

2020

Provider Perspectives of Equine Assisted Psychotherapy for Social Skills

Rachel Young
Walden University

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Walden University

College of Social and Behavioral Sciences

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Rachel Young

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Walden University
2020

Abstract

Provider Perspectives of Equine Assisted Psychotherapy for Social Skills

by

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MA, Andrews University, 2006

BS, Andrews University, 2006

Dissertation Submitted in Fulfillment
of the Requirements for the Degree of
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Abstract

Animal assisted therapy has been used for years and has been researched primarily for autism but researchers have not focused specifically on the experiences of children with Attention Deficit Hyperactivity Disorder (ADHD) and their social skills after involvement in animal assisted therapy. Children with ADHD frequently struggle expressing their emotions and communicating effectively, primarily in social settings, which can have an extensive impact on their functioning that can extend into adulthood. The theoretical attachment framework from Ainsworth and Bowlby, when applied through the retrospective multiple case study model allowed for a greater understanding of the experiences of children involved in equine assisted psychotherapy and the impact on social skills, specifically communication, empathy, and engagement skills. The research questions were designed to look for trends associated with equine assisted psychotherapy and its influence on social skills. Ten qualitative provider interviews were conducted with a mix of male and female participants who were over the age of 18 years old and mostly owners or lead therapists. Data were analyzed, examining for trends related to social skill development, evidence of impact, meaning, experience, and influences on the effectiveness. Equine assisted psychotherapy was found to be beneficial in fostering general social skills in addition to specific social skills, regardless of modality utilized. The positive social change implications include providing insight into a methodology that can be beneficial for children with ADHD by providing providers information on how equine assisted psychotherapy can have a positive impact upon social skill development for children who have difficulty with social interactions.

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Dedication

I would like to dedicate this dissertation to the many people throughout my time that have helped me accomplish this goal. First, my husband. He has been a strong supporter of my desire to finish my PhD. He has been there for me throughout the many late nights, long days, and trips to accomplish my goal. Secondly, my children. They have spent many hours supporting me work on my research. They have cheered me on and encouraged me throughout the process.

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Chapter 1: Introduction to the Study

Topic of Study

In this study, I focused on the influence of animal assisted therapy on the development of social skills in children with ADHD. This chapter contains a review of the problem, the purpose of this research, significance, research questions, and the theoretical foundation.

Problem Statement

Children with a developmental disability, in particular ADHD, are likely to experience problems with their ability to self-regulate, interact appropriately, and manage anxiety and/or depression (Dyck and Piek, 2014). DeVeeney, Hoffman, and Cress (2012) found that a child who experiences a developmental disability often has to find alternative means of communication and expressing emotions; consequently, these children struggle significantly in their ability to communicate with others, thereby impacting their quality of life. Because of the significant impact the developmental disability has on their functioning socially, many are placed into therapeutic strategies to help improve social interactions and quality of life (DeVeeney et al., 2012). The difficulty in interacting with others has led many children with a developmental disability to use animal assisted therapy in an attempt to help improve social interactions (Chitic, Rusu, & Szamoskozi, 2012; Fiksdal, Houlihan, and Barnes, 2012).

Brief Literature Review

In a typical developmental trajectory, all children begin to learn about social interactions from a very young age. The first area in which children begin to learn

socialization is in the home environment, often through their interactions with their parents (Torres, Verissimo, Monteiro, Ribeiro, and Santos, 2014). As children grow and enter preschool or early childhood programming, many children obtain socialization skills through peer-to-peer interactions (Betawi, 2013). When a child learns it is important to have positive social interactions, they are more likely to establish and maintain positive interactions with peers (Kwon, Kim, and Sheridan, 2014). This ability to establish and maintain positive socializations subsequently has a drastic influence on future success (Cooper, Moore, and Powers, 2014). When a child has a lack of belief in their ability to maintain positive social skills or does not have well-developed social skills, they frequently struggle to have positive relationships and often have a lack of friendships and social experiences.

In an attempt to help children with a developmental disability improve socially, many families of children with a developmental disability have sought the use of animal assisted therapy. According to Dilts, Trompisch, and Bergquist (2011), children who have been diagnosed with a developmental disability are good candidates for animal assisted therapy because these children often struggle with interactions with others. Fiksdal et al. (2012) documented that animal assisted therapy can improve interactions. In addition, Davis et al. (2015) completed a meta-analysis of multiple quantitative research studies and reported a positive impact of animal assisted therapy on behavioral interactions for children with a developmental disability, primarily those with autism spectrum disorder in the age range of 3 to sixteen years old.

The impact of animal assisted therapy has also been researched on children with ADHD; yet, this population has been studied on a much smaller scale than children with autism spectrum disorder and the studies often focused on medical results or overall functioning (Busch et al., 2016; Cuypers, De Ridder, and Strandheim, 2011). The only existing research on the topic focused on the impact of animal assisted therapy on the core symptoms of children with ADHD and the results showed the therapy had a positive impact on social problems, manual dexterity, bilateral coordination, and overall motor functioning (Jang et al., 2015). Rapport, Orban, Kofler, and Friedman (2013) studied children with ADHD and found that physical symptoms, such as memory function and resting state brain function showed a positive improvement, and Yoo et al. (2016) studied improvement after animal assisted therapy was provided and also indicated similar results.

However, these studies did not specifically focus on understanding the phenomenon of interactions and the impact of animal assisted therapy on developing social behavior skills that are necessary for children to have positive social interactions (Jang et al., 2015). Because animal assisted therapy is theoretically thought to work through its effect on building positive social skills, in particular communication and nonverbal skills, it is important for researchers to better understand how such therapies impact these skills (Chitic et al. 2012). A working theory on how this experience influences social skill building is that when the youth interacts with animals, often due to a level of excitement in interacting with animals, they begin to learn how to relate to others and this skill can be translated to human interactions (Chitic et al. 2012). In

addition, Salley, Gabrielli, Smith, and Braun (2015) determined that children with ADHD have a higher capacity for social skills than children with other developmental disabilities, which can allow for a more in-depth research study to understand how animal assisted therapy can impact social functioning. Because of the potential for the learning of social skills and the potential for children to learn these skills, the promise of animal assisted therapy for children with ADHD is great.

The focus of this research was on the phenomenon of animal assisted therapy and the perceptions of parents and practitioners of its impact on children with ADHD and the children's ability to learn and incorporate positive social skills. The expected outcome of this research was to provide information regarding the phenomena of animal assisted therapy and its influence on the improvement of the social behavior skills of children with ADHD through multiple retrospective case studies (see Starman, 2003). Importantly, this study was the first qualitative attempt to answer how animal assisted therapy alone can impact the social skills of children who are diagnosed with ADHD. Research was lacking from a qualitative viewpoint of how animal assisted therapy can assist children with ADHD in learning positive social skills. In this study, I endeavored to fill this gap and present an understanding of the experiences of children with ADHD and how animal assisted therapy impacted their social skill building.

Purpose of Research

By understanding the perceptions of the providers of the experiences of children with ADHD and the use of animal assisted therapy, practitioners will be able to better determine how this therapy works, why it works, and when to apply the therapy. The

qualitative lens of inquiry will provide a foundation and information for practitioners who want to utilize this therapeutic model with children with ADHD. Qualitative questioning fostered the gathering of information surrounding beliefs, feelings, emotions, and responses to the therapeutic model instead of only outcomes.

Significance of Research

Research into the impact of animal assisted therapy on the social skills of children with ADHD is significant in that it will provide practitioners and other researchers with a greater understanding of the experience of animal assisted therapy and how this experience can potentially be beneficial for children with ADHD and lead to potential improvements in social skill building. As children can relationally connect with animals, they are able to then begin to become more attuned to the animals and potentially translate these skills to social interactions with others (Lac, 2017). In this study, I provided data that is not currently present in the field with a focus on the experience of animal assisted therapy and the impact on the social skills of anyone with ADHD.

There is a lack of research providing a qualitative understanding of the impact of animal assisted therapy on the social skills of children with ADHD. Potentially significant findings range from interviews that indicate a positive impact on the social behavior of children with ADHD to the phenomenon of the relationship with the animal as the foundation for learning social skills. I analyzed the data collected from the in-depth questioning of providers for themes and trends related to social skill development that could be generalized across the population. Providers were able to speak to the experience of the interactions between the child and animal and the impact on social skill

building. This study helped in determining whether animal assisted therapy is a method that can improve social behaviors of a child with ADHD. The information obtained in this study began to fill a current gap in understanding surrounding the use of animal assisted therapy to improve the social skills necessary for behavioral interactions of children with ADHD. This information will then be available to help guide practitioners in the field as they provide services to children with ADHD, specifically focused on socialization and social skills often inhibited for this population.

Research Framework

The theoretical foundation of this study was the attachment theory as cited by Bachi (2013) and originally developed by Ainsworth and Bowlby (1992). The ability to interact with others as well as participate in nonverbal communication and a secure interaction stem from positive attachment (Bachi). Bachi believed that the ability to attach to others is crucial in the interactions involved in animal assisted therapy and is the theoretical foundation for animal assisted therapy. According to Lac (2017), the experience of equine facilitated psychotherapy is founded on the experience of forming a relationship with the horse. This framework is similarly founded on the experiences of individuals and how individuals experience circumstances, specifically animal assisted therapy. These experiences impact individuals' lives because their perception of the experience influences what they absorb and incorporate.

The experience of animals connecting with humans leads to a connection that can be foundational for emotional regulation of the human stems from the relational component of animal assisted therapy (Lac, 2017). When children have the experience

that they frame as one in which they can connect to an animal, this experience can be foundational in advancing skills and improving relational interactions. Attachment is the foundation of connections with others, and Bowlby's attachment theory and the experience of attachments combined led to the belief that children engaging in relational interactions with animals becomes the foundation to learn relational skills and attach appropriately, thereby furthering social skill capacity (Zilcha-Mano, Mikulincer, and Shaver, 2011).

When children have early lack of proper attachment, it can directly influence their ability to interact with others appropriately through a positive relational manner (Purvis, Cross, Dansereau, and Parris, 2013). The concept that relationships can fuel attachment and psychosocial factors were the avenue to teach positive social skills that guided this study. Skills are both learned and encouraged through relational interactions (Kogan et al., 1999). Animal assisted therapy becomes the method to teach and reinforce relational skills. Current research has documented that the development of a relationship between a child and a therapeutic animal will be effective in benefitting negatives symptoms for children (Reed, Ferrer, and Villegas, 2012) with a developmental disability (Selby and Smith-Osborne, 2012). However, there is a need to understand the experiences of a child and how the phenomena influences their incorporation of the relational skills from animals to others.

Research Questions

The methodological framework for this research was the phenomena from a multiple, retrospective case study as referred to by Starman (2003). The information I

obtained from this study was how the experience and phenomena of animal assisted therapy alone can affect social skills necessary for effective social interaction.

Information related to an understanding of the interactions of the youth in experiencing relational skills with an animal (Lac, 2017) can be gathered to help researchers and practitioners know the potential impact of animal assisted therapy on building positive social skills, such as communication and nonverbal skills (Chitic et al., 2012).

Qualitative interview questions were asked to obtain this information from parents and providers (see Creswell, 2009). The following research questions guided this study:

RQ1: How do parents of children with ADHD who have engaged in animal assisted therapy describe their experience?

RQ2: How do parents of children with ADHD who have engaged in animal assisted therapy describe the influences of the therapy on their child's social, communication, empathy, and engagement skills?

RQ3: What meaning do parents of children with ADHD who have engaged in animal assisted therapy gain from having their child with ADHD participate in animal assisted therapy?

