activities and Therapies (EAAT). According to the Professional Association of Therapeutic Horsemanship International (PATH Int.), EAAT describes an activity or treatment that uses horses to promote a client's well-being or further his or her rehabilitative objectives (Smith, 2020).

A great deal of research suggests the benefits of using EAAT, including helping people with "self-confidence, communication, trust, [and] anxiety reduction" (Frederick et al., 2015, p. 810). Horse programs have also been proven useful to young people, as they can serve "as a conduit for . . . life skill development" (Thompson et al., 2017, p. 123). A group of young people who may especially benefit from EAAT are court-involved youth. Although its use as an alternative treatment option for this group of adolescents is novel, EAAT has been shown to positively influence the well-being of court-involved youth (Frederick et al., 2015).

One of the most important methods for tracking the well-being of court-involved youth as described by Washington-Oates (2018) is to assess and measure protective factors that exist in their lives. Protective factors can refer to "self-management beliefs and behaviors" that promote well-being (p. 5). An example of a protective factor could be healthy familial relationships. The presence of protective factors is vital to healthy development of young people and is known to improve functional skills and developmental trajectories in court-involved adolescents (Hagen et al., 2005). Court-involved youth participating in horse programs have exhibited increased protective factors (Bachi, 2014). Specifically, a study by

Frederick et al. (2015) has discovered that court-involved youth participating in equine programs experienced statistically significant improvements in two substantial areas: increased levels of hopefulness and decreased levels of depression.

### **Literature Review**

EAAT has been used to positively influence individuals with many mental and physical ailments. The official use of EAAT programs in the United States began in 1969 with the formation of the North American Riding for the Handicapped Association, or NARHA (NARHA, 2010). The intended use of EAAT at that time was for people with physical disabilities, such as muscular dystrophy and brain injuries (Masini, 2010). However, since the 1990's the NARHA has added the practice of equine-assisted psychotherapy to encompass individuals with mental health needs such as autism, depression, and anxiety.

As the usage of EAAT grew, a new organization, called the Equine-Assisted Growth and Learning Association (EAGALA), was formed. The purpose of EAGALA was to expand the practice of EAAT as a recognized aid for all people, young and old, as well as those with a wide range of mental health needs (EAGALA, 2004). Both the NARHA and EAGALA emphasized the need for EAAT to be practiced under the guidance and direction of both a licensed mental health professional and an equine specialist (Masini, 2010).

The use of EAAT has continued to grow and is now used to assist individuals with even more diverse backgrounds. For example, EAAT has been expanded to serve as an alternative treatment option for court appointed individuals as a means of rehabilitation. A study evaluating the effect of equine-facilitated programs on inmates in correction facilities determined that in addition to improving social and emotional functioning, the participants in the program were

more likely to have increased protective factors than inmates who are not in the program (Bachi, 2014). However, EAAT is not only useful for court appointed adults. EAAT is gaining traction as an alternative treatment option for court-involved adolescents as well.

Existing literature proves that the use of EAAT as an alternative treatment for court-involved adolescents can be far reaching. A study by Cynthia Chandler (2005) found that using EAAT with court-involved adolescents increased good behaviors such as, "practicing healthy communication [and] forming healthy relationships" (p. 208). In the study, Chandler (2005) also noted decreased negative behaviors such as "surrender[ing] to failures and avoid[ing] opportunities" (p. 208). Chandler (2005) explained that horses are adept as therapy animals because of their reactive nature. Horses respond quickly and honestly to a person's verbal and non-verbal communications, indicating that a horse involved in EAAT is essentially a reflection of the human interacting with it (Chandler, 2005). Because of this, horses offer a chance for humans to confront their own social behavior. This opportunity for self-awareness provides people a unique tool for self-growth and rehabilitation.

Other benefits of using EAAT with court-involved juveniles have been realized in more recent literature. A study conducted by Frederick et al. (2015) evaluated the impact of a five-week Equine-Assisted Learning (EAL) program on court-involved juveniles by using two survey instruments to document levels of hope and depression in the participants. Equine-Assisted Learning is a subset of EAAT that implements an experiential learning method to accomplish the goals of EAAT (Smith, 2020). The Frederick et al. (2015) study is of particular importance because of its use of hope and depression to define a concrete explanation for the positive effects seen in adolescents involved in EAAT.

Hope acts as a protective factor in youth, and it also indicates positive developmental trajectories, while depression is related to functional problems (Frederick et al., 2015; Hagen et al., 2005). Furthermore, focusing on hope has shown to yield success in other types of programs for adolescents, because hope plays a key role in how young people cope with stress and fight the development of bad behaviors (Dryfoos, 2000; Snyder et al., 1994). Another important note is that hope has a negative correlation to depression, such that when levels of hope go up, levels of depression go down (Ashby et al., 2011).

