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EQUINE-ASSISTED SERVICES: CURRENT STATE AND THE ROLE  
OF RECREATIONAL THERAPY

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A Thesis  
Presented to  
the Graduate School of  
Clemson University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science  
Parks, Recreation, and Tourism Management

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by  
Kaylin A. Woods  
May 2021

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Accepted by:  
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## ABSTRACT

Research in numerous disciplines describe the use of equine-assisted services (EAS) in treating the symptoms and improving the quality of life of individuals with emotional, mental, physical, and/or intellectual disabilities. However, the research on EAS in regard to recreational therapy practice and the function of the CTRS is limited. This study used a multi-method survey to examine the CTRSs' specific role in the provision of EAS and the current state of equine services in recreational therapy practice. Results of this study may be used to help recreational therapists understand the current state within the field, their role in providing EAS, and to increase the research and literature regarding the provision of equine services in the field of recreational therapy.

## DEDICATION

*This paper is dedicated to Nanny, who taught me that who I am is always enough, to be brave and chase my dreams, and that no obstacle is too big with the Lord on my side. You are always my inspiration. I love you, always and forever.*

## ACKNOWLEDGMENTS

I would first like to recognize that none of this would have been possible without the Lord. The strength, wisdom, and perseverance needed to complete this thesis were directly from Him, and I would not be where I am today without this grace.

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## CHAPTER ONE

### INTRODUCTION

The ability to use clients' interests as a modality for treatment creates unlimited possibilities for new interventions in the field of recreational therapy. Over the past 50 years in the field, a new tool has become increasingly popular for clients in recreational therapy treatment: animal-assisted therapy (AAT). Animal-assisted therapy is a type of therapy that can be used by a recreational therapist as an adjunct treatment method for a diagnosis (Hallyburton & Hinton, 2017; Sellers, 2006). As an adjunct treatment, AAT is often paired with more traditional therapies, such as talk therapy or cognitive behavior therapy, and is used to enhance the effects of the treatment plan (Nimer, 2007). AAT utilizes the animal-human interaction to enhance a clients' overall quality of life and to treat specific illnesses (Tedavi, 2020). It uses the natural benefits humans receive from interacting with animals, such as the reduction of loneliness, isolation, stress, anxiety, and depression, and increased psychological wellbeing and quality of life to increase the effectiveness of treatment and interventions for clients (O'Haire, 2010).

The use of horses within AAT is often referred to equine-assisted services (EAS) and includes any treatment that incorporates the horse environment or horse activities to meet goals related to the clients' needs (Wood et al., 2021). Recent research provides evidence for horses possessing qualities that make them exceptionally fit for AAT, and their use in treatment settings has increased greatly in recent years (Smith, 2016; Keeling, 2009; York, 2013). Smith (2016) indicated that horses can understand and discriminate between positive and negative human facial expressions, strengthening the bond between

the animal and human. This deeper connection between rider and horse is further supported with research showing correlations between horse and rider heart rate and cortisol levels while riding (Keeling, 2009; Yorke, 2013). The understanding of facial expression and the connection between physiological components of horse and rider provides a unique opportunity for client behavior and attitudes to be reflected back to them through their horse, which allows for a greater understanding of their thoughts, emotions, and behaviors. Additionally, this phenomenon can provide motivation for immediate change in thoughts, attitudes or behaviors of the client in order to change the behavior of their horse. Furthermore, Yorke (2008) suggested parallels between human-horse bonds similar to those of client-therapist bonds, which help to foster environments of intimacy, nurturing, understanding, and emotional connection for the client participating in therapy.

Because of the multifaceted nature of EAS, this intervention type can be used with numerous populations, including but not limited to: mental health diagnoses such as emotional disorders, physical health diagnoses such as spinal cord injuries or amputations, ID/DD diagnoses like Autism Spectrum Disorder or Down syndrome, and other populations such as at risk-youth, substance abuse, visual impairments, or weight control disorders (c.f. Cantin & Marshall-Lucette, 2011; PATH Intl., 2020; Rigby & Grandjean, 2016; Rattlife & Sanekane, 2009). This could potentially be a powerful resource and intervention for certified therapeutic recreation specialists (CTRS) to use in their practice. The recreational therapy scope of practice, defined by NCTRC, is as follows:



“The scope of recreation therapy practice includes all patient/client services of assessments, planning, design, implementation, evaluation and documentation of specific therapeutic interventions, management, consultation, research, and education, for either individuals or groups that require specific therapeutic recreation or recreation therapy intervention. This scope of practice represents, at a minimum, the process and knowledge base delineated in the most recent National Council for Therapeutic Recreation Certification (NCTRC) Job Analysis Study (Job Tasks and Knowledge Areas for the Certified Therapeutic Recreation Specialist) and delivered by a CTRS consistent with professional standards of practice, and codes of ethics with the intent of enhancing consumer safety (NCTRC, 2004).”

The APIED process (Assessment, Planning, Implementation, Evaluation, Documentation) is the systematic process that CTRSs use to treat clients. This process creates the basis of recreational therapy practice and is the first five steps of the ATRA’s Standards of Practice (American Therapeutic Recreation Association, n.d.-a &b). In addition to the use of the APIED process, recreational therapy practice should follow evidence-based literature supporting an intervention with specific populations (Stumbo, 2011).

However, with the shortage of evidence regarding equine-assisted services in the recreational therapy field and what the specific role of the CTRS in equine-assisted services is, CTRSs lack the proper information and protocols to provide safe, effective equine-assisted services to clients and follow best practice standards. Not only is there a

shortage of evidence for this intervention in regard to recreational therapy, but the research that does exist often has substantial gaps in knowledge with regards to curriculum, frequency and duration of sessions, and the role of the recreational therapist in treatment. This information is vital to helping inform the consistent use of equine-assisted services by the recreational therapy profession.

The purpose of this study was to explore the use of equine-assisted services amongst CTRSs. The study provided an overview of current equine-assisted services used by recreational therapists in the United States and investigated the specific role of the CTRS in the implementation of equine-assisted services.

The following terms are defined for use in this study:

- a. *Animal-Assisted Therapy*: a goal directed intervention in which animals are used to promote improvement in physical, social, emotional, or cognitive functioning of a client (American Veterinary Medical Association, 2020).
- b. *Adjunct treatment*: one or more secondary interventions used with a primary intervention to enhance treatment (American Psychological Association, 2020).
- c. *Certified Therapeutic Recreation Specialist (CTRS) or Recreational Therapist*: A certified recreational therapist is a qualified professional who provides recreational therapy services. This individual has demonstrated professional competence by obtaining specific knowledge and passing the

national certification exam (National Council for Therapeutic Recreation Certification [NCTRC], 2020).

- d. *Equine-Assisted Services*: an overarching category for therapy using equine activities or the equine environment to reach clients' goals (Wood et al., 2021).
- e. *Recreational Therapy*: “a systematic process that utilizes recreation and other activity-based interventions to address the assessed needs of individuals with illnesses and/or disabling conditions, as a means to psychological and physical health, recovery, and well-being.” (NCTRC, 2020).

## CHAPTER TWO

### LITERATURE REVIEW

The purpose of this study was to explore the use of equine-assisted services amongst CTRSs. This study examined the state in equine-assisted services in the field of recreational therapy in the United States and the specific role of the CTRS. The literature related to equine-assisted services in this chapter includes an overview of equine-assisted interventions, evidence for treatment effectiveness with different populations, the current state of the field, and equine-assisted services literature that is specific to recreational therapy.

#### **Clarification of Equine-Assisted Therapy Organizations and Terms**

Equine-assisted services (EAS) is a broad type of animal-assisted therapy that utilizes horses and the equine environment for treatment (PATH Intl., 2020; Wood et al., 2021). As EAS has become more prevalent and different types of EAS have emerged, there has been wide misunderstanding and confusion of terminology used in the field to describe different treatment programs and modalities. Although many different types of certifications and trainings for EAS exist (i.e. E3A, Natural Lifemanship, OK Corral, etc.) the following sections will address the two main equine-assisted services organizations in the United States and the differences of terminology specific to each.

#### ***Equine-Assisted Growth and Learning Association (Eagala)***

Eagala is one of the first and only organizations to develop a model of professional standards and practice protocols for incorporating horses into mental health treatments (Eagala, n.d.-c). The Eagala model intentionally uses a team approach

consisting of a horse, an equine specialist, and a licensed, mental health professional. This team works with a client to allow the client the space and safety for a hands-on approach to help analyze, process, make connections, and come up with their own solutions to their specific situations (Eagala, n.d.-a). Providers can become Eagala certified as a mental health professional, an equine specialist, or as a third member of an Eagala team, such as a student, coach, educator, trainer, or an individual interested in this approach (Eagala, n.d.-b). Recreational therapists can become Eagala certified, which provides the CTRS the unique qualification to be a member of an Equine-Assisted Psychotherapy team.

**Equine-Assisted Psychotherapy (EAP).** EAP is a type of equine-assisted service used in a mental health setting. It is based on Eagala's training model, so for a program to be considered EAP, it must include a horse, an equine specialist, and a licensed mental health professional. During an EAP program, the horse is never ridden, hindered, or mounted, and is allowed to interact with the client as the horse wishes to (Eagala, n.d.-a). In this model, the horse is viewed as a tool for the therapeutic process and activities are centered around providing the client with experiential learning. Keeping the horse at the center of the therapy session allows clients to make deeper connections, reflect, and project onto the horse with the help of the mental health professionals (Lac, 2016).

***Professional Association for Therapeutic Horsemanship International (PATH Intl.)***

The Professional Association of Therapeutic Horsemanship International (PATH Intl.), formally known as the North American Riding for the Handicapped Association, is an organization that helps individuals with different diagnoses gain strength and

independence through different horsemanship activities (PATH Intl., n.d.-a). PATH Intl. is both a certifying and credentialing agency that accredits individuals and centers to ensure the provision of the highest quality programming and adherence to safety standards in the EAS industry (PATH Intl., n.d.-a). PATH certification is a sought-after certification, as it deems equine-assisted services professionals competent and knowledgeable in the field of EAS. Furthermore, CTRSs can become PATH certified in different specialty areas and practice equine-assisted services under the recreational therapy scope of practice. The list of equine-assisted activities categorized under PATH Intl. are as follows:

**Equine-Assisted Learning (EAL).** EAL is an experiential learning modality that helps develop and teach life skills to clients through the horse-human experience. EAL follows a process of assessment, planning, and documentation to meet the identified goals of the clients, which often include professional, education, or personal goals. EAL activities may include mounted activities, unmounted activities, or driving. Through EAL, clients can increase their self-awareness, self-esteem, self-confidence, trust, respect, honesty, and communication (PATH Intl., n.d.-b).

**Equine-Facilitated Psychotherapy (EFP).** EFP is one of the terms that causes the most substantial confusion amongst professionals in the field. Many professionals assume that EFP and EAP (the Eagala model) are the same, but they are very different. EFP is a type of EAS used in the mental health setting. Although EFP also requires a licensed mental health professional and an equine specialist, it differs from EAP in the aspect that the therapist providing EFP can be dually certified as the equine therapist and

the licensed mental health professional, whereas EAP requires at least two separate people; one with a mental health professional certification and one with an equine specialist certification (Lac, 2016). The horse is regarded as a facilitator of the therapeutic process by providing biofeedback to the client by reflecting the client's mood, and therefore providing skill building and reflection opportunities to the therapeutic process, whereas the horse is regarded as a metaphoric tool in EAP (PATH Intl., n.d.-b). Additionally, clients may ride the horses during their session, unlike in EAP, where no riding occurs.