Nature of Study

In this study, I used a qualitative approach to obtain data regarding the impact of animal assisted therapy on the advancement of skills necessary for social behavior (see Creswell, 2009). A multiple, retrospective case study design was employed to focus on developing an understanding of the perceived experiences and past phenomenon of the

children with ADHD and how their social skills are affected by involvement in animal assisted therapy (see Starman, 2003). The subsequent impact on social skills was collected from practitioners of children experiencing the phenomena of animal assisted therapy. I conducted interviews with at least ten providers who were involved in the intervention of animal assisted therapy for children with ADHD. The participants were asked interview questions related to the influence of animal assisted therapy on the improvement of social skills necessary for positive social behavior.

I analyzed the participants' responses for themes and trends concerning the experiences of the children with ADHD as reported by their practitioners after engaging in animal assisted therapy. Data were collected from multiple facilitators but the focus was primarily on the experience of the child and parent who received animal assisted therapy. I expected that if the child was receiving supportive therapy, such as psychotherapy, there might be covariables impacting behavioral interactions. This was noted on each interview conducted if disclosed in addition to comorbid diagnoses. These comorbid factors could potentially influence the experiences of the children and the answers provided but the trends identified were examined and focused based on reported experiences and the meaning that children and their parents have ascribed to involvement in animal assisted therapy and any potential subsequent influence upon their ADHD.

Assumptions

One assumption made in this study was that children diagnosed with ADHD can also have attention deficit disorder because both are often diagnosed within one diagnosis under the current diagnostic criteria through the *Diagnostic Statistical Manual, 5th*

version (American Psychiatric Association, 2013). These assumptions were necessary because many parents and providers often utilize both interchangeably. For the purposes of this study, I assumed that there was no distinction between attention deficit disorder and ADHD for inclusion criteria.

Limitations and Delimitations

Potential limitations for this research study were a lack of available client population due to the fact that many agencies providing equine assisted riding are not licensed to provide psychotherapy. Furthermore, anytime that a population being surveyed involves children, parents have to consent to talking about their therapy and this can be a hindrance to obtaining cooperation. Another potential limitation was that equine assisted psychotherapy agencies are spread throughout the United States; therefore, some people may have been concerned about participating in a study that was based in another state.

One delimitation of this study was to not complete surveys pre- and post-intervention due to the complexity of completing this research model for a dissertation. Furthermore, I did not provide the intervention or survey to current clients but chose to survey other locations to obtain a more unbiased perspective. Many individuals have ADHD, from young children to adults but only children were selected for this research study. Quantitative data can be beneficial in that it can be analyzed for data trends; however, the desired goal of this study was to understand how the experience of equine assisted psychotherapy can be beneficial in learning social skills. Many children have

other comorbid conditions that could possibly be improved through equine assisted psychotherapy but only social skill development related to ADHD was researched.

Summary

The focus of this study was to gather data related to children with ADHD and their experience with animal assisted therapy for social skill development. Children with ADHD often struggle with positive social interactions, and this can influence many things within their lives, including a positive outlook (Dyck and Piek, 2014). By understanding the experience of children with animal assisted therapy and the impact of this experience on social skill development, future practitioners can determine if animal assisted therapy is beneficial as a therapeutic option for children with ADHD who are struggling in social settings. Literature is present regarding animal assisted therapy, ADHD, symptoms, social skill challenges, and benefits of equine assisted psychotherapy. This literature is lacking in research focused upon children with social skill concerns with ADHD, the meaning of engaging in equine assisted psychotherapy, and the impact upon social skills.

Chapter 2: Literature Review

Introduction to Chapter 2

Children with ADHD have multiple treatment options available (Page et al., 2016) yet despite these treatment options, children still struggle with peer interactions (Helseth et al., 2015). I conducted a literature review to identify gaps within current peer reviewed literature and noted a lack of research documenting the experiences of children and parents engaging in equine assisted psychotherapy and the influence upon social skills.

Accessed Resources

I conducted literature searches utilizing Walden University Library resources, including primarily psychology databases and Google Scholar, for literature related to equine assisted psychotherapy, animal assisted therapy, social skills, children with ADHD, treatment modalities for ADHD, and connections between the topics.

Previous Research

Common Treatment Options for Children With ADHD

Children who are diagnosed with ADHD often receive a combination of treatment options and modalities, including medication regimens, behavioral treatment options, and a combined approach (Page et al., 2016). The most common regimen is the use of stimulant and nonstimulant medication (Huss et al., 2016). Despite the long-standing use of medication therapy, there is still a focus in the field on researching the implementation of and attempting to find the right balance to obtain effectiveness for children with ADHD. However, in some situations, medicinal management of ADHD symptoms is

effective and appears to diminish behaviors and symptoms (Fallesen and Wildeman, 2015). Some improved behaviors associated with ADHD, such as inattention and interactions, are reportedly improved with long-acting versions of medication, such as dexamethylphenidate (Raman et al., 2015). In particular, medication seems to improve frustration tolerance (Manos et al., 2012). Unfortunately, in examining the impact for children in social settings, a combined approach with medication and behavioral management strategies achieved the most optimal results; yet, even then, children still exhibited symptoms that had a negative impact upon social functioning, including breakthrough aggression, irritability, inattention, and negative relational moments (Helseth et al., 2015). Due to the on-going negative impact of symptoms of ADHD, many practitioners seek alternative options.

Given the overwhelming impact ADHD has on children's life functioning, further research is needed to better understand the needs of children with ADHD and how alternative therapeutic options, such as animal assisted therapy, might provide missing information to help improve outcomes that have not been benefited through medication or behavioral therapy alone.

Animal Assisted Therapy

One alternative therapeutic option pursued for children is animal assisted therapy, which has grown in popularity over the years (Friesen, 2010). The definition of animal assisted therapy is the inclusion of an animal in an intentional manner into the therapeutic process (Bachi, 2012). These methods of therapeutic interactions are used in both

outpatient and school settings (Friesen, 2010). A common use of animals in therapy is the therapy dog but there are many other forms, including horse (Chitic et al., 2012).

Animals are used in a variety of settings to help many clients. The use of animals, such as in a classroom setting, can be used to help children, such as having a child pet a therapy dog while they read aloud (Friesen, 2010). The presence of an animal has been shown to help reduce blood pressure and pulse rate in children, which can in turn facilitate a greater ability to focus and read (Friesen, 2010). Furthermore, teachers have reported that having an animal, such as a dog, in the classroom encourages children to be more cooperative and listen better (Friesen, 2010). When animal assisted therapy is used for children in the school setting, a positive impact on children who have emotional disturbances has been shown (Geist, 2011). Children who have contact with animals have reportedly lower stress levels compared to children who do not have contact with an animal (Geist, 2011). This research supports that animals have the ability to provide a myriad of benefits that researchers and therapists are only beginning to understand the impact of.

Researchers have also demonstrated that when children receive animal assisted therapy in conjunction with behavioral programming in the school setting, they show improvements with fewer distractions, greater eye contact, better coping skills and vocal interactions, and more interactions with peers (Geist, 2011). Children who experienced animal assisted therapy also reported less loneliness and isolation, thereby improving social interactions (Naste et al., 2017). Generally, research has supported the idea that animal assisted therapy can help to reduce anxiety, depression, and autistic symptoms

(e.g. behavioral outbursts, aggression, etc.; Helseth et al., 2015). Many of these symptoms are also present in kids with ADHD (Dyck and Piek, 2014). These findings indicate that animal assisted therapy has the potential to have a positive impact for children with ADHD.

Even individuals with other disorders associated with traumatic experiences who have participated in animal assisted therapy with dogs report positive outcomes, including greater happiness and less anxiety (Naste et al., 2017). Similar results have occurred when equines are used in the therapeutic process, and individuals have reported a marked decrease in depression (Naste et al., 2017) and anxiety (Earles, Vernon, and Yetz, 2015). The existing research supports that the use of animals in therapeutic process can be beneficial to mental health and has the potential to help in a variety of areas, such as with trauma, depression, and anxiety. Nurenberg et al. (2015) also noted that equine assisted psychotherapy was beneficial with children who are aggressive. Animal assisted therapy has shown potential to be beneficial in a variety of areas with a variety of animals, and this leads many in the field to hope that animal assisted therapy can be beneficial for children with ADHD.

Animal Assisted Therapy and Children With ADHD

When examining the topic of animal assisted therapy for children with ADHD, often the services children might have first received are looked at first. Frequently, children with ADHD receive many therapeutic strategies, including behavioral and counseling services, because they are frequently diagnosed with many comorbid conditions and behavioral concerns (Hale, 2014), including communication difficulties

and anxiety or depression (Cote et al., 2009). A communication-based approach has been shown to be optimal for assisting in the communication needs of children with ADHD (DeVeney et al., 2012). This approach is primarily focused on helping children learn how to improve communication skills. In addition, children who are diagnosed with a developmental disability are often at higher risk for negative outcomes (Dyck and Piek, 2014), including abuse and neglect (Shannon and Tappan, 2011). The combination of being at higher risk for negative outcomes and a reduction in communication skills places children with ADHD at greater need for services.

Due to the overwhelming needs that many children present with ADHD, animal assisted therapy has been researched as a therapeutic option for treatment. Researchers have studied the core symptoms of children with ADHD but these studies did not specifically focus on social behavior skills that are necessary for children to have positive social behaviors (Jang et al., 2015). Without these skills, children struggle to function in a positive social environment, and currently, there is no existing research to support whether animal assisted therapy can teach or reinforce specific social skills.

Studying children with ADHD, Rapport et al. (2013) and Yoo et al. (2016) found that physical symptoms, such as memory function and resting state brain function, improved after animal assisted therapy was provided. When comparing use of medication, behavioral modifications were more effective than medication use for children with ADHD (Pelham et al., 2014). However, for some children the use of medicine improves ability to manage in difficult settings (Fallesen and Wildeman, 2015;

Huss et al., 2016; Page et al., 2016; Raman et al., 2015). Unfortunately, many children do not maintain compliance with medication regimens (Raman et al., 2015).

Due to the reality that children with ADHD continue to struggle with social interactions despite the multiple treatment regimens available, complimentary alternative measures have become a potential option to positively impact the quality of life for these children. By providing additional research into how the experience of interacting with an equine can potentially influence social skill development, practitioners can be provided with the necessary information to recommend treatment for future children who are experiencing a negative impact to their social functioning. This purpose of this study was to gather information related to how children with ADHD experience interactions with an equine professional and how their providers report that this experience influences their social skill development as noted in treatment progression and through anecdotal accounts from children and parents involved in treatment. As this information was collected, I document the themes and data to give practitioners and future researchers information on the influence of equine assisted psychotherapy on social skill development of children with ADHD.

The Importance of Social Skills

One reason researchers have suggested animal assisted therapy is so useful in children with both autism and ADHD is related to the potential impact on social skill development (Berry, Borgi, Francia, Alleva, and Cirulli, 2013). Developmentally, all children begin to learn about social interactions from a very young age. The first area in which children begin to learn socialization is in the home environment, often through

their interactions with their parents (Torres et al., 2014). This development is advanced as children grow and interact with others (Betawi, 2013). Greater success is seen when children have confidence in their ability to appropriately utilize social skills (Kwon et al., 2014). As children have proper interactions, they in turn have future proper interactions, thereby building confidence (Cooper et al., 2014). When a child does not have well-developed social skills, the impact shows in their interactions with others, often resulting in lack of friendships, inability to maintain friendships, and poor interactions with family (Cooper).

To appropriately interact with others, several social skills are necessary, including the ability to communicate, have engagement, and show empathy (Allemande, Steiger, and Fend, 2015; Bottema-Beutel, Yoder, Hochman, and Watson, 2014). When children develop empathy at a young age, they are able to use this as they grow and develop to have positive interactions with others, including the ability to share thoughts and feelings appropriately (Allemande et al., 2015). This also becomes the foundation for communication because individuals are able to understand the thoughts and feelings of others and then adjust their communication accordingly.