The hope and depression study concluded that the EAL program "had a positive impact on the lives and attitudes of at-risk adolescents," by increasing hopefulness and decreasing depression (Frederick et al., 2015, p. 809). The importance of this work is that if a treatment can make an adolescent more hopeful and less depressed, then it could potentially promote his or her development into a happier adult with improved functional skills (Hagen, et al., 2005).

## **Need**

Although literature points to the potential benefits of using EAAT as an alternative treatment option for court-involved youth, additional research must be done to understand the scope of its novel use. Of the existing treatment options for juvenile-justice involved youth, those that are evidence-based are credited as being the most effective (Delman, 2018). A study by Delman (2018) described evidence-based treatment as a therapy that has proven efficacy under scientific peer review. Delman (2018) found that only five percent of court-involved youth will receive evidence-based treatment, meaning that 95% will not. Yet, those who do not receive evidence-based treatment face a 50% chance of recidivism, or re-offending. Because the majority of court-involved youth do not receive evidence-based treatment, they are equally as likely to end up back in the justice system as they are to get out of it. The importance of



implementing evidence-based treatments, then, lies in promoting the well-being and positive development of the adolescents who participate in them so that they can successfully exit the justice system. Therefore, more research is warranted to determine the significance of the use of EAAT as a treatment for court-involved youth as well as its potential benefits and limitations.

### **Problem Statement**

A prominent reason that evidence-based treatment is utilized so little as a part of juvenile correction is that the effects of treatment programs on participants are rarely measured, thus these programs receive less funding and are not sustainable (Greenwood & Walsh, 2012). However, if correction facilities were provided feedback about success or failure from the facilitators of these treatment programs rather than having to allocate additional resources and manpower to collect the data themselves, then funding could potentially be directed to these programs which would increase their use. For example, if an EAAT facilitator could use an established survey to collect data on the perceived success or failure of an EAAT program for court-involved youth, then this could potentially alleviate some of the burden of data collection on the correction facility. There is currently no standardized method in the United States for EAAT professionals to evaluate perceived success or failure of the use of EAAT as an alternative treatment for court-involved youth.

### **Purpose Statement**

This pilot study aimed to implement purposeful and snowball sampling methods to determine the efficacy of an exploratory survey to evaluate the perceived effects of EAAT on court-involved adolescents' hope and depression. Pilot testing this survey instrument could pave the way for a larger-scale study in the future that could develop a standardized method for the

evaluation of EAAT treatment programs by assessing levels of perceived hope and depression of juveniles to measure success or failure of the program. Additional future research could also allow EAAT to potentially become a more credible and widely accepted evidence-based treatment for court-involved youth.

### **Research Objectives**

The research objectives guiding this study were:

1. Determine whether or not the majority of EAAT professionals observe signs of increased hope and decreased depression in court-involved youth over the duration of an EAAT program.
2. Pilot test a survey instrument that allows EAAT professionals to evaluate perceived success or failure of an EAAT program for court-involved youth.

### **Methodology**

#### **Research Design**

This study implemented survey research to accomplish its objectives. Survey research focuses on collecting information from people within a sample portion of a population to generate quantitative data about certain characteristics of that population (Glasow, 2005). A researcher-developed survey instrument was used to collect data. This research also used a pilot design to formulate methodology for a larger future study. A pilot test is generally used to develop and test a research instrument, such as a survey, to determine its validity and reliability for use in a larger-scale study (Connelly, 2008). The University of Arkansas's Institutional

Review Board approved this pilot study (protocol # 2104329160). This approval can be seen in Appendix A.

### **Participants and Sampling Methods**

The target population for this study was EAAT professionals in the United States who have worked in an EAAT setting with court-involved youth. This pilot study implemented both purposeful and snowball sampling methods to select EAAT professionals as participants. Purposeful sampling is the deliberate selection of participants because of specific characteristics of those participants (Ilker et al., 2016). Purposeful sampling was used because participants must match the parameters of the targeted population in order to be relevant to this pilot study. The second sampling method, snowball sampling, was used to allow individuals who were already participating in the study to refer new potential participants (Morse, 1993). The snowball sampling method was helpful in this study because of the anticipation of limited participant availability.

### **Survey Instrument**

A researcher-developed survey instrument was used for this pilot test. The full survey instrument can be seen in Appendix B. The survey instrument contains nine multiple choice and three open-ended questions, combining both quantitative and qualitative design. The survey instrument for this pilot study was created using an application called Qualtrics which is a professional platform that allows researchers to create surveys in an online format. Permission to use Qualtrics was given by the University of Arkansas. Qualtrics estimated that the survey would take less than 5 minutes to complete.

The questions in the survey inquired about EAAT professionals' demographics as well as their perceptions about the effects of EAAT on hope and depression of court-involved youth. A study by Delman (2018) stated that future research into evidence-based treatment for court-involved youth should include treatment providers' gender identity and ethnicity due to a lack of this information in existing literature. Therefore, the survey instrument had a demographic section which included questions regarding EAAT professionals' gender identity, ethnicity, and age.