**Hippotherapy.** Hippotherapy is a treatment strategy utilized by occupational therapists, physical therapists, or speech-language pathology professionals to address sensory, neuromotor and cognitive goals in a treatment plan (American Hippotherapy Association, n.d.). These goals can include objectives such as strength, muscle coordination, sensory processing, and other functional limitations for individuals with neuromotor or sensory dysfunctions (PATH Intl, n.d.-b). It is important to note that CTRSs cannot provide hippotherapy services under the RT scope of practice.

**Interactive Vaulting.** Interactive vaulting is an equine activity that allows participants to engage in gymnastic movements on and around the horse, such as kneeling, standing, or a flag position on horseback. This type of EAS allows for adaptability based on the client's functional abilities that could affect the activity of vaulting. Interactive vaulting is best suited for clients working on socialization, teamwork, independence, and listening skills (PATH Intl., n.d.-b).

**Therapeutic Driving.** Therapeutic Driving offers clients with emotional, physical, mental, or sensory diagnoses the ability to control a horse or pony from a carriage, their own wheelchair, or a modified carriage. This type of EAS also allows for a lot of adaptability, as it encourages clients who do not have a mobility issue who may not previously be able to ride a horse (due to weight, fear, allergies, balance, fatigue, or other factors) to engage in EAS (PATH Intl., n.d.-b). Additionally, it increases client planning skills, spatial awareness, communication, and confidence.

**Therapeutic Riding.** Therapeutic riding addresses the cognitive, emotional, physical, and social wellbeing of clients with disabilities. During a therapeutic riding session, a rider is typically assisted with two side walkers and a horse leader to ensure safety, comfort, and social interaction (PATH Intl., n.d.-b). Clients engage in many different areas of equine activities, including general horsemanship like grooming, leading, and riding. Riding may occur in both an arena or on a trail, and also include additional activities on horseback.

All of the treatment modalities of EAS provide unique opportunities for clients to address goals regarding their own lives and abilities. Understanding these modalities is critical in gaining an in-depth knowledge of current practices, potential best standards when working with different populations, and the validity of research studies addressed in the literature review.

### **Evidence for Equine-Assisted Services in the Treatment of Mental Health Diagnoses**

Research regarding some populations with mental health diagnosis is limited, but still demonstrates the potential benefits of EAS. individuals who were at inpatient



psychiatric facilities and presenting with aggressive behavior showed improvements in interpersonal interactions and reduced violent behavior after EAS (Nurenberg et al., 2015). Patients with schizophrenia or schizoaffective disorder displayed traits of higher self-esteem and confidence, enjoyment of treatment, and increasing bonding capabilities after EAS (Corring, Lundburg & Rudnick, 2013). A pilot study on EAS addressing the emotional needs of cancer patients reported improved quality of life and improved emotional health after a 10-week EAS intervention (Murphy et al., 2019). Preliminary studies suggests that EAS assists lowering eating disorder symptomology such as drive for thinness, distrust, depressed mood, anxiety, and self-efficacy (Cumella et al., 2014, Lutter & Smith-Osborne, 2011). Additionally, Kern-Godal et al. (2015) found that compared to traditional treatment groups, people with substance use disorder stayed longer at EAS intervention-based treatments and had a higher chance of finishing treatment regimens when EAS was involved. The literature above shows EAS has the potential to lower symptomology of certain disorders, improve quality of life, and increase treatment retention. Additional literature cited below further shows the potential benefits of EAS for individuals with mental health diagnoses. The following diagnoses are highlighted due to the larger amount of research regarding the specific mental health diagnosis and EAS interventions.

### ***Trauma and Posttraumatic Stress Disorder (PTSD)***

According to the U.S. Department of Veteran Affairs (2018), 60% of men and 50% of women will experience at least one trauma in their lifetime, including events such as sexual assault or rape, accidents, combat, natural disasters, or witnessing a death or

injury (U.S. Department of Veteran Affairs, 2018). Common PTSD symptoms include, but are not limited to re-experiencing the traumatic event through dreams, flashbacks, or triggers, emotional numbness or avoidance, persistent negative emotional state such as anger or fear, hypervigilance, and sleep disturbances (American Psychiatric Association, 2013). Traditional treatment options include exposure therapy, cognitive-behavioral therapy, and pharmacological approaches (Cukor et al., 2009). EAS, however, provides an alternative route to address the reduction of PTSD symptomology.

Many studies involving EAS as a treatment for PTSD present evidence for reduced symptomology and a greater quality of life (i.e. Earles et al., 2016). Studies involving EAS for female survivors of abuse indicate outcomes of decreased anxiety and depression, increased quality of life, and increased grounding and feelings of self-efficacy and control (Meinersmann, Bradberry, & Roberts, 2008; Schroeder & Stroud, 2015; Whittlesey-Jerome, 2014). Two studies involving youth and children with PTSD reported potential benefits of EAS, including a reduction of PTSD and anxiety symptoms and increase in human-animal bond (McCullough, Risley-Curtiss & Rorke, 2015; Schultz, Remick-Barlow & Robbins, 2007). Lastly, research regarding EAS and veterans offers preliminary evidence for the reduction of PTSD symptoms, increase in coping skills, and an increase in resiliency (Johnson et al., 2018; Burton, Qeadan, & Burge, 2019).

### ***Anxiety Disorders***

Anxiety disorders, including generalized anxiety disorder, panic disorder, agoraphobia, social anxiety disorder, separation anxiety disorder, selective mutism and

specific phobias, all share commonalities of excessive fear, anxiety and related behavioral disturbances that affect daily living (American Psychiatric Association, 2013, p.189-230). Common symptoms include fight or flight reactions, feelings and thoughts of danger, muscle tension, stress, and avoidant behavior (American Psychiatric Association, 2013, p. 189). Although treatment is widely available for this diagnosis, only 36.9% of people receive treatment (Anxiety and Depression Association of America, 2020). The provision of alternative or adjunct treatment methods like EAS may help reach a broader spectrum of clients who are not willing to seek traditional treatment, such as outpatient psychotherapy or pharmacotherapy (Bandelow, Michaelis, & Wedekind, 2017).

Recent research demonstrates the capability of EAS programs to decrease both general anxiety symptoms in adults and social anxiety symptoms for women (Earles et al., 2016; Alfonso et al., 2015). Research on EAS with other common comorbid disorders, such as PTSD and eating disorders, show the potential of EAS to reduce anxiety symptoms and levels (Meinersmann, Bradberry, & Roberts, 2008; Schroeder & Stroud, 2015; Whittlesey-Jerome, 2014; Schultz, Remick-Barlow & Robbins, 2007; Cumella et al., 2014). Furthermore, a study investigating therapist's perspectives of EAS programs show common themes of participants gaining more confidence, improving emotional regulation and self-esteem, and participating in leadership roles. (Wilson et al., 2017). These characteristics, specifically self-esteem and confidence, if lacking, can be significant factors in anxiety disorders. The ability of EAS to create more confidence and self-esteem, while improving emotional regulation and encouraging participation in larger leadership roles may help decrease participant's levels and symptoms of anxiety.

### ***Depressive Disorders***

According to the World Health Organization (2020), over 264 million people worldwide experience depression or depressive symptoms. Depression can include, but is not limited to diagnoses of disruptive mood regulation disorder, major depressive disorder, and persistent depressive disorder (American Psychiatric Association, 2013, p.155). All depressive disorders are characterized by a sad, empty or irritable mood and somatic or cognitive changes that significantly affect a person's ability to function in daily life (American Psychiatric Association, 2013, p.155). Untreated, depression can cause loss of interest, reduced energy, low self-esteem, and suicide. Typical treatments include medication and traditional talk therapy, but EAS can be an affective adjunct treatment to lower symptomology.

EAS may be an effective treatment option for at-risk adolescents, with research supporting a decrease in depression and an increase in hope after an intervention (Frederick et al, 2015). One study found EAS can reduce stress, perception of stress, and depression levels in medical students (Chakales, Locklear & Wharton, 2020). Additionally, in a study showing the therapists' perspective, most therapists noted that EFP created a greater sense of self-esteem, confidence, and emotional regulation in the clients, which may help lower symptoms of depression (Wilson et al., 2017).

### **Trends in Equine-Assisted Services Literature for Mental Health**

The review of literature concerning EAS and mental health diagnoses yielded 18 studies. Out of those 18 studies, four were primarily qualitative studies (Corring, Lundburg & Rudnick, 2013; Wilson et al., 2017; Meinersmann, Bradberry, & Roberts,

2008; Schroeder & Stroud, 2015), whereas the rest of the studies provided quantitative data. This qualitative research help increase practitioner's understanding of the personal, positive benefits clients are receiving from EAS, but this research lacks the data needed to show effectiveness of treatment, treatment generalization ability, and the impact of outside factors on treatment effectiveness such as additional therapies or medications. Out of the remaining 14 quantitative studies, six studies were controlled studies; (Frederick et al., 2015; Lutter & Smith-Osborne, 2011; Nurenberg et al., 2015; Whittlesey-Jerome, 2014; Alfonso et al., 2015; Johnson et al., 2018), yet only three of the six controlled studies were randomized controlled trials (Whittlesey-Jerome, 2014; Alfonso et al., 2015; Johnson et al., 2018). Although these studies do provide potential outcomes, such as a decrease in diagnoses symptoms, an increase in treatment retention, and a decrease in stress for different populations, many common issues arise within the literature. Common issues include a small sample size that makes generalizing the data to a larger population difficult, lack of randomization in participants, failure to describe treatment approaches and protocol, lack of disregarding extraneous factors (like additional therapies) in EAS outcomes, and lack of follow up data. These limitations in the data do not completely disregard the potential outcomes of the studies, but are important to consider in the generalization of program protocols and the efficacy of EAS treatments.

Out of the 18 studies selected, seven studies utilized an Eagala framework (Earles et al., 2016; Whittlesey-Jerome, 2014; Cumella et al., 2014; Schultz, Remick-Barlow & Robbins, 2007; Burton, Qeadan, & Burge, 2019; Wilson et al., 2017; Nurenberg et al.,

2015), six utilized a PATH framework (Meinersmann, Bradberry, & Roberts, 2008; Schroeder & Stroud, 2015; Johnson et al., 2018; Murphy et al., 2019; Chakales, Locklear & Wharton, 2020; McCullough, Risley-Curtiss & Rorke, 2015), and four were unspecified (Kern-Godal et al., 2015; Corring, Lundburg & Rudnick, 2013; Frederick et al., 2015; Lutter & Smith-Osborne, 2011) . Out of the four unspecified, two were studies completed outside of the United States and have different governing bodies than PATH and Eagala (Kern-Godal et al., 2015; Corring, Lundburg & Rudnick, 2013). The most common forms of EAS for mental health diagnoses was EFP and EAP, both of which involve a mental health professional and an equine specialist (Eagala, n.d.-a; PATH Intl., n.d.-b). None of the research studies, however, specified if a recreational therapist was a lead facilitator in the implementation of the program. In fact, none of the articles mentioned a recreational therapist in the implementation at all. It is essential that the role of recreational therapists in EAS programs be evaluated for the recreational therapy field to fully be able to utilize these interventions.

The programs in each study were unique, ranging anywhere from 40 minutes to four hours, with the average time of a session being one to two hours. Session frequency ranged from five sessions to 12 sessions, with the average number of sessions being approximately eight sessions. These commonalities help inform a CTRS of what may currently be happening in the field of EAS. In addition, these trends may be used as potential practice protocol guidelines for EAS for mental health diagnoses, such as using either EAP under the Eagala model, or EFP under the PATH model: both equine therapies that include a mental health specialist. In a recreational therapy context, the

analysis of the literature shows the lack of representation of the recreational therapy field in EAS. This further confirms the tremendous need for recreational therapy based EAS literature to help inform CTRSs, create practice protocols, and establish EAS as a useful and appropriate modality for treatment under the recreational therapy scope of practice.