Furthermore, when social communication is impacted as a child, the ability to interact as an adult is shown in their ability to engage with others (Bottema-Beutel et al., 2014). The ability to engage and perceive both expressive and receptive language is formed starting in infancy and is built on throughout childhood (Cooper et al., 2014). Without the ability to understand both expressive and receptive language, a lack of ability to interact with others becomes pervasive; consequently, when children do not have

engagement skills, they are unable to establish communication with others and in turn are unable to have empathy for how others feel (Cooper). All these skills then become crucial for the development of proper social skills and interactions with others. Due to the pervasive need of children to have strong social skill development, research needed to be completed to determine what services can be beneficial to help children with the development of these skills.

Animal assisted therapy becomes even more promising as a potential intervention because it is known that social skills are important, and there is a long-standing awareness that social skill deficits exist for children with ADHD. Social skill research for children with ADHD has been conducted for many years given the severity of difficulties children with ADHD have in social situations (Kofler et al., 2018). While the social skills of children with ADHD have been an area of interest for researchers, there is little to show what therapeutic options are beneficial to help improve specific social skills.

Another therapeutic option that has generated research interest is a hybrid model, which represents services in both the home and school (Pfiffner, Villodas, Kaiser, Rooney, and McBurnett, 2013). When services provided in this hybrid model included a focus on social skills, positive changes were reported in overall functioning but the greatest gains were seen in organizational skills, which then improved school performance (Pfiffner et al., 2013). Pfiffner et al. (2013) did not have a specific focus on social skill improvement but they observed positive interactions with other children in which the children were better able to interact appropriately with others.

Animal Assisted Therapy and Social Skills

Due to the overwhelming need of individuals who have a social skill deficit and the potential benefit of animal assisted therapy to help with this need many have completed research to understand the influence of animal therapy upon social skills. What research is available has focused on children with autism spectrum disorder and is often focused on medical results or overall functioning, not measuring the impact on social skills (Busch et al., 2016; Cuypers et al., 2011).

In one study that did measure social skills, Lanning, Matyastick Baier, Ivey-Hatz, Krenck, and Tubbs (2014) found that in the use of animal assisted therapy for children with autism, the parents reported overall general improvement in health, including improvement in behavior and physical and emotional functioning. In addition, the researchers also found that children had an improvement in social interactions. Other research has shown how disabled individuals who have interactions with animal assisted therapies have positive increases in social interactions in comparison to others without animal assisted interaction (Heimlich, 2001). Both of these perspectives indicate that regardless of the reason for focus, animal assisted therapy has the potential to help in many areas including social skills. Although these studies support the idea that animal assisted therapy can help improve social skills, it does not address how animal assisted therapy may help to improve social skills in those with ADHD.

Research has been conducted that indicates some children can have positive behavioral outcomes from the use of animal assisted therapy (Jang et al., 2015). Both children with autism and ADHD can have severe deficits in communication abilities.

These in turn impact their ability to have good social relationships (Salley et al., 2015). In general, children with ADHD have been found to have a lower degree of communication and more social deficits than children with autism. When attempting to determine what about the use of animals might impact social skills for children who have a deficit, a study completed with 4 and 5-year old's who have autism showed a change in offering to share and offering comfort, which was 2 of thirty-six areas tested. These areas were noted as improving in a positive manner when a pet arrived in the room (Grandgeorge et al., 2012). Both are skills needed for social capacity. Furthermore, when a dog is present for a therapeutic session, autistic children are able to involve themselves in social narrative with greater ease (Grigore and Rusu, 2014). This promising research encourages practitioners to look at ways to include animal assisted therapy and researchers to document options for the therapeutic modality to benefit social skills development.

Finally, when animal assisted psychotherapy, which is when the animal is utilized to facilitate counseling, was provided for children in a residential setting who had been exposed to traumatic incidents, positive outcomes were measured as well on social skills and behavior (Balluerka, Muela, Amiano, and Caldentey (2015). Children who received animal assisted psychotherapy had a higher level of social skills needed for interacting with others after treatment and a reduction in hyperactivity. Furthermore, these children showed improved ability to maintain attention than other children who did not receive animal assisted psychotherapy. This same type of result was found in a case study where two young girls who received animal assisted therapy subsequently showed greater

ability to communicate over time (Boyer and Mundschenk, 2014). Again, this research furthers the concept that animal assisted psychotherapy has the potential for great benefits for children, especially those with ADHD and social skills deficit.

The Role of Equine Assisted Therapy

Children with behavioral concerns can receive a myriad of therapeutic options when it comes to animal assisted therapy, one of which is equine assisted therapy (Naste et al., 2017). When using a horseback riding program, children were identified to show positive improvements in social cognition, social communication, and an improvement in overall total words that were added to the language skills of a child with autism (Gabriels et al., 2015). All of these measures were statistically significant at the $p = .05$ level of greater. When the boys involved had more time riding, their positive results were maintained over time. Quality of life assessments also showed positive behavioral changes when autistic boys participated in a nine-week equine assisted activity (Lanning et al., 2014). Both studies show promising results for the inclusion of animal assisted therapy for children with ADHD.

Frequently, equine assisted therapy is different from the use of dogs in therapeutic interactions due to the fact that individuals can also complete mounted work (Naste et al., 2017). Mounted work is reportedly beneficial as the rhythmic riding assists with regulation of the brain that can help to develop better neural pathways for better self-regulation, which is crucial for social interaction (Jobe and Schultz-Jobe, 2016). Mounted work and the interactions that ensue have been connected to fourth century BC when riding was used to strengthen muscles and improve senses for individuals

(Lundquist Wanneberg, 2014). This mounted work can not only facilitate the connection with the individual and the horse but can also provide rhythmic repetitions, and regulated input that can provide a sensory foundation to improve brain regulation and assist in self-control that is necessary for social skill development (Jobe and Schultz-Jobe, 2016).

Despite the fact that mounted work and equine work has been used for centuries and has been known to help heal many ills, it is very under researched and has not been studied specifically in relation to development of social skill building and how the experience impacts social skill building.

The majority of research that is done on equine assisted therapy is focused on the psychological benefits (Bachi, 2012). Even though many are anecdotally reporting the success of using animal assisted psychotherapy to help individuals with a range of symptoms and concerns, there is a lack of strong evidence supporting its use (Heimlich, 2001). Internal validity concerns arise from focusing on small groups, such as two siblings, thereby potentially having bias from the parents (Fiksdal et al., 2012). The longest longitudinal study was completed by Klontz, Bivens, Leinart, and Klontz (2007) and they showed positive outcomes six months' post intervention. Yet, these outcomes were solely related to overall functioning and were not focused on specific disorders or array of symptoms. In addition, most studies are focusing on the physical benefits, not solely the psychological benefits. Thompson, Iacobucci, and Varney (2012) cited both physical and cognitive benefits arising from this connection. The cognitive benefits include improvement in mental processing along sensory, memory, and attention skill set. Unfortunately, there was no research studies present that documented the impact of the

animal relationship upon social skill building and how the experience of animal assisted psychotherapy can facilitate social skill building.

Research does not focus on the experience and how it can impact the development of empathy, engagement, and communication skills for better social interaction. While this research study cannot answer all of the above mentioned external and internal validity concerns, it was designed to gather information to further the understanding of how animal therapy affects social skill development. Much research has been conducted supporting that animal assisted therapy can be beneficial for many areas of need, both physical and psychological. Yet it had not been conducted in a manner to ask how it contributes in social skill building.

Attachment Theory and Role with Animal Assisted Therapy

Attachment theory can be used to explain, in part, why animal assisted therapy might have a positive impact upon social skill development. Animal assisted therapy is assumed effective when viewed through the role of attachment that happens between the client and the animal and how attachment impacts brain activity (Geist, 2011). As natural development occurs during pregnancy and infancy, the majority of brain growth occurs from the third trimester until two years of age. The portion that is responsible for attachment is the right hemisphere of the brain. Frequently, children who do not have normal brain development have an impacted functional use of their brain and do not respond to situations in a calm state of mind, thereby influencing their ability to self-regulate and respond appropriately in social situations. This will have the child stay in a state of alert or arousal and respond with a fight, flight, or freeze, even when there is not

an overt threat (Geist, 2011). Attachment is a higher brain function that requires a stable response from the brain and this cannot occur if the child is responding from an alert and fear based response. This overarching state of high-alert becomes the normal state for a child who has inappropriate brain maturation and then in turn influences ability to interact with others.

When a child has an insecure attachment, the disorganized mind's processes influence the child's ability to self-regulate (Geist, 2011). A child who is triggered by any stimuli, even stimuli that is not innately threatening but is perceived as such, has the first response that stems from the sympathetic nervous system. Adrenaline and cortisol begin to flow quickly through the body and the blood flow is altered to focus on muscles that will be required to run. For individuals who have an altered brain development, they will respond to stimuli and situations different from those with a normally developed brain without a disability (Geist, 2011). The same region of the brain that allows an individual to self-regulate and control their responses is the region of the brain that allows for interactions, connections, and relationships (Geist, 2011; Jobe and Schultz-Jobe, 2016). When it is malfunctioning due to a disability in the brain, it is expected children will respond to situations differently, such as with a diminished set of social skills that require secure attachment to develop. When an individual who has these deficits begins to attach to a horse, they are formulating the pathways in the brain to help develop attachments which can then be used in interpersonal relationships (Jobe and Schultz-Jobe, 2016). As a child feels safe interacting with a horse, they are no longer in a heightened state of arousal and have the ability to learn new skills, such as empathy and engagement.

Many therapists use a variety of animals in animal assisted therapy, including dogs and equines. Horses are intentionally included in the therapeutic process to help children both establish relationships and begin to process emotions and learn skills, especially when they can learn to trust such a large animal (Naste et al., 2017). Despite the anecdotal success of equine facilitated psychotherapy, there is very little empirically validated research to support how and why equine assisted therapy works. However, some research is emerging that documents the role of oxytocin with equine assisted therapy (Naste et al., 2017; O’Haire, Guerin, and Kirkham, 2015). According to Naste et al. (2017) when children are in the presence of animals, they secrete oxytocin which is a hormone associated with attachment. Thus, one reason animal assisted therapy may be beneficial could be due to the impact that such therapy has on social skill development is the element of the hormones that are released while the individual is interacting with the horse, thereby furthering the biological connection with the horse. This could in turn make the individual more likely to be open and willing to develop social skills.

A theory regarding the potential benefit of equine assisted psychotherapy is the ability for humans and horses to develop a human-equine bond (Selby and Smith-Osborne, 2012). Regardless of the animal selected, the bond between the human and the animal becomes the foundation in which the therapeutic process is founded upon (Bizub Joy, and Davidson, 2003; O’Haire and Rodriguez, 2018). The ability to connect and interact with the animal allows for a different type of connection that fosters growth and awareness. Furthermore, reports indicate that horses specifically bring an environment that fosters openness, connection, growth in self-esteem, and a focus on interacting with

others (Bizub and Joy, 2003; Jobe and Schultz-Jobe, 2016; Selby and Smith-Osborne, 2012). This ability to connect and relate can become the avenue in which individuals can begin to reregulate their brain functioning.

According to Yorke et al., (2013) when individuals interact with horses, their cortisol or stress level develops a level of symbiosis with the horse, thereby calming the stress response of children. This stress response often inhibits the ability of an individual with disabilities from responding in a calm manner and use routine skills, such as social skills. However, when there is a decline in cortisol level, individuals are no longer responding from a state of stress and are able to access more of their brain function to make better decisions, such as improved social skills.