Next, to establish the credibility of the selected participants in this study, the survey asked what type of certification the participant had which qualified them to work in the field of EAAT. Participants selected one of the following options: EAGALA certification, PATH Intl. certified therapeutic riding instructor (CTRI) certification, Certified Horsemanship Association (CHA) Instructors of Riders with Disabilities Certification, or other (please describe). Examples of additional questions which confirm the credibility of study participants included:

- About how often do you work in an EAAT setting?
- About how often have you worked with court-involved adolescents in an EAAT setting?

Finally, the survey had three multiple-choice questions which asked EAAT professionals to specify the level to which they agreed or disagreed with a statement regarding the perceived effects of EAAT on hope, depression, and the overall behaviors and attitudes of court-involved youth. Each of these questions was followed by an open-response opportunity providing a chance for participants to explain any personal observations that led to their beliefs about the effects of EAAT on hope, depression, and the overall influence of EAAT on court-involved

youth. The model of hope and depression as a potential means to measure success or failure of an EAAT treatment for court-involved youth was based on existing literature that designates increased hopefulness and decreased depression as protective factors for youth (Frederick et al., 2015). This model is also based on the further findings from the Frederick et al. (2015) study which indicated that an EAAT program can cause statistically significant increases in hopefulness and decreases in depression in court-involved youth. The perception-based questions in the survey instrument were based on the Major Depression Inventory (MDI) and the Adolescent-Domain Specific Hope Scale (ADSHS) which was created by Dr. Karen Frederick.

A committee of animal science faculty from the University of Arkansas were asked to review the survey instrument for face and content validity prior to data collection. To further confirm the validity of the survey instrument, a cognitive interview was performed. A cognitive interview is a preliminary measure which tests the relevance and delivery of the questions asked in a survey instrument (Miller et al., 2014). The cognitive interview was given to two randomly selected EAAT industry experts who were not participating in the pilot study. The two experts looked over the survey instrument and made several suggestions regarding the verbiage and content of the initial survey instrument. These recommendations were considered by the researcher and used to alter the survey instrument accordingly.

The first expert in the field of EAAT who was given a cognitive interview had a doctorate in Higher Education and Leadership, a CHA Level 4 Horse Management Certification, had participated in Natural Lifemanship Workshops and Training, and taught an undergraduate level EAAT course. This individual suggested several changes to the wording of

the survey. For example, it was suggested to change “over the duration of” to “during” to provide greater clarity on questions seven and nine (see Appendix B). Another suggestion made by this individual was to include a statement in the participant consent addressing the fact that the study was meant only for EAAT professionals in the United States.

The second expert in the field of EAAT who participated in a cognitive interview was certified through PATH International and through O.K. Corral as an Equine-Assisted Psychotherapist. She was also a Licensed Master Social Worker and had experience working with court-involved youth in both EAAT and non-EAAT settings. This individual suggested spelling out “EAAT” as “equine-assisted activities and therapies” in the participant consent section to ensure that all participants understood the meaning of the EAAT acronym. Otherwise, the interviewee felt that the wording of the survey instrument was clear and easy to understand.

## **Data Collection**

The researcher uploaded a link to the survey instrument to Facebook pages designated for EAAT professionals in the United States. These Facebook pages were identified by researching EAAT organizations located in the United States. Organizations with designated Facebook pages were found in the following states: Arkansas, Missouri, Oklahoma, Kansas, Texas, Tennessee, North Carolina, Louisiana, New Mexico, Colorado, Michigan, Arizona, and New Jersey. A total of 54 EAAT Facebook pages were identified.

Data for this pilot study was collected in the summer of 2021. The data collection period lasted for three weeks, from July 6th to July 27th. The primary researcher made a post on 54 EAAT-related Facebook pages with a link to the survey instrument attached to the bottom of the

post. The post also included a brief description of the researcher and the study (Appendix C). After seven days, the researcher posted a reminder on the same Facebook pages with the intent of capturing any potential participants who may not have seen the original post (Appendix C). After an additional seven days, the researcher posted the same reminder onto the Facebook pages with the intent to capture any potential participants who did not see the first two posts. The online format of this data collection strategy allowed the research to be conducted in compliance with social distancing requirements for COVID-19 as recommended by the Center of Disease Control. The survey instrument also ensured participant anonymity as it did not ask for any personally identifying information.

Facebook users were able to share the survey instrument with additional EAAT professionals in order to reach as many members of the sample population as possible. Participants read a statement at the beginning of the Qualtrics survey which specified that continuing to the survey questions would imply their consent to participate in the study and that they maintained the right to discontinue participation in the study at any time. Participants also read a statement at the end of the survey which provided contact information of the student investigator and the University's IRB Coordinator to allow participants to reach out and learn more if they have questions or concerns about their rights as research participants.