### **Evidence for Equine-Assisted Services in the Treatment of Intellectual Disabilities and Developmental Disabilities**

Although research is limited with some specific diagnoses, studies show potential benefits of EAS for specific intellectual or developmental disability diagnoses. EAS shows promising results in helping children with Cerebral Palsy improve gross motor function, trunk and head control and stability, and to reduce adductor muscle asymmetry (Sterba et al., 2007; Shurtleff & Engsborg, 2010; McGibbon et al., 2009). Additionally, Coffey et al. (2015) suggests that EAS may positively influence gait characteristics and stability for young females with Down syndrome. Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder are highlighted below due to the larger body of literature regarding these specific diagnosis and EAS interventions.

#### ***Autism Spectrum Disorder (ASD)***

ASD is a neurodevelopmental disorder characterized by persistent deficits in social communication and social interaction and restrictive, repetitive behaviors, interests, or activities (American Psychological Association, 2013, p. 32). Common symptoms include difficulty changing tasks or focusing, deficits in nonverbal or verbal communication, motor impairments, deficits in social relationships, and an inability to control behavior or emotions (American Psychologic Association, 2013, p. 53-55). EAS

provides a therapeutic environment that can help enhance the social, cognitive and communication skills for this population.

EAS programs with children and adolescents diagnosed with ASD show promise in significantly improving in self-regulation and empathy, improving in social cognition and communication, reducing of hyperactivity and irritability, and reducing in maladaptive behavior (Gabriels et al., 2015; Anderson & Meints, 2016). Other EAS interventions indicate an increase in emotional functioning, physical functioning (such as gross motor skills, body coordination, strength, and agility), and social functioning after treatment (Lanning et al., 2014; Hawkins et al., 2014). Furthermore, EAS may be an effective intervention strategy to address stress in this population (Kemeny, 2018).

### ***Attention Deficit Hyperactivity Disorder (ADHD)***

ADHD is a developmental disorder that causes patterns of inattention or hyperactivity/impulsivity that interferes with functioning and development (American Psychiatric Association, 2013, p. 59). The most common treatment for ADHD is medication, but it is often difficult to find an effective medication, depending on the child, and the medications can lead to harmful side effects such as decreased appetite or sleep problems (Centers for Disease Control and Prevention, 2019). Because many people with ADHD have difficulty concentrating, EAS interventions may be suitable for this population to provide a hands-on, interactive treatment that can teach practical skills to help decrease ADHD symptoms.

Studies show EAS can help decrease core ADHD symptoms, improve social problems, and improve motor skills for this population (Jang et al., 2015; Cuypers et al.,



2011). Yoo et al. (2016) discovered anatomical changes in the brain after EAS sessions that correlates with a decrease in ADHD symptoms that have a long lasting, positive impact on participants.

### **Trends in Equine-Assisted Services Literature for Intellectual and Developmental Disabilities**

Out of the 11 articles included in the intellectual and developmental disabilities review, two articles were randomized controlled trials (Gabriels et al., 2015; McGibbon et al., 2009) and the nine remaining articles all provided quantitative data. Out of the 11 articles, four (Anderson & Meints, 2016; Jang et al., 2015; Cuypers et al., 2011; Yoo et al., 2016) were completed outside of the United States, and therefore did not follow PATH or Eagala models. Although all of these studies do provide groundwork data for the support of EAS for intellectual and developmental disabilities, some common problems arise from these articles. Most studies had a small sample size, which could limit the data's generalizability to the larger population. In addition, many of the studies did not have a control group included. Another possible limitation that is common for studies completed with people with intellectual and developmental disabilities is the assessment process. Because many individuals in this population have limited speech or cognitive abilities, it is common for parents or caregivers to complete the assessment for the client. Although this is not inherently bad, it is to be noted as a potential bias in the accuracy of the data.

Out of the 11 studies included, four utilized the PATH model (Sterba et al., 2007; Lanning et al., 2014; Hawkins et al., 2014; Gabriels et al., 2015), three studies utilized

Hippotherapy (McGibbon et al., 2009; Shurtleff & Engsberg, 2010; Yoo et al., 2016), and three did not specify (Anderson & Meints, 2016; Jang et al., 2015; Cuypers et al., 2011). The most common form of EAS for this population was therapeutic riding. Sessions ranged from 30 minutes to 3 hour in duration, with the most common session length at approximately one hour. In addition, sessions lasted from six weeks to 18 weeks, with the most common frequency at 12 weeks. This sample of literature all showed a small participation size, which may help inform practice protocols involving intellectual and developmental disabilities.

For the context of recreational therapy, the three articles that use Hippotherapy as an intervention do not help inform recreational therapy specific practice protocols, as recreational therapists are not identified as a qualified provider of Hippotherapy. Only one intervention (Hawkins et al., 2009) specified the use of a recreational therapist in the EAS process. The articles regarding EAS for intellectual and developmental disabilities can help CTRSs gain a greater understanding of the current trends in the EAS field, such therapeutic riding programs lasting approximately one hour for 12 weeks for individuals with intellectual and developmental disabilities. The lack of recreational therapist involvement in the literature, however, further shows the need for recreational therapy specific research regarding EAS.

### **Evidence for Treatment in Other Diagnoses**

Although limited, some additional research exists for the effectiveness of EAS for other populations. Burgon (2011) found EAS helped increase confidence and sense of mastery, boost self-esteem and self-efficacy, create a sense of empathy, and increase

positive opportunities for young adults classified as at-risk. Furthermore, EAS research provides evidence for positive affects with older adults, such as decreasing problematic behaviors such as wandering and resisting care for adults with dementia; a decrease in pain, improvement of quality of life and range of motion for older adults with arthritis; and an improvement in balance for this population (Dabelko-Schoeny et al., 2014; White-Lewis et al., 2019; Homnick et al., 2013).

### **Trends in Equine-Assisted Services Literature for Other Diagnoses**

Out of the four studies evaluated, one was a randomized controlled trial (White-Lewis et al., 2019), two were quantitative research studies (Dabelko-Shchoeny et al., 2014; Homnick et al., 2013), and one provided qualitative data (Burgon, 2011). Two studies followed the PATH model (Homnick et al., 2013; White-Lewis et al., 2019), and two studies did not specify a specific model (Dabelko-Schoeny et al., 2014; Burgon, 2011). Two programs utilized therapeutic riding (Homnick et al., 2013; White-Lewis et al., 2019), one utilized EAL (Dabelko-Schoeny et al., 2014), and one utilized a mixture of therapeutic riding and EAL (Burgon, 2011).

Of the four articles examined, common limitations emerged, including a small sample size, a lack of description of programs and facilitation, and a lack of control group. Programs ranged from four weeks to six weeks, with session length lasting from 15 minutes to one hour. These studies do offer data that may provide preliminary evidence for EAS with these populations; however, none of these articles mentioned recreational therapy. It is vital for recreational therapy programs to be evaluated for these populations before CTRSs use this evidence as guidelines for treatment. In addition,

additional research is needed in regards to EAS for at-risk youth and older adults to increase knowledge of the efficacy of the intervention with these populations.

### **Recreational Therapy and Equine-Assisted Services**

Recreational therapists have the unique skillset and knowledge to work with a wide variety of populations, including geriatrics, mental health, addictions, physical rehabilitation, developmental disabilities, pediatrics, and general medicine (FAQ about Recreational Therapy, n.d.). All of these populations are discussed within EAS literature and have research supporting EAS interventions in addressing population specific issues. In regard to recreational therapy, it is important for recreational therapy practices to be evidence-based to provide justification for the effectiveness, validity, and reliability of the intervention, which in turn helps to create standards, protocols, and a larger body of literature for the field (Stumbo, 2011). For a CTRS to comply with best practice standards, it is vital for him/her to know why they are doing an intervention, what the intervention is truly targeting, and if the intervention is effective with their client and population. Although there is general literature supporting EAS with different populations, there is very limited literature specific to EAS within recreational therapy practice or the role of the CTRS in EAS, which increases the difficulty for CTRSs to have a larger role in EAS, have evidence-based protocols for equine-assisted programs, and understand best practices for EAS.

Out of the limited literature, Malkin (2011) provided a high quality, published, peer reviewed article that is recreational therapy specific for EAS. The article documented each step in the assessment, planning, implementation, evaluation, and

documentation (APIED) process for the case-study participant of the research (female, age 13, diagnosed with a traumatic brain injury). The client was initially assessed, using standardized assessments and a recreational therapy specific intake interview, by a CTRS upon her admission to a rehabilitation facility. The recreational therapist determined that therapeutic riding would be an appropriate treatment modality for the client using one-hour sessions one time per week for 12 months. The article also specifically stated that the researcher of the study was a recreational therapy graduate student, whereas the riding instructor was an experienced professional specializing in individuals with disabilities. The riding instructor was not a CTRS, but did help implement the riding portion of the treatment, and therefore had a role in the APIED process. The CTRS created goals and objectives for the participant. In the literature, the article outlined what each session entailed and how often progress notes were recorded. Results showed the participant meeting all of the therapeutic goals by the end of the intervention.

This study helps to inform CTRSs of exact treatment protocol and results. It describes the CTRSs' role in treatment, in which the CTRS took a leadership position in every aspect except the riding. This study specifically addresses all aspects of the APIED process for this intervention, and provides ample detail that could allow another CTRS, specifically a practitioner who also has equine knowledge and experience, to perform this intervention with a different client. Although the research format is a case study, which does not allow for generalization to a larger population, this research does help create the groundwork for other CTRSs regarding evidence-based practice using EAS to treat traumatic brain injury symptoms.

In addition to Malkin (2011), a study conducted by Kemeny (2018) investigated the role of a recreational therapy specific EAS program for youth diagnosed with ASD. The study provides a clear description of the protocols of the CTRS led sessions, which included groundwork and therapeutic riding to address stress. Sessions lasted for one hour, for ten consecutive weeks and utilized a randomized crossover format where therapeutic riding and groundwork were compared to stress management sessions. Before and after each session, self-reported stress measurements and salivary cortisol levels were taken. Results showed a reduction in salivary cortisol levels after therapeutic riding and groundwork, but no statistically significant difference between salivary cortisol levels between the EAS program and the stress management program. These results help inform CTRSs of the exact protocols used to achieve a decrease in stress for this population. In addition, the results of the study provide evidence for the effectiveness of EAS as an alternative treatment for addressing stress management.

Hawkins et al. (2014) used a case study approach to show the effectiveness of EAS for ASD. Although the article did not describe the APIED process in detail, it did provide valuable information about the process of EAS and the role of recreational therapy. For this program, two CTRSs, a Special Education Professor, and a PATH certified riding instructor conducted the sessions. The CTRSs also administered all of the assessments for the clients, and played an important role in the planning and implementation stages of the program by creating goals and objectives for the participants and helping create the program itself. In addition, this article provides informative details about the structure of the sessions, additional personnel that helped

run the sessions, and the practical implications of the study for the field of recreational therapy.

Goodwin et al. (2016) took a different approach to EAS research. This theory-based approach examined if self-efficacy played a role in EAS for children with ASD. The program evaluated was not led by a CTRS and did not follow the APIED process, but did follow up with recreational therapy specific suggestions. After the evaluation of the program showed results of self-efficacy, the author made suggestions from the data for the recreational therapy field. These include suggestions for recreational therapists to tailor programs to clients specifically, to potentially use one-on-one sessions to improve client social skills and communication, and for CTRSs to use the foundational and theoretical knowledge of self-efficacy to inform EAS practice for children with ASD. Having the support of a theoretical base for EAS allows recreational therapists to have further understanding of why EAS may be potentially working. Because the original EAS session was not recreational therapy, however, it does call into question the potential effectiveness of these suggestions if they were to be used in recreational therapy programming.