Even when children are exposed to riding a horse for six days, their cortisol levels decreased and shows there is the potential to have the relationship with the horse create a physiological response in the body, thereby forming a foundation to improve brain function (Yorke et al, 2013). This biological response is just one of the myriad of promising outcomes that are limitless in the use of equine assisted psychotherapy but needs to be revalidated through future research as there is little clear information on how this works to improve brain function and in turn social skill development.

Filling the Gap of Literature Regarding Animal Assisted Therapy for Social Skill Building

Ultimately, there is great promise in the literature that animal assisted therapy can potentially be beneficial in not only assisting children with needs but can be focused primarily on improving social skills. However, the majority of research conducted is not

with children who have ADHD and does not focus on the experiences of the child interacting and building a relationship with the animal. In turn, current research does not examine the impact of animal interaction and the foundation it can create for a child to build beneficial social skills (Chitic et al., 2012; Lac, 2017). Yet, many children with ADHD struggle with their ability to interact with others on a social level.

This becomes the social change of this research because children with ADHD can benefit from this research by helping researchers and practitioners understand how their experiences influence social skill building. The impact also extends for children with ADHD in that they can potentially experience connecting with animals and begin to establish appropriate social skills that can be translated to interactions with others. By understanding how the experience influences this, this information can then be used in this field of work to continue to foster social skill building.

Research present has documented a positive impact of animal assisted therapy, however there is a gap of current research surrounding the influence of equine assisted psychotherapy upon social skills and the meaning ascribed by participants. This research study focused specifically on the experiences of children and families and reported impacts upon social skills. Specific focus was also upon the meaning of engaging in equine assisted psychotherapy.

Chapter 3: Research Method

The purpose of this research study was to gather information on the experiences of children with ADHD and the perceptions of their practitioners of how this experience influenced the children's social skill development as was reported by the practitioners based upon results from treatment and accounts of children and parents provide to the practitioners. The findings of this study will have a potentially significant influence on practitioners because they can use the results to work to engage children with animal assisted therapy if a child is exhibiting a need with social skills development. I used the retrospective, multiple case study framework in which the experiences of the phenomena of equine assisted psychotherapy were explored through a qualitative methodology (see Starman, 2003). Furthermore, the foundational concepts of relationship and attachment were filtered through the research questions to determine the influence of animals and the children's experience of interacting with them to develop the specific social skills needed for positive interactions.

In this study, I obtained interview data that were then coded for themes and analyzed for trends. Practitioners can use these trends to assist in determining if the experience of a child in interacting with an animal is promising as a potential treatment option for children with ADHD who have social skill deficits.

Significance

Many children who are diagnosed with ADHD also demonstrate significant problems with social skills (Dyck and Piek, 2014). Because children are able to relationally connect with animals and develop attunement with themselves in social

interactions, there is the hope that they will then translate this skill set to human interaction (Lac, 2017). Moreover, as providers discuss their experiences of children and families interacting with an animal and how it impacted the child's ability to connect, have empathy, and communicate, greater insight will be obtained that can be used to inform further use of animal assisted psychotherapy. The findings of this study can then be shared with other practitioners who have children with ADHD who are struggling with appropriate social interactions as a treatment option due to the fact that the research supported that animal assisted therapy is beneficial in developing positive social skills.

Any research that has previously been conducted on animal assisted therapy has focused on survey instruments and was not designed to understand the experiences of the children and families from a social skills perspective. Common themes and factors emerged through coding of the participants' interview responses, and this information is presented and organized in this chapter to assist in determining the most beneficial use of animal assisted therapy for future children with ADHD and how this modality can influence the development of social skills and improving social behaviors. In this study, practitioners were able to speak to the phenomena and their experiences of the interactions between the child and animal and its impact on social skill building. The results of this study begins to fill a current gap in the understanding of the use of animal assisted therapy and what is documented in literature related to the use of animal assisted therapy for children with ADHD and the improvement on social skills necessary for behavior. The findings of this study will be available to help guide practitioners in the

field as they provide services to children with ADHD, specifically focused on socialization and social skills often inhibited for this population.

Framework

Research on animal assisted therapy in children with ADHD has been focused on multiple areas but has not been conducted with a qualitative methodology to understand how the experience of animal assisted therapy can influence children's learning of social skills. A retrospective, multiple case study design was used to understand the experiences and perceptions of clients (Starman, 2003). The primary focus in this study was on how the participants' experienced animal assisted therapy and the meaning that they gave their experiences.

By understanding the perceptions of the experiences of children with ADHD and the use of animal assisted therapy, practitioners will be able to better determine how the therapy works, why it works, and when to apply it. The findings of this qualitative study will provide a foundation and information to practitioners who want to utilize this therapeutic model with children with ADHD. Use of the qualitative approach fostered the gathering of information surrounding beliefs, feelings, emotions, and responses of the providers to the therapeutic model and how this modality can improve social skill building.

As children engage with the animal and connect, a relational foundation is established for the child to build upon for emotional regulation (Lac, 2017). When children have an experience that they frame as one in which they can connect to an animal, this experience can be foundational in advancing skills and improving relational

interactions (Lac, 2017). Bowlby's attachment theory is rooted in the belief that connections and attachments to others foster relational skills, which is mirrored in the belief that when children interact with a horse they are engaging in developing a relationship, attaching to the horse, and furthering social skill ability (Zilcha-Mano et al., 2011).

The theoretical foundation of this study was the attachment theory as cited by Bachi (2013) and originally developed by Ainsworth and Bowlby (1992). Initial interactions start with being able to engage in nonverbal communication and become the foundation for a secure attachment and positive relationships (Bachi). Bachi believed that the ability to attach to others is crucial in the interactions involved in animal assisted therapy and is the theoretical foundation for animal assisted therapy. The framework of experiencing equine facilitated psychotherapy is founded upon the experience of forming a relationship with the horse (Lac, 2017). These experiences impact individuals' lives because their perception of the experiences influences what they absorb and incorporate.

A strong indicator of poor relational development is a lack of early positive attachment (Purvis et al., 2013). The concept that relationships can fuel attachment and psychosocial factors were the avenue to teach positive social skills that guided this study (see Kogan et al., 1999). Reed et al. (2012) reported that when children engage in a relationship with a therapeutic animal the relationship becomes a foundational support for reducing negative symptoms with a developmental disability (Selby and Smith-Osborne, 2012). However, there is a need to understand the experiences of children with ADHD

and how the phenomenological lens, or understanding the phenomena of interaction with the horse, influences their incorporation of the relational skills from animals to others.

Research Questions

The methodological framework for this study is the retrospective multiple case study framework as referred to by Starman (2003). By utilizing this framework, the research was designed to understand how animal assisted therapy alone can affect the development of social skills necessary for effective social interaction. Primarily, the focus was upon the phenomena of engagement in equine assisted psychotherapy, how these interactions fostered relational skills (Lac, 2017), and combining this information for future providers and practitioners in the field to determine best use of this modality for building positive social skills, such as communication and nonverbal skills (Chitic et al., 2012).

I asked qualitative interview questions to obtain this information from providers (see Creswell, 2009). The following research questions guided this study:

RQ1: How do parents of children with ADHD who have engaged in animal assisted therapy describe their experience?

RQ2: How do parents of children with ADHD who have engaged in animal assisted therapy describe the influences of the therapy on their child's social, communication, empathy, and engagement skills?

RQ3: What meaning do parents of children with ADHD who have engaged in animal assisted therapy gain from having their child with ADHD participate in animal assisted therapy?

I was an observer in this study. As an observer, I interviewed participant practitioners via phone. Observations were obtained through both vocal changes and response patterns. These observations were included in the interview notes to facilitate analyzation for trends. I did not have any personal relationships with the clients or providers who participated in the research study. I received training from the founder of the Natural Lifemanship model who facilitated connection with sites throughout the country; however, there was no personal connection with the clients. Due to this, I had no power over participants.

I do not have any bias towards participants because I have received training in the Natural Lifemanship model (see Jobe and Schultz-Jobe, 2016) but the training did not specifically focus upon the experience of the child and the influence upon social skill development. Because the research study was participatory and conducted remotely, there were no incentives offered. There was also no ethical concerns because the survey participants were adults, there was no personal or professional relationship between myself and the participants, and no information was disclosed during the study that required me to warn individuals at risk, report risk or abuse. However, if this need had arisen, as a mandated reporter, I would have been required to make any such report per state guidelines in which the client is a local resident. Due to this fact, the potential for any notifications was required to be included within the informed consent process.

Nature of Study

Qualitative

In this study, I used a qualitative approach to obtain data regarding the impact of animal assisted therapy on the advancement of the skills necessary for social behavior (see Creswell, 2009). The retrospective multiple case study framework guiding this study focused on understanding the phenomena and experience of the children and how their social skills are affected by involvement in animal assisted therapy (see Starman, 2003). This model and studying the subsequent impact on social skills were collected through the perceptions of providers of ten children experiencing the phenomenon of animal assisted therapy. I conducted interviews with ten participant practitioners who were involved in the intervention of animal assisted therapy for children with ADHD. Interview questions were focused on the impact of animal assisted therapy upon the improvement of the social skills necessary for positive social behavior (see Appendix A).

I collected data from ten providers with a focus upon the experiences and meaning of children and families engaging in equine assisted psychotherapy. The resulting data were analyzed for common themes related to the impact of animal assisted therapy on children with ADHD. I had an assumption that the providers would speak regarding children who were receiving other therapies in addition to equine assisted psychotherapy. When providers indicated other modalities utilized in conjunction with their treatment model this was noted within the interview.

Types and Sources of Data

To research animal assisted therapy further, I collected data from interviews with practitioners of children with ADHD who were receiving animal assisted therapy (see Creswell, 2009). The practice locations contacted were utilizing the Natural Lifemanship model and other equine psychotherapy models. The participants were asked to post the recruitment flyer with information on the research study with potential participants. Data were collected through phone interviews and comprised both interview and observational data. I made observations of participants' reactions during interviews that were conducted.

I utilized the same interview format for each participant. Data were collected only at the initial interview with the participants. I recorded the data using code names, thereby rendering data anonymous for site locations. Data were accessed only by myself and was not and will not be accessible by other participants. I will destroy the data 5 years after the completion of the research study.

Population and Setting

Children and families and practitioners were selected from equine assisted psychotherapy programs utilizing the Natural Lifemanship model initially. For locations that were selected, one-on-one phone were utilized with willing providers to determine their experience of utilizing equine assisted psychotherapy and the impact of this experience on social skills in children with ADHD.

Sampling strategy was a selection of Natural Lifemanship sites and other equine facilitated psychotherapy sites to obtain ten families or practitioners for interview.

Sampling for redundancy and interview saturation was the goal of this research proposal (Trotter, 2012). In previous studies conducted in a qualitative format researching animal assisted therapy, the average sample size was typically no more than fifteen (Lundquist Wanneberg, 2014). McNamara (2017) conducted research of equine facilitated therapy and had an interview population pool of ten participants. Wilson, Buultjens, Monfries, and Karimi (2017) utilized the qualitative framework and completed interviews with eight participants with saturation sampling. When semi structured interviews are completed, larger sample sizes can be accessed. Lundquist Wanneberg (2014) completed semi structured face to face interviews with riding participants in an equine program and completed 15 interviews. Zents, Fisk, and Lauback (2017) researched perceptions of therapy dogs and completed semi structured interviews with thirty-five participants. However, this research focused solely upon interviews and did not have any survey component so therefore focused on a smaller sample size.