## **Data Analysis**

The data resulting from this study was stored and analyzed in Qualtrics. The Qualtrics Stats IQ program used descriptive statistics to generate frequencies, means, standard deviations,

and visual aids from the collected data. Themes occurring in the open response questions were grouped into tables and analyzed by the researcher.

## **Results**

The researcher aimed to receive at least 10 completed surveys from this pilot test. A total of 23 participants responded to the survey, however only nine of the 23 respondents answered all multiple-choice questions asked in the survey instrument. To ensure cohesiveness and clarity of data interpretation, only the nine completed surveys were used for data analysis. Although nine completed surveys was fewer than the initially desired goal of 10, descriptive statistics were reported for these respondents.

### **Participant Demographics**

Demographics of participants can be seen in Table 1. Participants ranged in age from 25 to 64 years of age with the majority of participants (55%) reporting that they were in the 55-64 year-old bracket. All but one participant was female (89%) and only one participant identified as an ethnicity other than white.



**Table 1***Demographic Characteristics of Participants*

Participant Characteristic	<i>n</i>	%
<b>Age</b>		
25-34	1	11%
35-44	3	33%
55-64	5	56%
<b>Gender Identity</b>		
Male	1	11%
Female	8	89%
<b>Ethnic Identity</b>		
White	8	89%
Am. Indian or Alaska Native	1	11%

*Note.* *N*=9.

### **Participant EAAT Certifications and Frequency Working in an EAAT Setting**

Participants reported the number of times per week they worked in an EAAT setting in general and specifically with court-involved youth, as well as the type of EAAT training that prepared them to work in the field of EAAT. This information can be seen in Table 2.

Seven of the nine participants (78%) worked in an EAAT setting between once and six times per week. When participants were asked the amount of time they spent working with court-involved youth in an EAAT setting, five participants (56%) reported that they worked with court-involved youth at least once per week, while three participants said that, although

they were not currently working with court-involved youth, they had done so in the past. Eight of the nine participants (89%) had an EAAT-specific certification, with four (44%) reporting that they were certified to work in the EAAT field through EAGALA.

**Table 2**

*Participant EAAT Work Frequencies and Training*

Variable	<i>n</i>	%
Frequency of working in EAAT Setting		
Daily	1	11%
4-6 times/ week	1	11%
2-3 times/ week	2	22%
Once/ week	4	44%
Never	1	11%
Frequency of working with court-involved adolescents in an EAAT setting		
4-6 times/ week	1	11%
Once/ week	4	44%
Never	1	11%
Other*	3	33%
EAAT training		
EAGALA	4	44%
PATH Intl.	2	22%
Other		
PATH ESMHL	1	11%
On the job training	1	11%
EPONA	1	11%

*Note.* *N*=9.

\*Reflects individuals who did not presently work with court-involved youth but did previously.

**Perceived Effects of EAAT on Court-Involved Youth**

Participants were asked to indicate their agreement or disagreement to three statements regarding the effect of EAAT on court-involved youth (Table 3).

**Table 3***Effect of EAAT on Court-Involved Youth as Reported by Participants*

Statement	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	<i>M</i>	<i>SD</i>
I believe court-involved youth show signs of increased hopefulness over the duration of an EAAT Program	7	1	1	0	0	1.33	0.67
I believe court-involved youth show signs of decreased depression over the duration of an EAAT Program	6	2	1	0	0	1.44	0.68
I believe EAAT has an overall positive influence on the behaviors and attitudes of court-involved youth.	7	1	1	0	0	1.33	0.67

*Note.*  $N=9$ .

Participants could choose *Strongly agree*, *Somewhat agree*, *Neither agree nor disagree*, *Somewhat disagree*, or *Strongly disagree* to indicate their level of agreement or disagreement with three statements (Table 3). Furthermore, responses were coded from one to five to determine a mean score for each statement (1 = Strongly agree; 5 = Strongly disagree). Eight of the nine (89%;  $M = 1.33$ ;  $SD = 0.67$ ) participants either strongly agreed or somewhat agreed with all statements.

### Themes in Open Response Answers

Several themes were identified within each of the open response questions. Themes expressed by participants related to hope, depression, and the overall positive influence of EAAT on court-involved youth and can be seen in Table 4. Unedited responses collected from participants can be seen in Appendix D.

**Table 4**

*Participant Response Themes*

Theme	<i>n</i>	%
<b>Hopefulness</b>		
Signs of increased self-confidence	4	44%
Awareness of self-improvement among court-involve youth	4	44%
Increase in positive emotions	4	44%
Greater success in other areas of life outside of an EAAT program	3	33%
Improved communication skills	2	22%
<b>Decreased Depression</b>		
Development of strategies to cope with anxiety	3	33%
Increased ability to open up with others	2	22%
Increased positive emotions	2	22%
<b>Positive influence of EAAT on behaviors and attitudes</b>		
Improved ability to relate to self and others	3	33%
Increased self-confidence	2	22%
Greater success in other areas of life outside of an EAAT setting	2	22%

*Note.*  $N=9$ .