Lastly, recent research by Miller (2020) examined the current state of EAS, specifically in regard to recreational therapy. This thesis used a quantitative survey to explore the status of equine services in recreational therapy. Results showed out of the 56 reported surveys, most CTRSs were female, white, between 25-34 years old with a bachelor's degree, and primarily resided in the Southwest of the United States. When asked how they were using equine-assisted services, most recreational therapists

answered they had been using EAS in practice for 6-9 years, and the majority of CTRSs worked for privately owned practices or the federal government. CTRSs utilizing EAS most commonly identified community parks and recreation as the primary employment sector. Therapeutic riding and equine-assisted therapy were the top identified types of EAS used. CTRSs reported using primarily both group and individual sessions. The majority of the sample did not have additional equine certifications, but those who did most commonly reported having PATH Intl. certifications. CTRSs reported outcomes of increased physical, cognitive, and social functioning, as well as improvement in emotions and behaviors of clients. In regard to the APIED process, the majority of CTRSs identified using agency assessments instead of standardized assessments, using modifications and adaptations as well as an activity analysis to design sessions, being the only therapist during the provision of sessions, using progress notes as the primary source of documentation, and evaluating the program by assessing the changes in individual clients.

Unfortunately, the literature cited above is in the minority of recreational therapy literature regarding EAS; most literature that is available in recreational therapy journals does not provide enough information to accurately inform EAS practice protocols. For example, Farias-Tomaszewski (2001) evaluated EAS programs for adults with physical impairments. Although the article reported greater levels of self-efficacy and increased physical ability, the article does not report the intervention frequency, what is occurring during the sessions, who is leading the sessions, how a CTRS is involved, or what



implications the research has for the recreational therapy field (Farias-Tomaszewski et al., 2001).

Elliot et al. (2008) examined the impact of a therapeutic riding program for children and adolescents with mild physical and cognitive disabilities. Although the article is not recreational therapy based, it does include implications for recreational therapy by addressing specific, measurable goals related to the social domain through EAS, and using grooming of the horse to address physical limitations with clients. Key components are missing from the article to inform best practice, as it does not explain the session duration, frequency, or content. It also does not explain the role of the CTRS in the study or in the practice of EAS.

The lack of reliable literature for EAS specific to the recreational therapy field creates issues for practice, as CTRSs do not have the information needed to provide the best quality services. In addition, CTRSs do not have a clear definition of their role in the provision of EAS, what types of EAS are under the recreational therapy scope of practice, and how to implement EAS programs most effectively. The need for research and literature regarding recreational therapy specific EAS is immense and imperative to help inform recreational therapy practice, establish current trends within the field, and provide data and evidence for the efficacy of EAS.

### **Literature Review Conclusion**

A review of the current literature concludes that equine-assisted therapy may be a viable type of treatment for people of different diagnoses and age groups. The literature examined supports EAS interventions for individuals with diagnoses in mental health,

various disabilities, physical health, and emotional health. Research involving any type of EAS has proven to be difficult. Factors increasing difficulty include typically small sample sizes, the absence of a control group, discrepancies between self-reported qualitative results and statistical data, and external influences such as other therapeutic methods occurring at the same time, making the critical knowledge needed to perform best practices limited and insufficient (Pauw, 2000; Bachi, 2012).

The majority of the literature regarding EAS is not specifically recreational therapy related, and does not provide any treatment guidelines or practice recommendations for the field. In addition, the literature that is recreational therapy specific related to EAS is very limited and often not reliable and expansive enough to use as a source of information to inform treatment protocols. For recreational therapists to have a deep, meaningful understanding of the best practices and protocols regarding EAS, it is vital to examine the role of a recreational therapist in the provision of EAS and to identify how EAS fit into the recreational therapy scope of practice. Therefore, the purpose of this study was to examine current state of EAS in the United States recreational therapy field and explore the specific role of the CTRS practitioner in the provision of EAS services.

## CHAPTER THREE

### METHODS

This study employed a web based, descriptive exploratory survey. The purpose of the survey was to gain information regarding the current state of EAS in recreational therapy, and to identify the role of the CTRS in EAS interventions.

#### **Participants**

This study used a purposive and snowball sampling method. The target population and the inclusion criteria of the study included individuals who held the title of CTRS. Exclusion criteria of the study included anyone who was not a CTRS. This study was not age, gender, ethnicity or regionally specific.

#### **Instrumentation**

The instrumentation used for this research study was an electronic survey published through Qualtrics, an online survey software platform (see Appendix B). The online survey was a 38-item questionnaire developed by the research team to focus on gathering information specific to EAS and recreational therapy. The survey utilized a multi-method format (Anguera et al., 2018); multiple choice and single answer questions provided data that helped establish a greater understanding of equine assisted services. These questions included specifics regarding the program sessions, such as the duration, type of EAS used, type of clients attending the sessions, and cofacilitators of the sessions. The multiple-choice questions also helped describe the demographics of the CTRSs utilizing EAS, including their current level of knowledge (ranked from 1- no knowledge to 5- extremely knowledgeable), any equine certifications the CTRS may have, and what

level of education they have received. The open-ended, qualitative questions allowed CTRSs to fully explain their practices, role, and facilities. The use of open-ended, qualitative responses was selected to encapsulate individual participants' personal experience and opinions in their own words. For example, allowing CTRSs who utilize EAS in practice to describe their role as the CTRS provided a deeper understanding of their perspective and place in the intervention. As the survey was open to all CTRSs, the survey employed two separate tracts of questions; one for CTRSs who utilize EAS, and one for those who did not utilize EAS in practice. Both groups of CTRSs had a set of questions that were common between them, but then another set of questions that were unique to each based on whether they did or did not utilize EAS (See Table 1).

<b>Questions</b>	<b>CTRSs who do utilize EAS in practice</b>	<b>CTRSs who don't utilize EAS in practice</b>
Demographics of CTRS	✓	✓
Do you utilize EAS in practice	✓	✓
Do you have an interest in using EAS in future practice		✓
How do you believe EAS is being used in the field	✓	✓
What barriers prevent you from using EAS	✓	✓
Program specifics	✓	
Certification	✓	
Role of the CTRS in EAS	✓	
Use of the APIED process in EAS	✓	
Suggestions to improve the field	✓	

Two pilot surveys were sent out to CTRSs heavily involved in EAS. Revisions were made to the survey, including additional questions and rewording, and ensured content validity and question clarity.

### **Data Collection**

Following IRB Approval (See Appendix A), the survey was electronically distributed via a Qualtrics link through relevant social media groups, including: Facebook groups such as Clemson Recreational Therapy Club, Recreational Therapy, RT/TR, Rec Therapy Today, ATRA Students, American Therapeutic Recreation Association, ECU RT Alumni, We are TR! (therapeutic recreation), Advocate Recreational Therapy, NC Recreational Therapists, I am a Recreational Therapist, Equine-Assisted Psychotherapy and Learning, The EAMH/EAL Resource Network, and Equine-Assisted Therapy-Research and Funding; and LinkedIn groups such as ATRA, Recreational Therapists: Innovating, Inspiring, Networking, and Therapeutic Recreation & NCTRC Certified Professionals. Snowball sampling occurred in the form of a final question on the survey requesting CTRSs to share the link with others in the field.

The survey was open for three weeks, with two reminders posted to all social media sites one and two weeks into the data collection time period to encourage additional responses. The survey used a preventative formula that only allowed a participant to take the survey one time, in an effort to eliminate ballot stuffing, multiple responses and extraneous data. Survey participation was voluntary and anonymous and did not include any form of incentive; however, participants were made aware of their contribution to the field of recreational therapy through their participation in the study.

Once the participant submitted the survey, responses were automatically recorded through the Qualtrics program and downloaded to Microsoft Excel at the conclusion of collection.

### **Data Analysis**

Content analysis is a research method used to make inferences from data to provide new knowledge, insights, and a guide to future practice regarding a phenomenon (Krippendorff, 1980). Content analysis was chosen as the main form of analysis to allow for a broad description of the state and themes within recreational therapy and EAS (Elo et al., 2008). A deductive approach was used to analyze each specific question and create categories and themes with respect to the research question (Bengtsson, 2016; Elo et al., 2008).

Two different types of content analysis were utilized during data analysis: summative content analysis and conventional content analysis. Summative content analysis was chosen to analyze each question individually and to understand how often concepts and codes were reported in participant's answers (Hsieh & Shannon, 2005). The conventional content analysis approach allowed for categories and codes to emerge from the data during analysis; an appropriate method when research literature regarding the research questions is limited (Hsieh & Shannon, 2005). The multiple-choice questions and yes/no questions in the survey were analyzed using descriptive statistics; specifically, frequencies and percentages. Some text entry questions in the survey, including questions that warranted simple answers (i.e. what certifications do you have) were analyzed using summative content analysis. Remaining text-entry questions, such as those regarding the

role of the CTRS and the CTRSs use of the APIED process were analyzed using conventional content analysis (for a report of the analysis for each question in the survey, see Appendix C). Three phases occurred during the analysis of the data: the preparation phase, the organizing phase, and the reporting phase (Elo et al., 2008).

### ***Phase One: Preparation***

During the preparation phase, the researcher engaged in reflexive bracketing and developed a list of preconceived notions, knowledge, and understanding of the research questions in order to minimize personal bias throughout the data analysis (Bengtsson, 2016). Next, all of the data was downloaded to Microsoft Excel and Microsoft Word. Before the data was analyzed, any surveys containing only demographic information and no responses directly related to the research questions were deleted. The survey results were then grouped into two categories based off of the purpose of the study: data relevant to the understanding of current state of EAS in the field of recreational therapy, and data relevant to the specific role of the CTRS in EAS. Within these two categories, the survey results were additionally grouped by CTRS job description, of those who do utilize EAS in practice and those who do not utilize EAS in practice. Findings are organized and reported accordingly.

The next step of the preparation stage included determining the unit of analysis, which was chosen as any phrases reflecting similar ideas (i.e. trauma and PTSD were grouped together) (Elo et al., 2008). To begin, participant full answers were condensed into smaller meaning units that represented the response in a more compact manner. Meaning units were then further condensed into codes, which were words or phrases

encompassing similar ideas (Erlingsson & Brysiewicz, 2017). All phrases or words appearing in different forms were coded together, and all extraneous common words (i.e. and, the) were ignored in the coding process. Coding occurred in an interactive style, which allowed for the addition of new categories and concepts to form during the analysis of the data. The data was read through multiple times to ensure correct understanding and to allow the researcher to further make sense of the data.

### ***Phase Two: Organization***

Next, the researcher entered the organizing phase and arranged the qualitative data to create categories (Elo et al., 2008). Categories were created to increase understanding of the data, help describe what was occurring in EAS within the field of recreational therapy, and help the researcher generate knowledge regarding the data (Cavanagh, 1997). This process was performed multiple times to ensure thorough analysis of the data, and categories were agreed upon by multiple members of the research team. Once the data was coded appropriately and categories accurately represented the data, the categories were analyzed at a latent level, which allowed themes to emerge from the data and represent key ideas and responses that addressed the research questions (Erlingsson & Brysiewicz, 2017; Kleinheksel et al., 2020; Vaismoradi et al., 2016). See Table 2 for an example of the data analysis process.

For the multiple choice and select short answers questions in the survey, such as those asking about program duration, frequency, and type of EAS used, the researcher began by counting the number of occurrences of certain words and phrases within participants' answers. By quantifying the data, the researcher was able to identify patterns



in responses, and ensure the categories accurately reflected data. This process of summative content analysis was completed and checked multiple times to ensure accurate data, including by multiple members of the research team.