Participants were selected based upon the criterion of having a child with ADHD who has social skills concerns per the parent's or practitioner's perception. Furthermore, these children participated with equine assisted psychotherapy at a Natural Lifemanship or other equine facilitated psychotherapy setting. The number of participants were ten interviews conducted. Sites that are registered as a Natural Lifemanship site were contacted and provided information for the available research study. Sites that had available participants responded with a desire to participate and site agreements were anticipated to be obtained. Once site agreements were not needed to be obtained, information was provided for participant families and providers. As participant families

and practitioners expressed a desire and willingness to participate, they were then contacted to complete the informed consent process and complete the interview process.

According to the Center for Disease Control (CDC, 2018), the percentage of children with ADHD is nearly 5% (2018). In addition, this population is reported to also have a high percentage of comorbid conditions (CDC, 2018). Due to the high percentage of children with ADHD and the increased risk of comorbid conditions, the desire is to receive an appropriate sampling with this research study to appropriately translate the information to other children with ADHD. Due to this, appropriate saturation with data must be obtained. Prior studies of children with equine assisted psychotherapy in a qualitative format have typically utilized much smaller sampling sizes (McNamara, 2017). Due to this, a smaller sampling size was acceptable, however this research was designed to have saturation and was designed to obtain ten interviews.

Analytic Strategies

In assessing the impact of animal assisted therapy, qualitative data were collected through the interview process (see Creswell, 2009). This interview data were analyzed for trends utilizing MAXQDA software (VERBI, 2019.). Trends were focused on the impact for children with ADHD in advancement and development of social skills, such as communication, empathy, and engagement. Data were collected from practitioners of children receiving animal assisted therapy. Data were coded for themes of engagement, communication, social interactions, empathy, and overall social functioning. This datum was combined for a comprehensive analysis for trends. This allowed for an analysis of trends present for children with ADHD who receive animal assisted therapy and the

impact of the experience on behavioral interactions and skills in children with a developmental disability of ADHD.

Issues of Trustworthiness

This research was structured with comparing ten families' or practitioners' data for consistent trends to determine for internal validity. If a trend was not noted across more than one provider with an adequate representation, it was not reported upon. In addition, all ten providers were provided the same interview tool to ensure internal validity. Participants were selected through a voluntary basis so they were randomly selected but were selected from sites throughout the United States. This increased the representation and validity and reliability of data. In order to ensure dependability of data, I followed the pre established interview questions and followed proper qualitative interviewing guidelines to ensure that the interviews remained focused upon the subject matter at hand. This provided the foundation for dependability of trends presented from the interviews collected. Confirmability was accomplished when a trend was noted amongst more than one participant. When a trend was not noticed amongst more than one participant, the confirmability was in the absence of a trend for social skill development. There was no concern for inter coder reliability as there was only one coder completing trend analysis.

Ethical Procedures

This research proposal included an application to the Institutional Review Board (IRB) to review the process for gaining access to participants. The IRB approved the process for contacting the site locations (IRB Approval No. 612-312-1210), contacting

participants, and the interview protocol. Once approval was obtained, data collection was initiated. Ethical concerns potentially present included the potential that I am a mandated reporter and participants or families might disclose information that required duty to warn or report. This information was required to be included within the informed consent documentation. If a participant refused to participate they were not included within the study. If a participant withdrew early from the study, the data collected prior to refusal was analyzed. It was not anticipated that any participants would experience any adverse events as they were being interviewed via phone. However, if they experienced an emotional response, all were encouraged to seek out local supports.

Summary

The framework of this research was the retrospective multiple case study framework (see Starman, 2003) that identifies the experiences of children interacting with an equine in a psychological setting and how the interpretation of this experience influences social skill development. Information regarding this experience was obtained through interview data with the practitioners in equine assisted psychotherapy by obtaining voluntary participation from locations throughout the United States who are providing Natural Lifemanship equine assisted psychotherapy services. A retrospective multiple case study framework allowed for a review of cases involved in equine assisted psychotherapy and fostered an understanding of the meaning and experiences of children as reported by the providers.

Chapter 4: Results

Introduction

By understanding the perceptions of the experiences of children with ADHD and the use of animal assisted therapy, practitioners will be able to better determine how the therapy works, why it works, and when to apply it. Using a qualitative approach to study these experiences provides a foundation and information for practitioners who want to utilize this therapeutic model with children with ADHD. Qualitative questioning fostered the gathering of information surrounding beliefs, feelings, emotions, and responses of the providers regarding children and parent's experiences to the therapeutic model instead of only outcomes.

I used the retrospective, multiple case study framework as referred to by Starman (2003) in this study. The goal of this study was to determine how animal assisted therapy can be used as the primary tool to develop the social skills necessary for effective social interaction. In an attempt to understand the phenomena and interactions of the youth in experiencing relational skills with an animal (Lac, 2017), I interviewed provider participants to help researchers and practitioners understand the influence of animal assisted therapy on building positive social skills, such as communication and nonverbal skills (Chitic et al., 2012).

Setting

Participants were located throughout the United States and interviewed via the phone. In the screening and informed consent process, I advised them that electronic interviews cannot be guaranteed to be completely secure. Due to the fact that participants

chose to conduct the interview via phone, there was a reduction in interview data available to collect because I was only able to observe response times, tone of voice, and actual verbal responses. I was unable to observe facial expressions, body language, or other factors that might have assisted in directing the follow-up questions. I conducted the phone interviews in a private location and requested that the participants were in a private location as well. In the informed consent process, participants were allowed to ask questions and were advised that the interviews would be recorded, transcribed, and coded for analysis of trends. I answered any questions participants had prior to the interview.

Recruitment

Initially, I planned on contacting the sites and having the practitioners post the flyer at their facility to recruit any parents that were interested; the parents could request information for participation and screening. I stated in Chapter 3 that I would need to obtain site agreements from all sites that posted the flyer; however, through the IRB process I was informed that this study did not require site agreements, so these agreements were not obtained. However, during the IRB process, it was determined that I needed to ask Natural Lifemanship LLC to post the recruitment flyer on their Facebook page, send out the recruitment flyer to practitioners associated with their organization, and to provide contact information to myself. In addition, they were asked to provide me with permission to contact individuals listed on their website as providers.

A secondary recruitment option was to contact providers with information obtained through the Counselor, Social Worker, Marriage and Family Therapy Board of

Ohio and offer the same information about the study and secure permission to post the flyer. If interested, these individuals were then able to be screened for inclusion. This contact information was within the public domain and was provided in Microsoft Excel format from the Counselor, Social Worker, and Marriage and Family Therapy Board. A letter of cooperation was requested from Natural Lifemanship, LLC on June 7th, 2019 and was received and then submitted to the IRB who approved the study on August 20, 2019.

I provided all potential participants with information about the study and the recruitment flyer as well as offered them the opportunity to ask any questions to help them determine if they wanted to post the recruitment flyer. If they requested to be removed from the contact list, this request was honored. Those who chose not to post the flyer were not contacted further. Several contacts offered alternative potential participants; however, due to IRB approval guidelines, I was unable to contact these participants. I encouraged providers to forward the recruitment flyer to any they felt might be interested in the study.

I contacted Natural Lifemanship contacts first. Six responded and expressed an interest in the posting the flyer and participating in the study. 5 chose to complete the screening process and were screened for being a provider of a child with ADHD who utilized equine facilitated psychotherapy, being over eighteen years of age, and the child they worked with having difficulties with social skills. Each of these participants were screened and completed the interviews.

Data collection halted due to lack of responses from participants with only Natural Lifemanship individuals and sites comprising the sample population. Due to this, I used the secondary recruitment strategy approved in the initial IRB application with the IRB following the same methods for Natural Lifemanship contact participants. This allowed for publicly available records to be accessed and for me to contact licensed social workers and counselors in the state of Ohio via e-mail. Due to the screening criteria, some interested participants were unable to participate in the interviews. One parent participant progressed through the screening process; however, they were found to be ineligible due to their child not having the appropriate diagnosis. The rest of the participants were all providers who were screened as being providers of children with ADHD engaging in equine facilitated psychotherapy, primarily the providers were utilizing the Equine Assisted Growth and Learning Association (EAGALA) model.

Demographics

The final participant sample was half Natural Lifemanship providers and half (five from each group) providers that were not utilizing the Natural Lifemanship model and were primarily utilizing the EAGALA model or other trauma focused, equine assisted psychotherapy. All participants were screened for involvement with equine assisted psychotherapy and a provider of adolescent clients with ADHD with social skill concerns.

Data Collection

Data collection started with recruitment. Once IRB approval was obtained, I began initial recruitment with Natural Lifemanship sites. However, only 5 participants

were willing to participate from this sample. Due to this low number, the secondary option of contacting possible participants available through Ohio public records and the Licensed Counselor, Social Worker, and Therapy Board was used. The remainder of the 5 participants for a total of ten participants were obtained through this recruitment means.

Most interviews averaged fifteen minutes in length. The interviews were recorded on an audio recording device. I saved each recording on an audio device that was stored in a locked file cabinet. The interviews were subsequently transcribed by myself into a Microsoft Word document that was then uploaded into MAXQDA and coded for relevant themes. Nine interviews were transcribed prior to an initial code set developed within MAXQDA. This code set was utilized throughout the interviews for coding. When the tenth interview was completed and coded, I subsequently reviewed any new themes noted in the previous nine interviews for relevancy to ensure consistency and reliability with coding.

Data Analysis

The codes selected were based on the interview questions and the themes that emerged from the interviews. The main research questions were focused on the social skills, experiences, and the meaning ascribed to the experiences of the children and families involved. The interview questions asked of participants were focused on eliciting their experiences and how these experiences influenced the interactions after therapy. I asked interviewees about the adolescents prior to entering treatment and the themes were coded based upon the verbiage presented during the responses. Participants were then asked about the experience of involvement and whether the involvement had a

large or small impact on the child's social skills. Questions were specifically focused on social skills in general and communication, empathy, and engagement specifically which allowed for the responses to be coded individually and for themes to be developed and examined amongst each area.

Finally, I researched the provider's perception of the children and parent's meaning and experience and the themes presented were primarily on the relationship between the adolescent and the horse, the safety to practice with the horse first, and the willingness for the horse to allow the adolescent to try multiple times, whereas humans are not as forgiving. Another overarching theme was that horses often have a sense of what the adolescent needs to work on, which assisted in the organic nature of the process. I expanded on codes and themes based on the interview responses and reviewed them after each interview. Tables 1–5 indicate the primary themes.

Table 1

Theme: Experience and Meaning

Experience	Meaning
Location of treatment	Difference of treatment
office & equine	no difference
hybrid: equine & individual	big difference
group	
residential	
community	

Table 2

Themes: Social Skill Impact and Relationship

Social skill impact	Relationship
empathy	improved self-regulation
engagement	recognizing how others respond
lack of aggression	learn boundaries
communication	empowerment in relationships
nonverbal	improved self-esteem
	trusting
	horse knowing what to work on
	horse first then people
	safety to practice

Table 3

Themes: Difficulties Before Treatment

Difficulties before treatment	
assaultive	unstructured interactions
explosive	difficulties staying on task
lack of regulation/impulsive	lack of self-regulation
difficulties with relationship with self	hyperemotional
lack of social skills	withdraw
difficulties focusing	hyper arousal
oppositional	hyper excited
self-esteem issues	aggression
lack of insight	lack of boundaries
lack of boundaries	
difficulties in school	

Table 4

Themes: Treatment influences, improvement location, and length

Treatment influences	Treatment improvement first	Treatment Length
school buy in	family first	1–3 months
treatment consistency	school first	6 months
trauma history	home, school, family	6–12 months
talk therapy		12+ months
practice things learned right away		
residential treatment		
other animals		
pottery therapy		
alternative therapies		
medication		

There were no discrepant cases as all interviewees reported similar themes and trends. One difference presented amongst the interviewees was where the difference was noted first, whether it be at home, school, or with the family. Each interviewee had a different perspective based upon whether support or structure was more important to the initial success, and one interviewee believed the cognitive capacity of the participant was the determining factor. However, all agreed that in the end the changes were seen across the board. Another difference noted was in what other factors influenced individuals the outcome. Some believed it was the family support and involvement, others believed prior therapy, others believed trauma history, while others believed medication influenced the outcome. Finally, one believed that children being in residential treatment and practicing the skills right away was influential.