Participants were asked to provide supporting examples regarding observed changes in court-involved youth's hopefulness during an EAAT program. Four of the nine participants (44%) reported observing increased self-confidence, awareness of self-improvement, and

positive emotions among court-involved youth during an EAAT program. One participant recounted the story of a juvenile-justice involved client who lost her mother, father, and grandmother all within a very short period and who began EAAT sessions suffering from depression. The participant went on to explain that the client “spiral[ed] due to the losses [that she] sustained,” and became surrounded by “negative influences” (Appendix D). However, after a year of intense EAAT sessions, the client began making “great breakthroughs” and even graduated high school as valedictorian. The participant said that in the girl’s valedictorian speech, “she credited EAAT and her horse Katie for part of her success.” Another participant offered a different perspective, stating: “I’d love to say it always works, but we can’t reach them all.” Yet, this participant claimed that despite the occasional failure, “for the most part, [she saw] improved levels of hope” among court-involved youth during an EAAT program.

A number of commonalities could be seen when participants were asked to describe their reasons for either agreeing or disagreeing with why they believed that EAAT did or did not result in signs of decreased depression in court-involved youth. Three participants (33%) believed that participation in an EAAT program helped court-involved youth to develop coping mechanisms to reduce anxiety. One participant described the way that court-involved youth “[work] through their anxiety experientially and [build] coping strategies through the equine activities...helping them navigate anxiety in their daily lives” (Appendix D). Some participants (22%) observed an increase in court-involved youth’s ability to open up with others and an increase in positive emotions. For example, a participant described multiple court-involved youth who were “borderline selectively mute,” but who began to speak progressively more during an EAAT program (Appendix D).

Participants were asked to describe personal observations in an EAAT setting which justified their beliefs that EAAT had an overall positive influence on the behaviors and attitudes of court-involved youth. Several themes were identified among participant responses. Regarding the thematic mention of observing an improved ability of court-involved youth to relate to self and others, one client noted the belief that EAAT “increased clients’ [capacity for] empathy” (Appendix D). Another client mentioned observing “significant gains in executive functions based on teacher ratings of [court-involved youths’] behavior in the classroom setting.”

### **Discussion**

As suggested in the study by Delman (2018), information was collected about EAAT professionals’ demographics including gender and ethnicity. The majority of EAAT professionals who participated in this pilot test were white females between the ages of 55 and 64. The results of this pilot test reinforced findings from the 2015 Frederick et al. study that participation in an EAAT program correlated with increased hope and decreased depression in court-involved youth. EAAT professionals who responded to the survey also reported other benefits regarding the overall effect of EAAT on court-involved youth. There were no responses that indicated any level of disagreement with any of the perception-based questions regarding increased hope, decreased depression, and the overall positive effects of EAAT on the lives of court-involved youth.

When participants were asked about the certifications and training that they received to practice EAAT, it is of particular interest to note that seven (78%) were certified through PATH Intl. or EAGALA. One of these organizations is focused on riding horses while the other is

focused on clients interacting with and handling horses with no riding involved. Thus, it appears that the benefits seen in court-involved youth were not dependent on how the horse was used.

There was one participant who reported not to have experience working with court-involved youth in an EAAT setting. This participant also reported “*Neither agree nor disagree*” to each of the perception-based questions. Therefore, 100% of participants in this pilot test who worked with court-involved youth in an EAAT setting observed some level of increased hope, decreased depression, and overall positive effects in other areas of the client’s well-being.

Participants provided examples to support their beliefs about increased hope, decreased depression, and the overall positive effects of EAAT on court-involved youth in reply to open-response questions that followed each of the multiple-choice, perception-based questions. A multitude of positive effects on court-involved youth due to participation in an EAAT program were highlighted by participants in these open responses. The most frequently mentioned themes addressed by EAAT professionals were the observance of increased self-confidence, greater success in other areas of life outside the EAAT program, and an enhanced ability of court-involved youth to relate to others as result of participation in an EAAT program. These findings align with those of Cynthia Chandler (2005). Chandler (2005) suggested that the positive effects of EAAT were due to the unique ability of horses to act as mirrors of human social behavior, thus teaching court-involved youth about their own underlying thoughts and emotions and thereby giving them a distinctive opportunity for self-improvement.

## **Conclusion**

The goal of this research was to pilot test a survey instrument that could determine whether or not a majority of EAAT professionals observed signs of increased hope and decreased depression in court-involved youth who participated in an EAAT program because there is a lack of existing data on the subject. There were two main objectives guiding this pilot test.