**Table 2. Example of data analysis process from question: “What barriers are preventing you from utilizing EAS in practice?”**

Step	Step 1: participant answer	Step 2: condense to meaning unit	Step 3: further condensed into code	Step 4: codes organized into a category	Step 5: all categories organized under a theme
Example from research responses	“We have to partner with the local university, so we are limited on how many sessions we can have based on their class schedule.”	“partner with local university...limited on sessions...based on class schedule”	“partner with local university”	Facility	Resources

***Phase Three: Reporting***

Lastly, the researcher entered the reporting phases. This phase involved the reporting of results, accurately applying the data to the research questions, and forming a deeper understanding regarding the implication of the data for the field of recreational therapy. The reporting phase led directly into the discussion, implications, and future research suggestions developed from the study. The reporting of results was modeled after Nieforth et al. (2021), and was chosen due to the similarity in data analysis processes.

## CHAPTER FOUR

### MANUSCRIPT

#### A Review of Recreational Therapy in Equine-Assisted Services: A Pilot Study

*This article will be submitted to:*

*American Journal of Recreational Therapy*

#### Abstract

Research in numerous disciplines describe the use of equine-assisted services (EAS) in treating the symptoms and improving the quality of life of individuals with emotional, mental, physical, and/or intellectual disabilities. However, the research on EAS in regard to recreational therapy practice and the function of the CTRS is limited. This study used a multi-method survey to examine the CTRSs' specific role in the provision of EAS and the current state of equine services in recreational therapy practice. Results of this study may be used to help recreational therapists understand current themes within the field, their role in providing EAS, and to increase the research and literature regarding the provision of equine services in the field of recreational therapy.

*Keywords: equine-assisted services, equine therapy, recreational therapy, role of CTRS, recreational therapy and equine*

## **Introduction**

Animal-assisted therapy (AAT) is a type of adjunct therapy that utilizes the animal-human interaction to enhance the effectiveness of treatment (Nimer, 2007; Tedavi, 2020). The use of horses within AAT is called equine-assisted services (EAS), which utilizes multiple modalities that incorporate equine activities to benefit clients (Wood et al., 2021). Recent research provides evidence that horses possess unique, beneficial qualities for AAT, such as their ability to understand human facial expressions and reflect emotion, parallel a client-therapist bond in the human-horse relationship, provide a motivational opportunity for clients, and teach lifelong skills such as communication and emotional regulation (Hemingway, 2019; Smith, 2016; Keeling, 2009; York, 2008; York, 2013). Because of the multifaceted nature of EAS, this intervention can be used to address mental health, physical health, and cognitive health (c.f. Cantin & Marshall-Lucette, 2011; Rigby & Grandjean, 2016; Rattlife & Sanekane, 2009). Two main organizations exist within the field of EAS: The Professional Association of Therapeutic Horsemanship International (PATH Intl.) and the Equine-Assisted Growth and Learning Association (Eagala). Both PATH Intl. and Eagala are certifying and accreditation agencies that certify individuals and accredit centers in multiple equine therapies, but Eagala takes a more specific approach in providing practice protocols specific for EAS in mental health treatment (Eagala, n.d.-c; PATH Intl., n.d.-a). For additional details regarding different types of EAS interventions, their accrediting organization, and their defining characteristics, see Table 1.

<b>Term</b>	<b>Organization</b>	<b>Defining Characteristics</b>
Equine-Assisted Psychotherapy (EAP)	Eagala	Based on the Eagala model and utilized in a mental health setting; only groundwork which focuses on experiential learning
Equine-Assisted Learning (EAL)	PATH Intl.	Type of experiential learning including mounted, unmounted, and driving activities; focuses on teaching life skills
Equine-Facilitated Psychotherapy (EFP)	PATH Intl.	Utilized in a mental health setting; includes mounted and groundwork activities where horse provides biofeedback to client; therapist may be dually certified to function as both mental health professional and equine specialist
Hippotherapy	PATH Intl.	Treatment utilized by PT, OT, or SLP; sensory, neuro, and cognitive focused
Interactive Vaulting	PATH Intl.	Mounted and unmounted activities focusing on teamwork, socialization, listening, and independence
Therapeutic Driving	PATH Intl.	Emotional, physical, sensory, or cognitive impairment focused; allows participants to control horses from a carriage
Therapeutic Riding	PATH Intl.	For individuals with disabilities to address emotional, cognitive, physical and social wellbeing; sessions include a horse, rider, two side walkers and a horse leader participating in any aspect of horsemanship or riding

Recreational therapists (CTRSs) are health providers that frequently utilize EAS. CTRSs have a unique skillset and knowledge-base to work with a wide variety of populations, many of which have been discussed as benefiting from EAS across various bodies of literature (c.f. Cantin & Marshall-Lucette, 2011; Porter et al., 2020; Rattlife & Sanekane, 2009; Rigby & Grandjean, 2016;). However, there is very limited literature specific to EAS within recreational therapy (RT) or the role of the CTRS within EAS.

Although some studies have specifically mentioned EAS implications for RT, only three studies have described the role of a CTRS in an EAS program, and one offered a profile of CTRS practitioners who use EAS (Miller, 2020). Malkin (2011) depicted each stage of the RT clinical process within a therapeutic riding program and reported the CTRS was the main facilitator of all aspects of the EAS intervention. Kemeny (2018) listed the EAS protocols used the study that was facilitated by a CTRS to decrease stress in clients with Autism Spectrum Disorder (ASD), but did not explicitly mention the steps of the clinical process. Hawkins et al. (2014) investigated an EAS program for children with ASD, and reported the CTRS was involved in assessment and planning, but did not implement the EAS session.

Similar to the current study, Miller (2020) explored the state of EAS in RT practice through an online survey. The study revealed most CTRSs (n=56) facilitated therapeutic riding or equine-assisted therapy, were the sole provider during the intervention, and perceived multiple benefits. Most CTRSs did not have equine certifications, but those who did mainly had PATH Intl. certifications. The Miller study helped provide insight into the demographic information of CTRSs providing EAS, as well as the current state of EAS, but the study did not define, identify, or describe the specific role of the CTRS within EAS. The purpose of this study, therefore, was to explore the use of EAS amongst CTRSs. This study provides an overview of the current state of EAS in the field of RT and examined the specific role of the CTRS.

## **Methods**

The university's Institutional Review Board approved this research prior to the study. This study employed a web-based survey to gain information from CTRSs about their perception of the current state of EAS in RT and to identify and describe the role of the CTRS in EAS. This study used purposive, criterion, and snowball sampling methods. The target population and the inclusion criteria of the study was CTRSs. Exclusion criteria included anyone who was not a CTRS. This study was not age, gender, ethnicity or regionally specific. Snowball sampling occurred in the form of a final question in the survey requesting CTRSs to share the link with others in the field.

### **Instrumentation**

The instrument used for this study was an electronic survey developed by the research team and published through Qualtrics, an online survey software platform (Qualtrics, Provo, UT). The 38-item, self-report questionnaire focused on gathering information specific to EAS and RT. As the survey was open to all CTRSs, it employed two separate tracts of questions; one for CTRSs who utilized EAS, and one for those who did not utilize EAS. Both groups of CTRSs had a set of questions that were common between them, as well as another set of questions that were unique to each based on whether they did or did not utilize EAS (See Table 2).

The survey employed a multi-method format; multiple choice and single answer questions collected data to establish a greater understanding of EAS, such as demographics, interest in EAS, program specifics, and certifications. The open-ended questions addressed CTRSs' perceptions of EAS, barriers, as well as the role of the CTRS and use of the RT clinical process in EAS.

**Table 2. Question tracks for survey**

<b>Questions</b>	<b>CTRSs who do utilize EAS in practice</b>	<b>CTRSs who don't utilize EAS in practice</b>
Demographics of CTRS	✓	✓
Do you utilize EAS in practice	✓	✓
Do you have an interest in using EAS in future practice		✓
How do you believe EAS is being used in the field	✓	✓
What barriers prevent you from using EAS	✓	✓
Program specifics	✓	
Certification	✓	
Role of the CTRS in EAS	✓	
Use of the APIED process in EAS	✓	

Two pilot surveys were sent out to CTRSs heavily involved in EAS to test the flow, face validity, and clarity of the survey. Revisions including additional questions and rewording were made to ensure content validity and clarity.

### **Data Collection and Analysis**

Following IRB approval, the survey was electronically distributed via a Qualtrics link through relevant social media groups, such as LinkedIn and Facebook groups for CTRSs. The survey was open for three weeks, with two reminders posted to encourage additional responses. Survey participation was voluntary, anonymous, and did not include any form of incentive. Responses were automatically recorded through Qualtrics and downloaded to Microsoft Excel. The data were then split into two groups: CTRSs who did utilize EAS, and CTRSs who did not utilize EAS in practice. Within both of these groups, content analysis was the primary form of analysis in order to make inferences from the data, provide new knowledge and insights, and allow for a broad description of

the current state of EAS (Elo et al., 2008; Krippendorff, 1980). A deductive approach was used to analyze each survey question individually and create categories and themes (Bengtsson, 2016; Elo et al., 2008).

Two different types of content analysis were employed: summative content analysis, which was used to analyze each question for the occurrence of concepts and codes throughout the data, and conventional content analysis, which allowed for categories and codes to emerge from the data during analysis (Hsieh & Shannon, 2005). Frequencies and percentages were also used in the data analysis process for demographic information.

Three phases occurred during the analysis process: preparation, organizing, and reporting (Elo et al., 2008). During the preparation phase, the researcher engaged in reflexive bracketing in order to minimize personal bias throughout the data analysis (Bengtsson, 2016). The data was downloaded and split into two groups: CTRSs who utilized EAS, and CTRSs who did not utilize EAS in practice. For both groupings of data, the unit of analysis was chosen as phrases, and coding occurred in an interactive style which allowed for the addition of new categories and concepts to form during data analysis (Elo et al., 2008; Erlingsson & Brysiewicz, 2017). Next, the researcher entered the organizing phase. Within both groupings, the researcher arranged the qualitative data to create categories to describe what was occurring in EAS within RT (Cavanagh, 1997; Elo et al., 2008). Lastly, the researcher entered the reporting phase, which led to the discussion and implications. This process was completed multiple times by members of the research team to ensure accurate analysis and reporting.



## Results

There were 239 total survey responses. Some individuals indicated they were not a CTRS (n=27) and were eliminated from the study, bringing the sample to 212. Eighty surveys were removed from the sample due to partial response (demographics only), resulting in a final sample of 132 responses. Of this sample, 65.2% (n=86) of the recreational therapists did not utilize EAS in practice. The number of years that respondents had been a CTRS ranged from less than one year to more than 26 years, with 63.9% (n=84) of the sample being certified for 10 years or less. Additional demographic information can be found in Table 3.

<b>Table 3. All CTRS Survey Participant Demographics</b>		
<b>Category</b>	<b>Frequency (n=132)*</b>	<b>Percentage (%)</b>
Gender (n=132)*	Female: 119 Male: 12 Prefer not to answer: 1	90.2% 9% 0.76%
Ethnicity (n=132)*	Caucasian: 123 Latino or Hispanic: 4 Asian: 4 African American: 3 Prefer not to answer: 2 Native American: 1 Native Hawaiian/Pacific Islander: 1 Unknown: 1	93% 3% 3% 2.3% 1.5% 0.76% 0.76% 0.76%
State (n=131)*	West Virginia: 59 Wisconsin: 31 Vermont: 21 Wyoming: 13 Does not reside in U.S.: 7	45% 23.7% 16% 9.9% 5.3%
Degree (n=131)*	Bachelor's: 74 Master's: 54 Doctoral: 3	56.5% 41.2% 2.3%
Years as a CTRS (n=131)*	Early practitioner (<1 year-10 years): 84	63.9%
Facility provides EAS (n=132)*	No: 86 Yes: 46	65.2% 34.9%
Age (n=121)*	Average age: 35 Age range: 18-55+	
* The difference in population size for each question is due to the lack of forced responses within the survey		

Results are organized by whether CTRSs did or did not utilize EAS in practice. The results are further organized to offer findings as they pertain to the research questions: a current overview of RT specific EAS trends in the United States, and the specific role of the CTRS in EAS.