The third difference noted was in the length of treatment and how the treatment was provided. The shortest treatment option was six week time blocks that could be added, and some had longevity of years of treatment. Some participants reported a

combination of group and individual while others provided office and equine and others only barn work. However, despite the difference in modalities or length of time, all participants reported a positive outcome on social skills.

Evidence of Trustworthiness

There were no concerns of interrater reliability as there was only one individual completing the transcribing and coding. All interviews coded were coded utilizing MAXQDA with the same coding set. If a new code was identified within one interview all previous interviews were then subsequently reviewed to ensure that they did not indicate that code. Some outlying themes noted were whether or not medication was stopped based upon treatment. Only one interviewee reported this within their interview and this was not found within other interviews. Other outlying themes included whether or not other animals influenced the results. Only one interviewee felt that this distraction influenced the results and other interviewees did not have this included within their interview.

In order to ensure dependability of data, I followed the pre established interview questions and followed proper qualitative interviewing guidelines to ensure that the interviews remained focused upon the subject matter at hand. This provided the foundation for dependability of trends presented from the interviews collected. Confirmability was accomplished when a trend was noted amongst more than one participant practitioner. When a trend was not noticed amongst more than one practitioner, the confirmability was in the absence of a trend. There was no concern for inter-coder reliability as there was only one coder completing trend analysis. As all

participants reported similar results across the majority of their interviews, the anticipation is transferability was maintained and results would be similar in a similar study.

Bias was present in that only providers completed the interviews. While providers were able to provide anecdotal examples of parent experiences and children experiences, parents and children were not interviewed. However, providers were able to offer case examples and results of treatment in which children were able to demonstrate marked improvement in social skills. Furthermore, providers were able to recount anecdotal information of the meaning children and parents ascribe to their experiences based upon previous statements reported to them by parents and children. However, despite the fact that all providers reported a positive outcome upon social skills, without parent interviews within the data sample, there is an inherent bias within the results.

Results

The following research questions were asked.

RQ1: How do parents of children with ADHD who have engaged in animal assisted therapy describe their experience?

RQ2: How do parents of children with ADHD who have engaged in animal assisted therapy describe any influences of the therapy on their child's social, communication, and empathy, and engagement skills?

RQ3: What meaning do parents of children with ADHD who have engaged in animal assisted therapy did they gain from having their child with ADHD participate in animal assisted therapy?

The results associated with each question are as follows:

Research Question #1

In response to Research Question 1, parents were unable to be interviewed directly, however the providers were able to speak to what the parents reported to them and how the adolescents report meaning of their engagement in animal assisted psychotherapy. All participants responded with a positive response. Unanimously, all participants reported in their interviews that parents and children all had a positive outcome, one participant stated “Felt good, it made them feel good” (#8). This participant further spoke about the relationship that the children had with the horse and how this became critically important to the process and in turn the foundation for future growth, “The biggest experience was establishing a connection with the horse, I think more importantly doing the trauma focused EAP, or equine assisted psychotherapy, was when the horse would join with them and then walk with them at liberty” (#8).

Another participant spoke about how the experience was important to the stage of life that they were at and stated “that it was just really reflective of where they were at at the moment. So helping them see how they came across and how others experienced them” (#7). This was further supported by another participant who stated “You know you know we learn from bonding with the horse and the animal and when they that was existing with in their fellow students they were it gave them a shift” (#5). The trend that was presented was that the interactions with the horse was influential in the experience and the relationship that developed.

Another theme related to their experiences was that horses provided unconditional acceptance and a safe environment for children to practice skills in a way that they cannot with other children due to fear of rejection. One participant stated,

“there is a certain unconditional love that animals can will give to a troubled soul and like maybe they weren’t uh the my clients weren’t uh acceptable in the general population of their school or world...But when they felt accepted by the animal that kind of changed a lot of things” (#5).

Another participant further reported this by stating,

“Like, in a safe place where I don’t have to feel shame about that, right? And I’m empowered to sort of make these in the moment shifts in what I am doing. To bring about a different reaction so, yea” (#4).

This safe place allowed the children to practice and learn new skills that they could then later use.

Furthermore, another participant supported this concept by stating that “What I love about working with these kids and the horses is, is that the horses give them chance after chance, after chance after chance, where people do not” (#3). Each of these answers supports that when participants witnessed adolescents working with the horse, they were able to establish a relationship and a connection that is supported in the attachment theory (Bachi, 2013). This attachment and relationship become the foundation in a safe space to then practice skills.

This was further supported by another participant who stated,

the overarching thing we talk about with everybody is that they are going to be learning how to build healthy relationships with horses. And whatever they are learning with the horses we will then be helping them transfer the principles learned with the horses to their interactions with people. Right, so it's not about them reaching some sort of magical place and having this sort of beautiful connection and relationship it's the process of that, right? (#4)

When working with equine assisted psychotherapy, the foundation is in establishing the relationships and multiple participants spoke to the safe space and the connection and relationship between the adolescent and the horse and the opportunity to develop a connection with the horse.

I think that's where we want to see the research right, the constant thing in this field is the question of, does connection or companionship with animals actually increase functionality, that's the question, and actually I don't think we have seen really good research to officially answer that question. Those of us who work in the field though, anecdotally all of the time were like we see it all of the time, you know as the relationships improve with the animals you see the relationships also improve with human beings and therefore functionality also improves (#4)

This participant believes strongly in their years of experience that the connection is real and valid and becomes the foundation for improvement.

One belief presented as to why this relationship becomes a safe area to practice skills and develop a relationship for adolescents is that horses are better at setting

boundaries and able to respond to the ups and downs of children with ADHD, “Horses are much more able to set boundaries, much more able to say that was then this is now, people don’t do such a good job with that” (#3). In addition, this participant also stated “when you work with a horse doing that and you’re getting immediate feedback about what’s that like to be in a relationship with you, cuz humans aren’t so good at being honest about that” (#3). However, as the relationship develops, as the adolescents begin to feel safe, the participants interviewed believe that their ability to develop skills grows.

“moving around and walking with a horse is hard, so just kind of being able to be in the present is very difficult and that’s really what you’re working on with those kids in the beginning. Once they start making progress, once the relationship began to develop in more positive ways, both of these types of kids (aggressive and withdraw), you see a shift” (#3).

This was further supported later by the same participant when they stated, “So they start to take more responsibility and then they start to want to have better relationships. Once they start to see that they can have a different relationship, both with the horse and the therapy team” (#3).

However, the relationship with the horse are not always a straight trajectory, one participant reported that the safe place that the horse allows the adolescent to practice the relationship skills they are used to on a daily basis, which is often aggressive or rough relational patterns,

“the explosive kids try to control the horse. They try to do everything the same way they do in their other relationships. And that backfires, cuz usually they’ll

ask ... for another horse, another relationship, because they feel like that horse has it out for them or doesn't like them... That's the same thing they say about people" (#3).

And this participant has witnessed that when the horse does not respond the way the adolescent wants, it allows the youth the opportunity to process and realize

"Ok, I don't really like that he doesn't feel safe with me, so I'm going to try to do uh this other thing, try it and see what happens... Start to challenge their own assumptions, which is really cool. And then they can start to understand better about what is actually happening, and what they can do about it and what part is theirs and what part belongs to another being, whether that is a horse or a person" (#3).

When speaking with participants about how the parents describe their experiences specifically, they speak about how

"Oh my daughter was upset so she took horse some horse breaths and she told me that's what her horse would want her to do ... it seems to be translating more quickly um from the things we are teaching in therapy, helping them with, to the outside world, versus traditional office therapy where you just talk about it, and you can practice those things...the experiential piece is allowing them to translate the skills more quickly. And more readily to the outside world and that's the most of the feedback that I get..."(#3).

It was simply defined as "they are defining for themselves how to have good relationships with themselves first" (#2). The provider participants reported that they

saw the children develop relationships and that this was reported also by the parents and the children themselves. They also reported that they saw the interactions as a safe space and this was supported by the parents as children were able to practice skills with the horse they could not with others. Children would then practice things they had learned with the horses elsewhere.

However, the ability to practice these interactions was fully dependent upon the cognitive ability of the individual involved and their ability to feel safe to translate the skills learned and developed in session (#10). Primarily, when parents engaged with their children, they were able to become more aware of how to foster success for their children and encourage the skills to be translated outside of therapy, however they had to foster a safe environment for this translation. Yet, when these parents described their experiences, they became more self-aware and able to recognize how they were able to help their children grow in social skills, such as communication (#10).

Lanning et al. (2014) and Hemilch (2011) both purported that social skills were a positive outcome from animal assisted therapy, albeit not specifically with adolescents with ADHD. Due to the fact that other peer reviewed research indicates that animal assisted therapy is beneficial in advancing social skills in other populations, including those with a developmental disability (Heimlich, 2011), this supports the results provided by the providers that equine assisted psychotherapy is beneficial in advancing social skills for children with ADHD, even without parent interviews.

Research Question #2

In response to the Research Question 2, participants were asked about specific social skills. First and foremost, participants were asked about how children were prior to their involvement in equine assisted psychotherapy and their interactions with others, both with peers, in unstructured settings, and at home and school. The most common theme of all interviewed was that all children struggled with interactions prior to involvement with equine assisted psychotherapy. All interviewees reported that the parents stated that they struggled with interactions in school, at home, making and keeping friends, and having proper social interactions. One participant even believes that these children then become bullied because they are targets so often by their behavior:

Um, when we see those behaviors in the school setting, they they play over into their social relationships, right? So, one of the things that I feel happens a lot is they start to get sort of a label as the bad kid, being the one that interrupts in school all of the time, causes all the problems in school, and so they get a little bit of a label, um, they have a problem with even going from grade to grade because there is an idea of who they are that follows them. And the other kids start, I feel like what we will also often see is that other children almost start to sort of scapegoating them. So, um, children with ADHD also can tend to be more bullied (#4)

This then makes it even harder for these children to have friends and keep friends. This participant further stated, “you know they wanted to be kicked out of the classroom, so then they get kicked out of the class but then they are being sort of shamed all of the

time” (#4). This all further exacerbates the difficulty in their interactions. A portion of why this is so important in the adolescent years is due to the biological nature to need connection and relationships. “what I also see from a social interaction perspective is because making friends is hard, um, and belonging in those adolescent years is THE number one I mean it’s like the biological imperative at that time, right” (#4). The children involved in equine assisted psychotherapy are fighting an uphill battle working to overcome the stigma against them and their own difficulties they are battling inside.

Another participant further supported that they struggle to make friends by stating “I would say a not not good friends, like they might be going more towards a gang kind of situation where they are looking for acceptance” (#3). Again, this speaks to they are looking and searching for something and they do not have the skills necessary to meet this need in an appropriate manner. When the parents bring children to therapy the consistent theme present was that each child entered therapy with difficulties interacting with other children, maintaining friendships, regulating themselves with others, and appropriately reading social cues.