### **Research Objective 1**

The first research objective aimed to discover if the majority of EAAT professionals who worked with court-involved youth in an EAAT setting observed signs of increased hope and decreased depression. The results showed that the majority of EAAT professionals do observe increased hope and decreased depression in addition to other benefits, reflecting results found in a study by Frederick et al. (2015). The indicated occurrence of increased hope and decreased depression in court-involved youth who participated in an EAAT program necessitates future studies to be done on a larger scale to confirm the reliability of the results from these smaller-scale tests. Because protective factors such as increased hope and decreased depression are known to improve adolescent development and functional skills, this data suggests that EAAT could be a worthwhile alternative treatment option for court-involved youth (Hagen et al., 2005).

### **Research Objective 2**



The second research objective was to create a survey instrument that could be used by EAAT professionals to evaluate perceived success or failure of an EAAT program for court-involved youth. Basing the survey on the Frederick et al. (2015) model of increased hope and decreased depression allowed professionals in EAAT to express if they observed these protective factors among juvenile justice involved clients. Moreover, the open-ended response boxes following each of the perception-based questions gave participants an opportunity to provide detailed examples supporting their observations. The significance of this pilot test is that measuring changes in protective factors such as these could potentially be used by court-systems to evaluate success or failure of this type of treatment program for youth. As mentioned in the literature review, adolescents who do not receive evidence-based treatment face a 50% chance of recidivism, yet 95% of justice-involved youth do not receive evidence-based treatment (Delman, 2018). A prominent reason that these evidence-based treatments are seldom used is that court systems rarely measure the effects of treatment programs on participants (Greenwood & Walsh, 2012). Creating a means for court systems to measure the potential success or failure of an EAAT program for court-involved youth could potentially be a step toward alleviating the burden of data collection on court systems so that more court-involved youth may have the opportunity to receive meaningful treatment.

The results of this pilot study positively support the use of EAAT activities for court-involved youth and parallel the findings of Frederick et al. (2015) of increased hope and decreased depression in court-involved youth during an EAAT program. Overall, EAAT professionals who participated in this study also observed signs of other beneficial effects in court-involved youth during an EAAT program. Because of the repeated indication of the positive effects of EAAT on court-involved adolescents, additional research should be done to

explore the role of hope and depression in determining the success or failure of an EAAT program as an alternative treatment option for this population. Furthermore, it may be helpful for a future study to measure the direct experiences of court-involved youth to accomplish this objective.

### **Limitations**

There were several limiting factors in this study. The original study had to be modified due to COVID-19 and social distancing guidelines. Reconfiguring the study due to social distancing protocols coupled with creating a survey and obtaining IRB approval shortened the amount of time for this study to be completed. Because of the shortened timeline there was only a limited window for data collection, which decreased the amount of time that participants were able to submit responses by one week. This could have contributed to the limited number of total participant responses to the survey.

Another limitation was a result of the limited pool of participants. Because of the novelty of EAAT's use as an alternative treatment for court-involved youth, there were relatively few EAAT professionals who had experience working in this area, resulting in a low amount of participation in the study.

A number of participants started the survey but did not complete the survey. One reason for this may have been the placement of the participant rights and researcher contact information. This information appeared at the end of the survey. If it had appeared at the beginning of the survey, this may have allowed participants the opportunity to have questions

about the research answered which, potentially, could have affected their confidence completing the survey and hence affected participation.

An additional limiting factor lies in the nature of perception-based survey questions. Because EAAT professionals participating in this study could only answer to their perceptions of the observed behaviors of court appointed youth, some variability may exist between how the youth actually felt and how they appeared to be feeling in the eyes of the EAAT professionals.

## **Recommendations**

In order to address the lack of participants in this study, a recommendation for future studies would be to contact a larger number of EAAT organizations in more areas of the United States. Additionally, the lack of availability of experts in the field of EAAT limited the number of cognitive interviews that could be completed. Future research could also include identifying more individuals within the field of EAAT for cognitive interviews. Another strategy to address the lack of participation may be to partner with colleges and universities that offer EAAT programs and ask for their help with identifying qualified study participants.

A possible limitation caused by failing to present information regarding participant rights prior to completion of the survey instrument could be addressed by including the participant rights section in the Facebook posts. Adding the participant rights section to the Facebook posts would allow participants to learn about the study and ask questions of the researcher should they have concerns prior to participation.

The constraint caused by the perception-based survey questions could be addressed in a future study by administering the Adolescent-Domain Specific Hope Scale and the Major Depression Inventory to court-involved youth who participated in an EAAT program, and then administering the perception based exploratory survey instrument which was piloted in this study to the EAAT professionals working with those youth. These results could then be compared to allow for a better understanding of how an EAAT professionals' perceptions of a court-involved youth's behavior may vary from the youth's actual emotions during an EAAT program.