### **Overview of Current State of EAS in RT**

Both CTRSs who did utilize and did not utilize EAS in practice informed the overview of current state of EAS in RT in the United States by providing a holistic picture of the current state of EAS, program protocols, and barriers.

#### ***CTRSs Who Do Not Utilize EAS in Practice***

The majority of individuals who responded to the survey did not use EAS in practice (n=86). Of those, 56 individuals reported an interest in providing EAS in future practice, and were asked additional questions regarding barriers preventing them from utilizing EAS. The 19 individuals who indicated they were not interested in providing EAS in the future did not receive any additional questions.

On a 5-point scale ranging from 1= no knowledge to 5=extremely knowledgeable, 62% of CTRSs with an interest in utilizing EAS in future practice ranked their current knowledge level as not knowledgeable to slightly knowledgeable, with a mean score of 2.31. When asked how they believed EAS was used within RT, three specific themes emerged, indicating EAS was used with specific populations such as veterans, that it referred to the use of specific activities such as groundwork like “brushing” and “grooming/tacking,” and that it was used specifically for therapeutic benefit, such as to

“improve physical functioning.” Reported barriers preventing CTRSs from utilizing EAS in practice included a lack of knowledge in areas of “horse experience” and “equine assisted therapy knowledge,” a lack of resources of “time” or “space” and population issues or agency complications regarding “unsupportive staff,” and “security issues.”

### ***CTRSs Who Do Utilize EAS in Practice***

Forty-six respondents who utilized EAS in RT practice. Personal and professional experience and interest were the main factors influencing a CTRSs’ decision to utilize EAS. Of the CTRSs who utilize EAS, 58.6% were early practitioners (between 0-10 years), and 63.7% had been utilizing EAS interventions for 0-5 years. The majority of CTRSs (63.6%) ranked their knowledge level as either very knowledgeable or extremely knowledgeable regarding EAS, with a mean score of 3.73.

Of the CTRSs utilizing EAS, 78.8% functioned solely as the recreational therapist. Equine credentials and certifications varied across CTRSs, but included PATH Intl., Eagala, Certified Horsemanship Association, and Natural Lifemanship certifications. Most CTRSs were not a member of any additional groups, governing bodies, or associations related to EAS, but the 30.3% who were listed membership to PATH Intl. and the National Veteran Affairs Equine Consortium most consistently.

When asked how they believed EAS was used in the field, CTRSs reported four different categories: 1) with specific populations, mainly veterans or individuals with a disability (n=31); 2) using specific activities of therapeutic riding or groundwork (n=21); 3) as a therapeutic modality (n=7), and 4) for specific emotional, physical, and social

benefit (n=14). Reported barriers for practicing EAS in the field included lack of knowledge, lack of resources, and the COVID-19 pandemic.

**Sessions and Facilities.** When asked about program specifics, the most commonly utilized types of EAS interventions by CTRSs included equine-assisted activities, therapeutic riding, and equine-assisted learning. These intervention types were reported being used with military members (n=16) and individuals with IDD (n=7). Cofacilitation of EAS sessions commonly included a PATH Int. Certified Instructor, a CTRS, and volunteers (See Table 4).

Out of the programs represented in the sample, 70.4% did not use a specific EAS curriculum, such as Horses Helping Heroes by PATH Intl. or the Eagala model, but 63.3% did report following evidence-based literature to inform their practice. Out of the 23 CTRSs who answered the question regarding data collection, the majority (n=19) reported not collecting data or measuring outcomes of the programs.

**CTRS Suggestions.** The CTRSs who did utilize EAS in practice were asked to provide suggestions on how to improve EAS within the field of RT. Two main themes emerged: the need for more education and professional agency involvement to help increase use of EAS by CTRSs. Under the need for education, suggested topics included the clarification of terminology used in EAS and a clarification of the role and scope of the CTRS within EAS. For example, a CTRS indicated that it would be helpful to “determine where [CTRSs] fall in mental health role/what is our scope of practice” in regard to EAS interventions. CTRSs proposed solutions to improve EAS in RT through utilizing the RT specific professional agencies. Suggestions included advocating for

special interest newsletters from the American Therapeutic Recreation Association (ATRA), as well as having the National Council for Therapeutic Recreation Certification (NCTRC) “work with PATH to have recreational therapy recognized in therapeutic riding.”

<b>Category</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
CTRS current job position at facility (n*=33)	CTRS only: 26 CTRS/Equine Specialist: 4 CTRS/Mental Health Professional/Equine Specialist: 1	78.8% 12.1% 3%
Type of facility (n=32)	VA/Veteran specific program: 10 Psychiatric: 10 Community/Special Recreation: 5 Farm/Therapeutic riding center: 5 Physical rehabilitation: 2	31.3% 31.3% 15.6% 15.6% 6.3%
Typical staff-to-client ratio during a session (including volunteers) (n=26)	1 staff:1client: 10 Dependent on program/client: 7 2-3 staff:1 client: 6 1 staff:2-3 clients: 2 3 staff:5 clients :1	38.5% 26.9% 23.1% 7.8% 3.8%
Typical length of 1 EAS session (n=32)	1-2 hours: 15 0-1 hours: 13 2-3 hours: 4	46.9% 40.6% 12.5%
How often clients attend EAS sessions (n=32)	1 time per week: 22 Once a month: 6 Once every two weeks: 3 2 times per week: 1	68.8% 18.8% 9.4% 3.1%
Duration of EAS program?*	Dependent on the program timeline: 18 Dependent on the client: 6 Dependent on the time of year/month: 5	
Number of clients in one session**	Between 1-4 clients:17 Between 5-8 clients: 13 Unknown: 3 10+ clients: 1	
Age groups of clients**	Adults (18-64): 25 Older Adults (65+): 13 Adolescents (ages 10-17): 12 Children (ages 0-9): 9	
Suggestions to improve EAS in RT**	More education: 9 Professional agency involvement: 2	
*The difference in population size for each question is due to the lack of forced responses within the survey **Reflect questions where participants could select all that apply		

## **The Role of the CTRS in EAS Practice**

### ***Specific Role of the CTRS***

CTRSs reported four common roles in EAS: 1) lead instructor of the EAS program, 2) facilitator of therapeutic processing, 3) program coordinator, or 4) no role in the provision of EAS (for additional information, see Table 5). Many CTRSs reporting filling multiple roles during EAS interventions.

**Role 1: CTRS as Lead Instructor.** CTRSs reported two different tasks within the role of lead instructor: being the main facilitator of EAS or assisting the equine specialist in leading sessions. CTRSs who reported leading the session worked as the main facilitator of the horse and therapeutic experience (i.e. “main instructor in therapeutic riding lessons”). Those who were not the main facilitator often assisted in different ways, such as aiding in client management such as “monitor[ing] participants and intervene[ing] if any problems occur,” by being a “sidewalker and sometimes help[ing] with instruction,” or by “co-facilitate[ing] experiential exercises and processing along with PATH riding instructor.”

**Role 2: CTRS as Therapeutic Processor.** CTRSs also reported their main role as facilitating the therapeutic process, commonly through “frontloading” and “debriefing” in sessions. Other identified tasks including “providing additional support” to the clients and creating a “safe space to talk” to help encourage therapeutic processing during EAS.

**Role 3: CTRS as Program Coordinator.** Instead of having an active role in the delivery of EAS sessions, several CTRSs described roles in which they helped coordinate the program for the clients by completing tasks such as “set[ting] up services with

client/family/care coordinator/external case manager,” and “coordinating logistics (transportation, food, waivers).”

**Role 4: No role.** A small number of CTRSs (n=4) communicated having no role in the provision of EAS, even though the intervention was used at their facility. One CTRS explained that “most CTRSs with our company just watch the lesson...” while others simply stated they “do not have a role” in providing EAS. CTRSs who reported not having a role in EAS services did not specifically state who provided the EAS session.

### ***The Use of the RT Clinical Process in Practice***

CTRSs were asked to explain how the RT clinical process was facilitated within EAS interventions. CTRSs reported using the RT clinical process in various ways, including using the process completely, partially, and not at all.

**Theme 1: Entire Clinical Process.** One CTRS provided an explicit example of the use of the RT clinical process in the provision of EAS services, reporting:

Assessment if [sic] carried out at an initial farm visit to ascertain whether EAL/P is a suitable intervention for the potential client. Planning is undertaken in conjunction with client and their parents/care giver and therapeutic care team. Interventions are designed along cognitive, social-emotional and physical-somatic paradigms. Evaluation is undertaken in conjunction with the client and their care team, and the client is invited to own and document their experiences by way of a journal. Documentation is in the form of intake and waiver forms, and client session notes, which may be formulated into a report if required.

CTRSs who reported using the entire RT clinical process often indicated they “employ the same APIED process [in EAS] as with other therapeutic groups.”

**Theme 2: Partial RT clinical Process.** Most CTRSs who reported partially completing the APIED process explained that other healthcare professionals completed portions of the APIED process, such as the “assessments [being] done by the psychologist.”

**Theme 3: No Clinical Process.** The CTRSs who reported not using the RT clinical process reported multiple different reasons. Two different responses included a concern about the program itself, where RT clinical isn’t used in “community recreation” or shorter programs. Other CTRSs reported not knowing whether the RT clinical process was being used at their facility.



<b>Table 5. The Role of the CTRS in EAS Practice</b>		
<b>As a CTRS, what is your role within the EAS intervention sessions? (n=33)</b>		
<b>Category</b>	<b>Number of Codes**</b>	<b>Representative Quote</b>
Lead instructor	Leading sessions: 11  Assisting: 15	“Co-facilitate experiential exercises and processing along with PATH riding instructor” “Main instructor in therapeutic riding lessons or facilitation of groups for EAL groundwork”  “Assist in running the program. Discuss patients’ needs and goals prior to session with staff.” “...assist during session as needed, monitor participants/intervene if any problems occur” “Because I am CTRI I also assist with grooming and occasionally sidewalk during TR lessons if needed.”
Therapeutic Focus and Processing	10	“I am responsible for framing and processing, as well as working on specific cognitive/ physical or mental health goals.” “Front loading and prepping for session, providing additional support when needed during sessions, debriefing with patients after session...” “I open each session and debrief returning to goals of each enrolled veteran and progress towards each goal. Often aiding in working with Veterans with PTSD and anxiety triggered during sessions.”
Program Coordination	9	“Identify clients who would be appropriate for the service. Set up services with client/family/care coordinator/external case manager, oversee the session and provide background and needs (supports, staff, ratio, etc.) to the EAS barn.” “I coordinate the required paperwork (consents from next of kin, medical clearance, etc.), transportation, and find staff/volunteers for 1:1.”
No role	4	“Most CTRS's with our company just watch the lesson...” “Do not have a role”
<b>Please explain if/how the APIED (Assessment, Planning, Implementation, Evaluation, and Documentation) process is involved in the provision of EAS interventions (n=30)</b>		
APIED used	14	“Assessment if carried out at an initial farm visit to ascertain whether EAL/P is a suitable intervention for the potential client. Planning is undertaken in conjunction with client and their parents/care giver and therapeutic care team. Interventions are designed along cognitive, social-emotional and physical-somatic paradigms. Evaluation is undertaken in conjunction with the client and their care team, and the client is invited to own and document their experiences by way of a journal. Documentation is in the form of intake and waiver forms, and client session notes, which may be formulated into a report if required.” “We follow the APIED process with EAS just like with any other intervention we provided...”
APIED partially used	7	“I mainly do the assessment and planning. The EAS barn leads the remainder of the APIED process.” “Assessment is done by Psychologist/programmed for group. CTRS does intervention, evaluation/documentation.”
APIED not used	No: 3 Unknown: 3	“We don’t really use the APIED process in community rec other than assessing interest in the program and assisting during the therapeutic riding sessions.” “If I were able to participate in this aspect more, I would have an answer. However, the facility does this part...”
*Total indicates the number of individuals reporting the theme, whereas specific categories, or an idea was reported within the theme, are listed under number of codes.		
**Number of codes represents the number of times a theme was mentioned, which may exceed the number of participants		

## Discussion

The purpose of this study was to explore the use of EAS amongst CTRSs by examining the current state of EAS in RT and the specific role of the CTRS. Major findings from this study reveal a more precise overview regarding the current practices occurring in EAS services, barriers preventing EAS, the specific role of the CTRS and the use of the APIED process.