The most difficult time for children prior to entering therapy was the unstructured time, such as the playground or time without a lot of rules or regulations. One participant stated “the unstructured time is the uh most difficult time for them” (#6). Another participant stated “Oh no, it’s awful right! It’s just awful!” (#4). This is often because during this time they do not have the guidance and rules and regulations that they need to help. This unstructured time then in turn further impacts their relationships and interactions with other children and harms their peer interactions. During this time,

children can become aggressive, argumentative, impulsive, demanding, and have difficulty communicating and engaging per the participants. One participant stated it as,

“they get completely dysregulated and if they have trouble managing body energy, which is a huge piece of ADHD, they, the playground time is the worst time, it’s the time when they do the most huh you know awful impulsive things” (#4).

When asked why the unstructured time is felt to be so difficult, the participants reported that it is primarily due to a difficulty in reading social cues, “just not reading social cues properly” (#2). The parents are coming into treatment and are reporting that their children are struggling most often at school or other unstructured times in which they are with other children and often it is due to not understanding what other children are meaning. A lot of this is due to non verbal communication and children misunderstanding most non verbal communication that is received from other children. The majority of participants interviewed reported that children and parents reported that children were much more able to read non verbal social cues after participation.

Specific social skills were researched that make up social interactions. The first social skill focused upon was communication. All participants reported that communication skills increased dramatically, and children and families were reporting a positive outcome. The most common trend was that there was an increase in both non verbal and verbal skills. A portion of the work with the horse includes an ability to utilize non verbal skills, which as one participant reported is the majority of communication,

“95% of our communication is in our body and one of the things that working with horses does is that it really refines our ability to communicate well... Their body, that’s what the horses is paying attention to, right, they don’t care about your words right, and so you get to be really good at communicating what your wanting to communicate with your body and understanding what other people are getting from your communication and your body, and we practice a lot of do-overs or re-do’s, verbal re-dos, right?” (#3).

Due to this, when children who struggle with communication learn a major tenet of communication with the horse, they grow their skills drastically. As the participant reported, “to being able to respond to the horse appropriately, uh to be able to listen to what the horse is trying to tell you, uh so that they can modify how they are approaching things” (#6). helps them grow their communication skills and learn how to apply it to other interactions. Another participant reported “I think the biggest shift in these kids, is I think that they are then able to read their peers non verbal behavior, um, and that allows them to get kind of more accurate information” (#2). This trend continues when talking about social cues as well.

All participants who participated reported that children and families indicate children are struggling to read social cues with their interactions with others. However, this was improved throughout their interactions with the horse

the thing a lot of our clients have a very difficult time with is reading social cues and um appropriately reading social situations and interactions. So, I saw significant progress with clients as far as their ability to accurately read social

cues and situations as well as their increased awareness of different uh subtle social cues. Um, so we saw them being able to better provide subtle cues and as well as read and interpret them more accurately (#9).

All participants shared a similar trend that children and families are reporting that the interactions between the horses and children assist in both non verbal and verbal communication skills which is then utilized outside with peers and family members.

Another huge portion of communication skill is the ability for children to ask for their needs and utilize their words appropriately versus utilizing behaviors to obtain their wants, desires, and needs. Several participants also reported that this increased throughout their interactions with the horse as the relationship grew. As one participant reported,

“Ahh yes, um so great for communication skills, oh my goodness, being able to ask for their needs, and choices, oh my gosh, so obviously choice giving is a huge piece just to even you know create new pathways in the brain” (#1).

Frequently when children have difficulty in expressing their needs or desires, they handle interactions with others inappropriately, often through aggression or force. As one participant so eloquently stated it,

They are working on being assertive, often times that can swing to aggression um and they are working to find that middle ground between passive and aggressive, which is assertive...And if they are doing that, playing around with that assertiveness with peers, and maybe they use a little too much pressure and err on the side of aggression uh or more aggressive behavior, that's going to have severe

consequences versus if they do that with a horse, there is also going to be consequences in that relationship (#2)

This ability to work with the horse, practice different communication strategies allows for the child to learn the balance that they need in a safe environment. As they practice and cement the skills needed, they can then begin to practice them with individuals outside the horse arena. As one participant stated, “they are having this big horse with them that is helping them with it” (#6). And this big horse is a safe space that provides feedback and has more patience, forgiveness, and tolerance than human beings provide.

A second social skill researched was engagement skills. This followed shortly on the heels of advanced communication skills. Participants consistently reported that children and families indicated that as communication skills increased, similarly engagement skills also increased.

So engaging you know we start with the beginning with the horses in the arena and we want the horses to be part of the group, how do we get the horses to be part of the group? What do you need to do, then how do you with other people as with other friends, how do you be friends, are you wanting to be part of a group, how are you after they are able to work with a horse and being able to see that they can do better as a group, uh able to transfer that to what they do outside of the arena, to help with belonging, to be able to do work with other kids, and be appropriate with their socialization skills, what are some things that get away with that? What are the barriers, and having them work through the barriers within the setting with the horse. So that they are able to use that then outside of the

arena...so if school, peer, then probably home more as kind of being the last one, and part of that is you know I think again home is where they can kind of let loose a little bit more (#6)

A huge portion of their ability to engage is the ability to slow down, pay attention, and notice what is happening around them.

As one participant stated, “they have to pay attention to stay safe in equine therapy of course, um, and so that’s directly translating to all of their relationships with people and animals” (#2). This starts with a base necessity to pay attention to the horse to stay safe in the horse arena. In addition, participants reported that the children want the horse to engage with them. In order to do so, children have to pay attention and practice different skills to obtain interactions with the horse. This allows children to again practice in a safe environment where they might not have been allowed to do so with other peers who are not as forgiving.

As children then begin to practice new skills and pay greater attention to themselves, participants are reporting a greater sense of self and a greater ability to self-regulate.

Yea, so we work a lot in this model on increasing the window of tolerance, so being able to manage disappointment, frustration, um within relationships, caring about the other, whether that’s a horse or a human, um trying to figure out their needs and their wants and uh being able to share and not always being in charge and uh not um telling the other what to do so you know I think there is so much of the positives that we see are their better able honestly manage any frustration that

comes along, they still get frustrated but knowing more what to do with it, how to manage those big feelings, they hurt my feelings, it's not the end of the relationship, we can work it out, uh they want to do something I don't want to do, what do we do with that, uh, being able to focus more, uhm, because we work a lot on co and self-regulation so teaching skills that they can use outside of sessions to help them manage things like anxiety and oh when those big feelings come up knowing I can be in control of them whether instead of them controlling me (#1)

This ability to focus on self and regulation is the start of developing an internal sense of control, increasing that locus of control. "I think what we start to see first, I think, is um, their ability to it's it's building in a little bit of impulse control, like that split second in there" (#4). All participants agreed that children and families are reporting higher abilities to self-regulate and take that split second to respond. As one participant reported,

"Yea, I mean overall they are increasing their ability to self-regulate and when they are more self-regulated they are able to stay present uh and attuned to whether it be the teacher or someone they are playing with, and so their engagement level increases because they are able to regulate and they are not checking out as much" (#2).

Another element of engagement was children desired to participate in equine assisted psychotherapy in a manner that they would not engage in traditional talk therapy (#10). Frequently, children with ADD/ADHD would refuse to engage in traditional talk

therapy, often walking out of sessions. However, parents were reporting that children who participate in equine assisted psychotherapy are asking when the next session can be and are excited to participate in the next session, often reviewing the contents in between sessions.

The engagement trend continued throughout the interviews as one participant compared the increase in internal locus of control as the child's ability to have "power over self" (#2). All too often children with ADHD struggle to self-regulate and control their emotional responses and interactions. However, as this participant reported,

"there is an internal locus of control shift, right, of that wow, I have power over myself, I can control myself, and that affects my relationships and that's what I am getting overall from the parents in that there is a shift in the relationship dynamic and valuing the relationship with self" (#2).

This increase comes from the interactions with the horse and the ability to practice self-regulation and engagement with the horse.

This then impacts relationships with others as they are less unpredictable with peers and in their interactions.

"They were very much more able to self-regulate themselves and be aware of their bodies and that in turn helped them be more aware of others, so there was a shift in how they managed their own emotions and energy levels and that in a way peers were felt better being around them because they weren't as unpredictable, uh, um and when they were self-regulated they were more able to interact with their peers in a more appropriate way and pay attention to the social cues coming

in because they were themselves regulated” (#2).

Children and families were reporting to participants that this ability to slow down, pay attention to self in turn became the foundation for engagement.

The final social skill specifically researched was empathy. All participants unanimously agreed that children and families reported that empathy drastically increased throughout their participation in equine assisted psychotherapy. Each participant reported that by helping the child have a relationship and interaction with the horse, they were able to learn how to pay attention and care about how their responses impacted another individual. One difference noted was that empathy was often higher towards the horse and depending upon the cognitive ability of the child, they were able to translate it to others and themselves (#10). However, their empathy always started with the horse. However, this ability to then be more self-aware and pay attention to social interactions in turn improved empathy skills. As one participant stated, “I think the biggest thing for the empathy piece is separating what are my emotions and what then what could the other persons or beings’ emotions be, um, and being to separate that” (#2). Many children with ADHD are often treated negatively due to their behavior, often even shamed. One participant felt it even went to the point of being bullied by the system

“they are being shamed in front of the students, and the shaming of these students almost gives other the students the other student who are not struggling in the same way, right, it almost gives them permission, inadvertently to bully them, because in a way, they are being bullied by the system themselves” (#4).

However, when children come to equine assisted psychotherapy and begin to

learn how to regulate and interact with horses, they learn how to ask for their needs, how to interact and pay attention and to develop a sense of self. This allows them to be aware of their own emotions and to separate their emotions from what others might be feeling per the participants. Parents are then reporting seeing a side of their child that they had not seen in a while or did not expect to ever see.

“I had multiple mom’s say, “I had never thought there was a chance for my kid to have empathy and concern for something else”. And um they saw huge changes in uh the empathy that they showed they showed on courage with the horses and then eventually started seeing the same interaction and engagement with their siblings and/or classmates” (#9).

All of the social skills combined that were advanced through their interactions with the horses supported children’s ability to have empathy and to become aware of their choices and how their choices and responses were influencing others. As one participant stated, “they ultimately were involved in not only riding the horses but caring for the horses and they really started to care for, and then that in turn elicited some improvement in their ability to care for other people” (#8). This was supported by all participants.

As previously stated, Heimlich (2011) reported that children with a developmental disability benefit from interactions with animals in the advancement of social skills. However, research was not done specifically upon individual social skills that comprise socialization. This became the foundation of this research study. The provider participants were able to report that parents recounted anecdotal evidence of specific social skill development in communication, empathy, and engagement. This

information is in line with previous research in the field that supports children with developmental disability will have positive outcomes on socialization after involvement with animal assisted psychotherapy.

Research Question #3

The meaning was summarized simply as “they have those aha moments, like “Oh, I get it!” (#6). When asked what the children and families typically state, a response was, ““I want to continue to do this, I want to be here” (#6). Most participants reported high satisfaction and engagement in the process. This was further supported by the participant stating, “most of em don’t have people drop out much because they just enjoy being there and they talk about how this is their safe space and how relaxed it make them feel, uhm, and those kind of thing(s)” (#6). Their ability to stay in therapy and stay involved was reported by participants to contribute to their success. In addition, the ability to have family support and involvement was also crucial to success of therapy. Without the family involvement, children and parents were unable to make the realistic changes that they were desiring and did not report as much positive outcomes.

A belief that was shared by many participants was that “when they felt accepted by the animal that kind of changed a lot of things” (#5). A portion of this comes from the relationship.

“When they first come in, all they can think about themselves because they are in survival mode and that’s all you can think about, right? I: Um, they begin to very much think about their horse, about what’s going on with their horse, um they will start to think about even their therapy team” (#3).

These outcomes are supported by what the parents and children are reporting to their therapy team.