A follow up study could focus on comparing recidivism rates of court-involved youth who participated in an EAAT program to the recidivism rates of court-involved youth who did not participate in an EAAT program. Comparing how participation in an EAAT program affects recidivism could be useful to understanding the long-term effects of EAAT programs for court-involved youth, potentially giving credence to the suggested benefits of this type of alternative treatment. Determining if court-appointed youth who participate in an EAAT program have a significantly decreased recidivism rate could also positively affect funding for EAAT treatment programs and access to grants.

With greater participation from EAAT professionals on perception-based surveys, more information from the ADSHS and the MDI for court-involved youth, and longitudinal tracking of recidivism rates of court-involved youth who participated in EAAT programs, various correlations could be analyzed, and successful strategies could be implemented in future EAAT programs for court-involved youth. Furthermore, looking at long-term recidivism rates of court-involved youth to see if there is a correlation between decreased recidivism and type of

certification of EAAT professionals, use of horses, or the number of EAAT sessions in a program could help to inform best practices for court-involved youth in an EAAT setting.

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## Appendix A

### Institutional Review Board Approval



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**To:** Kathi Jogan  
BE LL 4188

**From:** Douglas J Adams, Chair  
IRB Expedited Review

**Date:** 06/09/2021

**Action:** Exemption Granted

**Action Date:** 06/09/2021

**Protocol #:** 2104329160

**Study Title:** Pilot Testing a Survey Instrument to Evaluate EAAT Professionals' Views on the Effects of Equine Assisted Activities and Therapies on Hope and Depression in Court Involved Youth

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

cc: Isabel M Whitehead, Investigator  
Lisa S Wood, Investigator  
Emily Ann Stewart, Investigator

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## Appendix B

### Survey Instrument

*Participant Consent.* This study is intended for equine-assisted activities and therapies professionals in the United States. Completion of this survey indicates your implied consent to participate in this study. Data will be kept anonymous to the fullest extent possible and no personally identifiable information will be obtained. The results of this study may be used to inform internal/external organizations about the study's findings through poster and/or oral presentations or journal article submissions. You have the right to discontinue participation in this study at any time.

Q1 What is your age?

- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 - 74
- 75 - 84
- 85 or older

Q2 What is your gender identity?

- Male
- Female
- Non-binary / third gender
- Prefer not to say

Q3 What is your ethnic identity?

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

Q4 About how often do you work in an EAAT setting?

- Daily
- 4-6 times a week
- 2-3 times a week
- Once a week

Never

Q5 About how often do you work with court-involved adolescents in an EAAT setting?

Daily

4-6 times a week

2-3 times a week

Once a week

Never

Q6 What type of training do you have that qualifies you to work in the field of EAAT?

Eagala certification

PATH Intl. CTRI Certification

CHA Instructors of Riders with Disabilities Certification

Other (please describe)

Q7 Please indicate the degree to which you agree or disagree with the following statement:

I believe that court-involved youth show signs of increased hopefulness (such as higher self-confidence or optimism and positive social interactions) during an EAAT program.

Strongly agree

- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q8 Please explain any personal observations or experiences with court-involved youth in an EAAT setting that support your answer to question 7.

- Type your personal observations or experiences into the box below.

Q9 Please indicate the degree to which you agree or disagree with the following statement:

I believe that court-involved youth show signs of decreased depression (such as decreased instances of anxiety, avoidance of opportunities, and low self-esteem) during an EAAT program.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q10 Please explain any personal observations or experiences with court-involved youth in an EAAT setting that support your answer to question 9.

- Type your personal observations or experiences into the box below.

Q11 Please indicate the degree to which you agree or disagree with the following statement:

I believe that equine-assisted activities and therapies have an overall positive influence on the behaviors and attitudes of court-involved youth.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

Q12 Please explain any personal observations or experiences with court-involved youth in an EAAT setting that support your answer to question 11.

- Type your personal observations or experiences into the box below.

*More Information.* For more information, please email student investigator Emily Stewart at eastewar@uark.edu. This investigation is conducted under the direction of Dr. Kathi Jogan, Dr. Lisa Wood, and Ms. Isabel Whitehead. For questions or concerns about your rights as a

research participant, please contact Ro Windwalker, the University's IRB Coordinator, at (479) 575-2208 or by email at [irb@uark.edu](mailto:irb@uark.edu).

## Appendix C

### Facebook Posts

#### Original Facebook Post:

My name is Emily Stewart and I'm a senior Animal Science major at the University of Arkansas. I am looking for EAAT professionals in the United States who have worked in an EAAT setting with court-involved youth to participate in a study which I am conducting through Bumpers Honors College. The purpose of this study is to pilot test a survey instrument that can potentially evaluate an EAAT professionals' perceptions of the effects of equine-assisted activities and therapies on hope and depression in court-involved youth. The survey takes less than 5 minutes to complete. I also encourage anyone reading this post to share this survey with any additional EAAT professionals in the United States who may be interested and willing to participate in this study. Thank you so much for your time and help!