The results of this study support common practices found in the EAS literature (c.f. Hawkins et al., 2014; Johnson et al., 2018; Lanning et al., 2014; McCullough et al., 2015) with regards to populations served (veterans and individuals with intellectual and developmental disabilities (IDD)), specific trainings and/or certifications used to practice EAS (PATH Intl. and Eagala), and session details such as frequency and duration. The fact that veterans are a large segment of the focus in EAS may be reflective of recent funding priorities from the VA that aim to support and expand EAS for this group, as EAS may be effective as an alternative treatment to traditional therapies (Botero et al, 2020; Olenick et al, 2018; U.S. Department of Veteran Affairs, 2020; Wara-Gross, 2020). For individuals with IDD, the enjoyment, confidence and independence increase, and motivational component might explain why EAS is an exceedingly popular intervention for this population (Boyd & le Roux, 2017).

Given that PATH Intl. and Eagala are the two main organizations providing training, competencies, certification, and practice and accreditation guidelines for equine programs in the United States, a pattern of certifications through these organizations in EAS literature would be expected (Eagala, n.d.-b; PATH Intl., n.d.-a). Specific session

information, while helpful in painting a picture of EAS in practice for CTRSs, varied among the respondents in this study. Given the fact that sessions should be intentionally designed to meet the goals and needs of each client, this variability of session content is not concerning.

Both CTRSs who did and did not utilize EAS reported lack of knowledge as a barrier, and CTRSs who did not use EAS ranked their level of knowledge as low and failed to identify the therapeutic nature of the modality, further showing the need for more education regarding EAS. Most institutions of higher education with RT degrees do not offer equine specific courses; only a few institutions have degree programs with an equine therapeutic focus to potentially complement an RT degree (i.e. Clemson University, University of New Hampshire). On-the-job training, volunteer experiences, and personal interests are likely a major way that practitioners initially learn EAS skills (Notgrass, 2011; Simmons, 2011). In order to strengthen the contribution of CTRSs in the provision of EAS, educational programs may consider providing more foundational coursework in EAS and supporting pathways to obtain equine certifications prior to graduation or CTRS certification, if desired. Study participants also indicated the American Therapeutic Recreation Association (ATRA) and the National Council for Therapeutic Recreation Certification (NCTRC) as being helpful sources of continuing education regarding EAS.

Currently, CTRSs work in many different roles in the provision of EAS interventions, especially since EAS often involves interdisciplinary treatment; this approach is beneficial in practice to address clients' complex treatment goals from

various approaches as well as creating opportunities for interprofessional education (Austin, 2019; Austin et al., 2015; Zahl et al., 2016)). The CTRSs knowledge of specific populations can inform the equine specialist in client care and interaction, and the equine specialist's horse knowledge can help the CTRS ensure client safety (Lamba et al., 2016; Zahl et al., 2016;). This synergistic relationship between members of interdisciplinary teams exists throughout the entirety of the intervention and the CTRS's APIED process. However, for CTRSs to expand their role in EAS, CTRSs should increase their function as a main facilitator of the EAS program. This may require additional certifications and trainings, but will result in the provision of services within an appropriate scope of practice and in line with various standards of practice (American Therapeutic Recreation Association, n.d.-a & NCTRC, 2004).

It should be noted that CTRSs should advocate for a clarification of terminology within EAS, potentially through ATRA sessions or CEUs to help expand RT's presence in EAS services. The role of the CTRS may be limited from functioning as the main program facilitator in certain types of EAS (i.e. EFP, EAP) due to the lack of explanation regarding the specifics of the terms *mental health professional* or *licensed/credentialed health professionals*, as well as the lack of inclusion of the CTRS as a listed qualified provider. This issue has been addressed in Canada, as the Canadian Therapeutic Riding Association specifically lists CTRSs as mental health professionals, along with psychologists and social workers (Duffy, 2018). The recreational therapy profession in the United States (i.e., ATRA) should push for RT being recognized and included within both PATH Intl. and Eagala as a qualified professional for EAS.

## **Limitations and Recommendations**

This study was limited by several factors; most notably, the Covid-19 pandemic, which limited overall responses and depth of information by not allowing for in-depth interviews due to in-person restrictions and zoom fatigue. Another limitation was sample size and lack of national representation. Future research should aim to survey more CTRSs to provide a representative picture of CTRSs who utilize EAS by distributing surveys through official governing bodies such as the NCTRC, ATRA, PATH Intl. and Eagala. Additionally, future research should encompass a systematic review of all RT specific EAS literature to add to the current state of knowledge regarding RT and EAS, as well as investigating the specific roles of each member of the interdisciplinary team providing EAS to illuminate the function of each discipline in EAS interventions.

Each questionnaire was self-reported, which may have led to inaccurate or biased information. The length and number of in-depth questions may have caused participant fatigue, leading to partial responses. Additionally, the open-ended structure of the questions in an online survey naturally limited participant answers. For a deeper understanding of the role of CTRSs in EAS, future research should consider utilizing an in-depth interview format and clarify EAS terminology.

## **Conclusion**

In conclusion, the current state of EAS within the field of recreational therapy is still somewhat unknown. There is a lack of consistency, clarity, and communication about what the role of the CTRS is in providing the service, what protocols are being used within sessions, and what benefits are gained from recreational therapy based EAS

programs. To directly answer these questions, CTRSs need to increase their role within the interdisciplinary team of EAS providers, use the entire APIED process with standardized and validated assessments, and increase documentation and data collection to add to the limited literature regarding EAS interventions and RT.

## CHAPTER FIVE

### CONCLUSION

Research supports the use of EAS among the various populations served by recreational therapists, but research regarding EAS and recreational therapy is limited. While exploratory in nature, the research from this study helps paint a clearer picture of the current state of EAS interventions in the field of recreational therapy, as well as what role CTRSs have in the implementation of programs. The findings help illuminate the value and importance of interdisciplinary treatment teams for EAS interventions, as well as highlight some of the roles CTRSs have commonly been occupying, such as a program leader, coordinator, or therapeutic processor. This research comes at a time where the use of EAS has gained popularity in the United States, particularly through heightened awareness and an increase in federal funding for specific programs. This research study also supports the need for clarification of terminology in the field of EAS, as well as the need for more clearly defined roles within EAS programming. Despite the contributions, the study was limited through a small sample size and limited or incomplete survey responses. Future research should consider utilizing open-ended interviews to gain a more in-depth understanding of the role of recreational therapy in EAS, and the specific role of the CTRS in EAS provision.

The initial research plan included data collection at recreational therapy specific EAS programs to explore outcomes associated with participation in these interventions for certain populations. However, when Covid-19 began, the country experienced a nationwide shut down and the study had to be adapted to a virtual survey. For these

reasons, the ability to do in-person research with EAS programs, whether survey-based or interviews, was restricted. The research plan was then shifted to explore the current state of recreational therapy specific EAS programs, as well as the role of the CTRS in EAS interventions. It would be highly beneficial for additional research regarding the role CTRSs fulfill in EAS practice to be conducted in a way that increased the sample size, but also had the ability to probe responses for clarity and detail.

Research efforts regarding the role of recreational therapy in EAS interventions should be continued by both researchers and CTRSs using EAS in the field. Additional data such as CTRS perceptions of EAS efficacy, a more detailed description of how the CTRS functions within the treatment team, and a deeper understanding of how different disciplines work together to provide EAS services would be beneficial to the field. Furthermore, program protocols, session content, and intervention outcomes specific to recreational therapy EAS programs would increase the literature and support regarding EAS and recreational therapy. Continued research regarding the use of recreational therapy in EAS and the role of the CTRS in interventions will aid in a deeper understanding of EAS and help fill the gaps of literature in the field that may prevent the use of EAS interventions in recreational therapy.



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## APPENDICES



## Appendix A: IRB Approval



<b>To:</b>	Jasmine Townsend	
<b>Re:</b>	Clemson IRB number	IRB2020-407
	Exempt Category:	2
	Determination Date:	January 5, 2021
	Funding Sponsor:	N/A
	Project Title:	Equine Assisted Services: the Role of Recreational Therapy

The Office of Research Compliance determined that the proposed activities involving human participants meet the criteria for exempt review under 45 CFR 46.104(d).

**Principal Investigator (PI) Responsibilities:** The PI assumes the responsibilities for the protection of human subjects as outlined in the Principal Investigator’s Responsibilities guidance.

**Non-Clemson Affiliated Collaborators:** This exempt determination only covers Clemson affiliated researchers on the study. External collaborators will have to consult with their respective institution’s IRB office to determine what is required for their role on the project.

**Continuing Review:** Exempt determinations do not have to be renewed.

**Modifications:** In general, investigators are not required to submit changes to the Clemson University’s IRB office once a research study is designated as exempt as long as those changes do not affect the exempt category or criteria for exempt determination (changing from exempt status to expedited or full review, changing exempt category) or that may substantially change the focus of the research study such as a change in hypothesis or study design.

If you plan to make changes to your study, please send an email to [IRB@clemson.edu](mailto:IRB@clemson.edu) outlining the nature of the changes prior to implementation of those changes. The IRB office will determine whether or not your proposed changes require additional review.

**Reportable Events:** Notify the IRB office immediately if there are any unanticipated problems involving risk to subjects, complications, adverse events and/or any complaints from research participants that may change the level of review from exempt to expedited or full board review. Additional information available at <https://www.clemson.edu/research/compliance/irb/forms.html>.

**Study Personnel Changes:** Notify the IRB office if the PI of the study changes. The PI is not required to notify the IRB office of other study personnel changes for exempt determinations. The PI is responsible for maintaining records of personnel changes and appropriate training.

**Non-Clemson Affiliated Sites:** A site letter is required for off-campus sites. Refer to the guidance on research site/permission letters for more information.

**International Research:** Clemson's approval is based on U.S. human subjects protections regulations and Clemson University human subjects protection policies. Researchers should become familiar with all pertinent information about local human subjects protection regulations and requirements when conducting research in countries other than the United States. We encourage you to discuss with your local contacts any possible human subjects research requirements that are specific to your research site, to comply with those requirements and to inform Clemson's IRB office of those requirements so we can better help other researchers prepare for international research in the future.

**New IRB Application:** A new application is required if the study remains open for more than 5 years after the initial determination.

**Closure:** Notify the IRB office when the study can be closed or if the PI leaves the university. Closure indicates that research activities with human subjects are no longer ongoing, have stopped and are complete. Human research activities are complete when investigators are no longer obtaining information or biospecimens about a living person through interaction or intervention with the individual, obtaining identifiable private information or identifiable biospecimens about a living person, and/or using, studying, analyzing, or generating identifiable private information or identifiable biospecimens about a living person.

**Contact Information:** Please contact the IRB office at [IRB@clemson.edu](mailto:IRB@clemson.edu) or visit our webpage if you have questions.

Clemson University's IRB is committed to facilitating ethical research and protecting the rights of human subjects. All research involving human participants must maintain an ethically appropriate standard, which serves to protect the rights and welfare of the participants. This involves obtaining informed consent and maintaining confidentiality of data.

Institutional Review Board  
Office of Research Compliance  
Clemson University  
<https://www.clemson.edu/research/compliance/irb/>

IRB Number: IRB00000481  
FWA Number: FWA00004497

## **Equine-Assisted Therapy in Practice**

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Start of Block: Default Question Block

Welcome!

My name is Kaylin Woods. I am a recreational therapy graduate student at Clemson University. I greatly appreciate your willingness to be a part of this survey and contribute your knowledge and experience regarding equine assisted therapy to help further the field of recreational therapy and equine practices.

Thank you!

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## Equine Assisted Services in Practice

### KEY INFORMATION ABOUT THE RESEARCH STUDY

Dr. Jasmine Townsend is inviting you to volunteer for a research study. Dr. Jasmine Townsend is a professor at Clemson University conducting the study with Dr. Marieke Van Puymbroeck, Dr. Chelsea Sinclair, and Master's student Kaylin Woods.

**Study Purpose:** The purpose of this research is to explore the use of equine-assisted activities amongst CTRS practitioners. The study will investigate the specific role of the CTRS in the implementation of equine-assisted therapy interventions, and provide an overview of current equine-assisted therapy interventions in the United States.

**Voluntary Consent:** Participation is voluntary and the only alternative is to not participate. You will not be punished in any way if you decide not to be in the study or to stop taking part in the study.

**Activities and Procedures:** Your part in the study will be to complete the survey regarding EAT and recreational therapy. The survey is a 28-question survey, utilizing multiple choice, single answer, and open-ended questions. Questions will consist of content including EAT protocols, session design, interdisciplinary approaches, and specific recreational therapy questions.

**Participation Time:** It will take you about 15-20 minutes to be in this study.

**Risks and Discomforts:** We do not know of any risks or discomforts to you in this research study.

**Possible Benefits:** You may not benefit directly from taking part in this study; however, you will be helping further EAT knowledge and making a significant impact in the field of recreational therapy through your participation.

**PROTECTION OF PRIVACY AND CONFIDENTIALITY:** The results of this study may be published in scientific journals, professional publications, or educational presentations.

The information collected during the study could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from the participants or legally authorized representative. No identifiable private information will be collected during the study.

**CONTACT INFORMATION:** If you have any questions or concerns about your rights in this research study, please contact the Clemson University Office of Research Compliance (ORC) at 864-656-0636 or [irb@clemson.edu](mailto:irb@clemson.edu). If you are outside of the Upstate South Carolina area, please use the ORC's toll-free number, 866-297-3071. The Clemson IRB will not be able to answer some study-specific questions. However, you may contact the Clemson IRB if the research staff cannot be reached or if you wish to speak with someone other than the research staff.

If you have any study related questions or if any problems arise, please contact Kaylin Woods at Clemson University at [kawoods@g.clemson.edu](mailto:kawoods@g.clemson.edu)

**CONSENT:** By participating in the study, you indicate that you have read the information written above, been allowed to ask any questions, and you are voluntarily

choosing to take part in this research. You do not give up any legal rights by taking part in this research study.

Yes, I consent

No, I do not consent

1. Are you a Certified Therapeutic Recreation Specialist (CTRS)?

- Yes, I am a CTRS
- No, I am not a CTRS

*Skip To: End of Survey If Are you a Certified Therapeutic Recreation Specialist (CTRS)?  
= No, I am not a CTRS*

2. What gender do you identify as?

- Male
- Female
- Transgender
- Non-Binary
- Other (Please Specify)

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Prefer not to answer

3. Please enter your age (If you choose not to answer, please write in "Prefer not to answer"):

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4. Please specify your ethnicity (Choose all that apply):

- Caucasian
- African American
- African
- Latino or Hispanic
- Asian
- Native American
- Native Hawaiian or Pacific Islander
- Middle Eastern
- Unknown
- Other

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Prefer not to answer

5. In which state do you currently reside?

▼ Alabama ...

6. What is the highest degree or level of education you have completed?

- Some High School
  - High School Degree
  - Associates Degree
  - Bachelor's Degree
  - Master's Degree
  - Doctorate Degree (Ph.D., M.D., J.D., etc.)
  - Trade School
  - Other
- 
- Prefer not to answer

7. How many years have you been working as a Certified Therapeutic Recreation Specialist (CTRS)?

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8. Equine assisted services (EAS) is defined as an overarching category of services that uses equine activities or the equine environment to reach client goals.

Does your facility utilize EAS as a treatment modality?

- Yes, my facility has its own horses and provides equine-assisted services
  - Yes, my facility partners with another organization who provides equine-assisted services to our clients
  - No, my facility does not provide equine-assisted services, nor do we partner with an organization to provide them
  - Other (Please explain):
- 

*Skip To: interest If Equine assisted services (EAS) is defined as an overarching category of services that uses equine... = No, my facility does not provide equine-assisted services, nor do we partner with an organization to provide them*

9. Would you be interested in providing EAS in the future?

- Yes
- Maybe
- No
- I have worked in EAS in the past, but do not currently use EAS interventions.

*Skip To: snowball If Would you be interested in providing EAS in the future? = No*

10. Please select the category that best describes your current state of knowledge regarding EAS.

- Extremely knowledgeable
- Very knowledgeable
- Moderately knowledgeable
- Slightly knowledgeable
- Not knowledgeable at all

11. Please explain how you believe EAS is used within the field of RT (i.e. therapeutic riding, as an adjunct therapy, mainly with veterans, etc.) \_\_\_\_\_

12. What barriers are preventing you from providing equine-assisted services? (i.e. lack of knowledge about EAT, lack of resources, lack of horse experience, lack of research regarding EAT and your population, etc.) \_\_\_\_\_

13. How many years have you been utilizing equine-assisted services in your practice? \_\_\_\_\_

14. How did you decide to start using EAS? (i.e. previous personal horse-riding experience, volunteer experience, general interest, etc.) \_\_\_\_\_

15. Please describe the type(s) of facility you currently work in that provides EAS (i.e. inpatient physical rehab, hospital, etc.) \_\_\_\_\_

16. Please explain your job position within your facility.

- CTRS only
  - CTRS/Equine Specialist
  - CTRS/Mental Health Professional (have additional certifications in mental health practices)
  - CTRS/Mental Health Profession/Equine Specialist
  - Other (Please Specify)
- \_\_\_\_\_

17. Please list all credentials, training, or degree(s) obtained relevant to your current job position (i.e. equine certifications, specific designations, or professional certifications). Please spell out all certifications and include the organization to ensure proper identification.



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18. What age groups does your facility primarily work with? Please select all that apply.

- Children (0-9)
- Adolescents (10-17)
- Adults (18-64)
- Older Adults (65+)

19. What populations does your facility primarily work with using EAS? (i.e. K-12 schools, at-risk youth, veterans, etc.)

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20. What type of equine-assisted service is used with your clients? Please select all that apply.

- Equine-Assisted Activities
  - Equine-Assisted Learning
  - Equine-Facilitated Psychotherapy
  - Equine-Assisted Psychotherapy (Eagala Model)
  - Hippotherapy
  - Interactive Vaulting
  - Therapeutic Driving
  - Therapeutic Riding
  - Other (Please Explain)
- 

21. What is the typical length of ONE EAS session?

- Less than 15 minutes
  - 15 minutes
  - 15 minutes-29 minutes
  - 30 minutes
  - 30 minutes-59 minutes
  - 1 hour
  - 1 hour-1.5 hours
  - 1.5 hours-2 hours
  - 2 hours-2.5 hours
  - 2.5 hours-3 hours
  - Over 3 hours
  - Other (Please Explain)
-

22. How often do clients attend EAS sessions?

- Once a month
  - Once every two weeks
  - 1 time per week
  - 2 times per week
  - 3 times per week
  - 4 times per week
  - 5 times per week
  - 6 times per week
  - 7 times per week
  - Other (Please Explain)
- 

23. Please explain the typical duration of the EAS program (i.e. weeks, months, client dependent, etc.)

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—

24. How many clients are in one equine-assisted service session?

- 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - Over 10
  - Other (Please Explain)
- 

25. What is the typical staff-to-client ratio during a session? (including volunteers)

---

26. What other individuals assist in providing an equine-assisted service session (i.e. co-facilitate)? Please select all that apply.

- PATH certified instructor
  - Eagala certified instructor
  - Psychologist
  - Psychiatrist
  - Occupational Therapist
  - Recreational Therapist
  - Physical Therapist
  - Social Worker
  - Volunteers
  - Other (Please Describe)
- 

27. Does your facility/facilitators have equine-assisted service specific credentials? Please select all that apply.

- Professional Association of Therapeutic Horsemanship International (PATH Intl.)
  - Equine-Assisted Growth and Learning Association (Eagala)
  - American Hippotherapy Association
  - Certified Horsemanship Association
  - Other (Please Explain)
- 

28. Is there an EAS curriculum used with clients? If yes, please explain. If no, please explain your facility's EAS session content.

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29. Does your facility follow evidence-based practice? (i.e. following procedures and protocols specific to equine-assisted service supported by research?)

- Yes
  - No
  - Other (Please Explain)
- 

30. As a CTRS, what is your role within the equine-assisted intervention session? (i.e. assist, lead facilitate, etc.) Please provide specific details and a description about your role.

---

31. Are you a member of any additional groups, governing bodies, or associations specific to equine-assisted services?

- Yes (Please List) \_\_\_\_\_
- No

32. Please explain if and how the APIED (Assessment, Planning, Intervention, Evaluation, Documentation) process is involved in the provision of equine-assisted intervention at your facility, if at all.

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33. Please provide any additional information that may be helpful to further understand the protocol of the equine-assisted services and the role of the CTRS.

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34. Does your facility measure outcomes and collect data on your equine-assisted services?

- Yes
- No

*Skip To: extra If Does your facility measure outcomes and collect data on your equine-assisted services? = No*

35. Please explain the process of data collection at your facility, including the tools used to collect data, how often the data is collected, and how the data is being used:

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36. Please provide any additional information that may be helpful for the comprehensive understanding of EAS at your facility.

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37. Do you have any suggestions or recommendations on ways to improve the provision of equine-assisted services within the field of recreational therapy?

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38. Thank you for completing this survey! If you know anyone who is a CTRS who provides EAS, and may have an interest in taking this survey, please send them the link below:

[https://clemsn.ca1.qualtrics.com/jfe/form/SV\\_2sCn2tSdRwQpI4l](https://clemsn.ca1.qualtrics.com/jfe/form/SV_2sCn2tSdRwQpI4l)

We appreciate your willingness to participate and share the link!

**End of Block: Default Question Block**

Appendix C: Data Analysis Chart

<b>Survey Question Number</b>	<b>Type of Analysis</b>
1	Descriptive statistics
2	Descriptive statistics
3	Summative content analysis
4	Summative content analysis
5	Descriptive statistics
6	Descriptive statistics
7	Summative content analysis
8	Descriptive statistics
9	Descriptive statistics
10	Descriptive statistics
11	Summative content analysis
12	Summative content analysis
13	Summative content analysis
14	Summative content analysis
15	Summative content analysis
16	Descriptive statistics
17	Summative content analysis
18	Descriptive statistics
19	Summative content analysis
20	Descriptive statistics
21	Descriptive statistics
22	Descriptive statistics
23	Summative content analysis
24	Descriptive statistics
25	Summative content analysis
26	Descriptive statistics
27	Descriptive statistics
28	Summative content analysis
29	Descriptive statistics
30	Conventional content analysis
31	Summative content analysis
32	Conventional content analysis
33	Conventional content analysis
34	Descriptive statistics
35	Conventional content analysis
36	Conventional content analysis
37	Conventional content analysis