#### Reminder Facebook Post:

Good afternoon,

My name is Emily Stewart. I'm a senior Animal Science major at the University of Arkansas and am gathering information for my Honors project. I am seeking opinions from equine-assisted activities and therapies professionals in the United States to determine if they have seen an increase of hope or a decrease in depression in court-involved youth who have participated in an EAAT program. This University of Arkansas IRB approved survey (2104329160) is completely anonymous, and I am not collecting any client information. I am simply seeking overall opinions from EAAT professionals who have worked with court-involved youth to see how participating in an EAAT program affected these youth. This survey takes less than 5 minutes to complete. Please feel free to share the link with anyone you know who may be interested in taking this survey. If you have any questions or concerns, please contact me directly. Thank you all so much for your time and help!



## Appendix D

### Participant Responses to Open-Ended Questions

*Open Response Answers of Participants Supporting Their Beliefs About Increased Hopefulness in Court-Involved Youth in an EAAT Setting (N= 9)*

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#### Participant Responses

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We see students become more confident, more hopeful, and better able to self-regulate over the course of their time in the program.

They come more into the present moment.

The clients gained self-confidence, improved communication skills, improved identification of feelings.

Teens that experience their relationship grow with their equine partners have reported greater confidence, self esteem and have better social skills with their peers.

Self-respect, appropriate communication, willingness to participate, relationship building and trust

Notices significant changes in youth, reported positive emotions and hopefulness

None

I'd love to say that it always works, but, we can't reach them all. For the most part, I see improved levels of hope.

During EAAT, my role was to read the horse's body language while the therapist worked on areas of the client's treatment plan. The client approached the horse and upon doing so the horse began to display body language that indicated that the client was at the very least feeling down. The client stated that she felt ok. While grooming the horse the client stated that she felt depressed for a few days. The client suffered 3 major losses in a 5 to 6 year period. She her father was incarcerated followed by the mother 6 months after. The client then lived with the grandmother until the father completed his sentence. She resided with her father for about a year and then he lost his life in an auto accident. Client then returned to grandmothers custody. Mother then gets out of prison. Client then resides with mother for 8 months. The mother then too perished in a auto accident. Client then returns to grandmothers care. All the while the client is in EAAT services. One year later client's grandmother falls ill and passed away. Client then relocated to the city where the EAAT headquarters is located to live with her other grandmother. Client begins to spiral due to the losses sustained and new negative influences and opportunities in the new town. Client continues with services the entire time. The treatment team then creates more challenging opportunities during sessions. After a year of intense EAAT sessions the client begins to make great breakthroughs. The client eventually graduates high school a couple of years later, bestowing the hard earned valedictorian position. In her speech she credited EAAT and her horse Katie for part of her success.

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*Open Response Answers of Participants Supporting Their Beliefs About Decreased Depression in Court-Involved Youth in an EAAT Setting (N = 9)*

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Participant Responses

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None

Significant improvements in self-esteem through observation of youth behavior and verbalizations

Students often come out of their shells in our program. We have had a couple of borderline selectively mute students who have opened up and talked more and more. We see students learn techniques to soothe their horse use those same techniques to soothe their own anxiety.

I usually saw them for 12 sessions. As the sessions progressed, they opened up, shared more feelings.

Many clients benefit from EAAT with decreasing anxiety and depression and learn coping strategies from their interactions with equines. The fact is that there are few that never receive a consistent support group in order for progress to be made in any program or services.

I have had youth come depressed and despondent and even after an hour they are happier, more present and not spinning negative based mental stories.

Same as with hope

When teens see that they have strengths that are effective and have a positive impact in the world I have noticed a decrease in depressive symptoms. Working through their anxiety experientially and building coping strategies through the equine activities has a significant impact in helping them navigate anxiety in their daily lives.

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*Open Response Answers of Participants Supporting Their Beliefs About the Positive Influence of EAAT on the Behaviors and Attitudes of Court-Involved Youth (N= 9)*

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Participant Responses

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None

Previously mentioned improvements in self-esteem and self-confidence

We see significant gains in executive functions based on teacher ratings of our students behavior in the classroom setting, indicating a generalization of the skills beyond the sessions with us. We see with our own eyes a group of kids go from quiet to confident and supportive of the others in the group. We hear from staff and parents the difference they see in our students as they progress through the program, and the kids tell us themselves the peace and happiness their horse partnership brings them.

I believe it increases clients' empathy.

Such clients that work with equine services tend to make progress much sooner than with regular services. Anyone who has worked in both, equine services and traditional services sometimes feel like it's cheating due to the progress that is made with the clients and in such a short time. It's almost as if the clients relate the goals addressed in their treatment plans better and easier when presented with an equine.

I have a number of case studies and would be happy to share....[www.maryberkery.com](http://www.maryberkery.com)

It is quite visible- the power and impact of EA activities with ALL youth-not just court-involved youth.

Great self and other awareness through building relationships with the equines has a positive impact on their relationships and relationship with self.

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