When children and families did have the full involvement of the parents and family around them, all participants reported that the process and involvement in equine assisted psychotherapy was a positive one for their clients. One participant reported that the typical response they receive is that their child was “being able to show more emotion” (#6). One participant believed that each participant came with the skills needed, however the interactions with the horse helped them tap into those skills and this was the meaning that they typically shared,

“Oh, that’s the beautiful part! Uhm, because a lot of these a lot of my clients that went through this were an ass in different degrees of skills...and uh when a soul is coming in here to learn love and as love like uh been scarce to them, or ... were it’s something that they really needed ...And when they got it from an animal assisted therapy, it was like it was like it was turning a light switch on deep down inside” (#5).

One participant reported that a huge belief that they had for why parents are feeling their children are successful was that they were more willing to receive the feedback and interactions from the horse that they were unwilling or unable to receive from their family and friends.

“That they were able to receive that feedback from the horse way better than they could from a human, um, from a kids perspective, um, what I saw was the kids

feel like they really helped their horse, their equine partner as well, and in doing so they found it was helpful for them” (#9).

Furthermore, this participant went on to state,

“I know for a lot of the parents they have really valued the relationship aspect with the horse because um they have voiced that the horses were able to provide feedback to them that they have been trying to teach them for years” (#9).

For many parents, the ability for their child to learn skills, have improved interactions, was significant to the meaning they expressed in their interactions.

Further parent reports when they witness their children interacting with the horse is that they are seeing a side of their child that they have not seen in a long time, if ever. “Wow, look at, like they are a different person with this horse” (#1) is one response that a participant shared. This participant went on to share other comments made by parents that included, ““Oh my gosh, like this is my kid” or “I’ve never seen them be able to connect like that” or “look at how calm they are” “Look at how happy they are, I haven’t seen them smile like that in years” (#1).

However, for even the toughest of cases, positive outcomes were resulted. A parent was struggling to see positive results, however, the therapy team was able to get her involved and the participant reported,

“while he worked with horse... she reported “I’ve never seen this kid, my kid, be that gentle, in the last 5 or 6 years, I didn’t think he had it in him anymore ... To be kind, and he had such kindness and compassion for this horse, you know, he felt safe, in this relationship with this horse where he could be himself... And so

that was a huge change for that mom. And from that moment on, she was able to start to notice changes that he was trying to make” (#3).

The ability to be successful and learn skills for life is a huge portion of what is seen in children by the parents. “I feel like he has the tools to be successful in life” (#3). Parents are reporting, “I learned that it’s not my fault, but it’s my problem” (#4) and that by participating in this process they are helping their child learn how to be successful in life.

However, it is even more than just learning skills, parents are also reporting that the process is more about the relationship and connection than anything. “A lot of families say things about bringing the focus about instead of tasks it’s about connection” (#4). They are seeing their children have emotions and interactions they have never seen before, ““This is the first time my daughter has been able to cry” (#6). The focus on relationship and relationship skills is paramount to the success and long-term outcomes that children and families are reporting. As one participant reported, “she was basically saying this changed my kids’ life” (#3).

However, children are also reporting it had significant meaning to them as well. Younger children are not reporting as much as older children; however, they are reporting things such as “I was able to make friends” (#6). When older children are talked to at the end of therapy and asked what it meant to them, they are reporting to participants along the trend of, “You know, people are off my back”. “I guess, I’m just doing better, people aren’t hassling me anymore” you know” (#3). The belief from the participants is that “I think just in found it it was helpful but then then they found some pride and some um um sense of accomplishment because they were also helping their horses as well um and of a

had discussed had mentioned uh how it was helping them manage their anger” (#9). For children, when they are able to self-regulate and feel a sense of accomplishment and have something they have been searching for, they are reporting this is what this process means to them, to have people off their backs and to have friends. Across all participants, all involved reported a positive meaning from parents and families. Johansen (2104) supported these findings that individuals who participate in equine assisted psychotherapy feel empowered, connected, and are more in tune with their emotions and responses to situations. In addition, Johansen also supported the finding that involvement increased self-regulation. This finding corroborates the finding from the providers in this research study that children and families find a positive meaning in their involvement in equine assisted psychotherapy.

Addressing Bias

With a complete data sample of provider perspective, the results are biased regarding the provider perspective towards a positive outcome. However, each participant who participated was asked to speak about the experience and meaning that adolescent and parents shared with the provider throughout and at the conclusion of services. Providers were able to anecdotally share positive outcomes reportedly confirmed by the parents and adolescents in quotes shared by the provider in the interviews. Similar to Bachi’s (2013) theory of relational based attachment, providers reported there are strong attachment connections between the adolescents and the horse. These connections then become the foundation for social skill development.

However, despite the theoretical concept of relational attachment with the horse, provider participants reported that how effectively children translated these skills outside of the horse arena were largely dependent upon the environment outside of the horse arena, the safety of that environment to practice the new skills, and the collaboration of the individuals around the child to support the use of the skills (#9, 10). In addition, providers also reported that children would show greater success with transferring skills when there was collaboration and support from home and school (#9). This finding was supported by Breaux et al. (2018) who was studying schoolwork strategies for children with ADHD in a school setting. Breaux et al. focused upon the importance of parent involvement to facilitate the desirable environment for children to make substantive changes in disruptive ADHD symptoms. Breaux et al. referenced meta-analysis supporting some evidence that the greater parental involvement in therapy is connected with positive outcomes for children with ADHD. Providers reported that many parents expressed great meaning and positive experience of their children's engagement in equine assisted psychotherapy. However, these providers also reported that these outcomes were influenced by the parental involvement and engagement in the process and the ability to foster success outside of the horse arena (#10). These findings are supported by other research supporting parental involvement being directly connected to children's results in a therapeutic environment.

Another finding noted was the ability to improve and translate social skills was found to be highly dependent upon the cognitive ability of the child participant (#10). Salley, Gabrielli, Smith, and Braun (2015) supported the concept that children with

ADHD have a higher cognitive capacity than other children with a developmental disability to advance social skills. Scott, Barbarin, and Brown (2013) further supported this finding by studying young African American boys in pre-school classrooms and noting the correlation between lower cognitive functioning and lower social skill capacity. Scott, Barbarin, and Brown, (2013) referenced cognitive functioning as higher order thinking and referenced a trend among previous research to connect higher order thinking with greater social skill capacity. Providers within this research study also reported that cognitive capacity influenced the ability for children to translate social skills learned in the horse arena to situations and encounters outside of the horse arena.

Finally, several providers who participated in the sample were not solely providers of equine assisted psychotherapy. Multiple providers offered a varied avenue of services, including office based therapy in addition to equine assisted psychotherapy, had worked in many areas of counseling or clinical work throughout their years of practice prior to their time facilitating equine assisted psychotherapy, or had offered the service in a variety of settings from group to family to individual to residential. Despite the multiple avenues of clinical practice individuals were able to provide services to clients, all participants reported that social skills and engagement in the process were heightened and improved through the use of equine assisted psychotherapy in a manner that was different from alternative means of therapy, including traditional cognitive behavior therapy.

Halldorsdottir and Ollendick (2016) presented in their research focused upon anxiety and the impact of ADHD a negative result of ADHD upon the effectiveness of

cognitive behavioral therapy. While this research finding is not focused solely upon ADHD, it references the negative impact of ADHD symptoms upon traditional therapy modules and supports the finding of this research study presented by the providers. Providers all reported that they were often the “last stop” for treatment for children with ADHD who had failed all previous therapy models and some providers utilized other models with children and found the equine assisted psychotherapy model to be the most effective to garner a substantive change in social skill development.

Despite the bias presented by having a provider saturated sample, the results found by the providers are corroborated by other research studies, including the importance of parental and school involvement in the success of outcomes, the importance of cognitive ability for individuals to achieve transferability of skills, and the ability to obtain meaning in the involvement and interaction with the horse that is not obtainable in other avenues of therapy. Due to the ability for information from this research study to be supported through alternate peer reviewed research articles, the information obtained in the interviews from providers should not be discounted as invalid due to the bias presented.

Summary

The results of this research study showed a positive outcome from all participants interviewed. All participants reported that there was a positive impact on social skills and interactions from all involved in equine assisted psychotherapy. However, this was reported to be influenced by support available at home and school to assist adolescents in practicing those skills. The strongest themes presented were the relationship with the

horse and the ability for the adolescent to feel safe with the horse. As children interact with peers and family, all too often those individuals become fed up with the negative interactions and begin to separate from the difficult adolescent. However, horses exhibit a level of acceptance and openness that humans do not provide. This allows for adolescents to open up and learn new things that they would not be able to learn in a different environment. They are able to then in turn practice these skills, fine tune those skills, and then begin to practice them in their regular settings.

All participants also reported that both children and families are reporting a positive experience and meaning for their interactions with equine assisted psychotherapy. There is a strong trend that their involvement in equine assisted psychotherapy allowed for each adolescent to learn skills and advance in their interactions in a way that improved quality of life and interactions with others. Regardless of whether or not the Natural Lifemanship model was utilized or not, all participants reported a similar positive outcome on general social skills and specific engagement, empathy, and communication skills.

The only variations present were in what factors influenced the outcomes. Some participants believed that having talk therapy prior to counseling influenced the outcomes, others believed it was the support of the parents or school only, while others still believed it was due to the children being in residential and having to practice the skills right away. However, regardless of the setting in which the service was provided, all participants reported that the interactions and relationships with the horse were the foundation for the positive outcomes, reported positive impact on social skills and

positive engagement and meaning through involvement with equine assisted psychotherapy. This information aligned with current literature present surrounding the topic.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Purpose

The purpose of this research study was to work to understand the experiences of individuals and practitioners involved in equine assisted psychotherapy and how these experiences can influence the development of social skills. Children with a developmental disability, in particular ADHD, are likely to experience difficulty with their ability to self-regulate and interact appropriately (Dilts et al., 2011; Fiksdal et al., 2012; Kofler et al., 2018). DeVeney et al., (2012) showed that depression and anxiety are common as comorbid disorders, and these are rated as significantly impactful to quality of life and socialization and are often underreported by parents of children with ADHD (Davidson, 2017). Wilkes-Gillan, Cantrill, Parsons, Smith, and Cordier (2017) found that a child who is diagnosed with ADHD has many social skills concerns, including difficulty in advancing communication skills. Cote et al. (2009) researched children with ADHD and expressed that they often have additional concerns, specifically communication difficulties. Dyck and Piek (2014) supported that children with ADHD also have difficulties with anxiety, depression, communication concerns, and frequently receive multiple treatment modalities as a result. Yoo et al. (2016) researched further the physical symptoms of ADHD and found positive improvement after equine assisted therapy and Chitic et al. (2012) found that children with ADHD have difficulty interacting with peers. Davidsson (2017) similarly found children with ADHD were reported to have feelings of loneliness and difficulty in social situations as a result in their

research. These previous findings combined to support the need for the current study to understand how the experiences of engaging in equine assisted psychotherapy could influence social skill development for youth with ADHD.

Key Findings

Social skill development. The key findings from this research study were focused primarily upon the impact of equine therapy on social skill development in general but in addition on the specific social skills of communication, empathy, and engagement. All participants interviewed, regardless of modality used, whether group, individual, a combination of office or equine solely, reported that all children had an increase in both general and specific social skills, including communication, engagement, and empathy. There was no hesitation or reservation exhibited in the providers' reports recounting anecdotal results from children or parents supporting the significant positive impact the involvement that equine assisted psychotherapy had on the children's social skills.

Predominantly, the previous research on animal assisted therapy has been conducted regarding its psychological benefits (Bachi, 2012; Naste et al., 2017). The goal of this study was to come to an understanding of the social skill development that occurs as a result of engaging in equine assisted psychotherapy and not focusing upon only the psychological benefits. In this research study, all participants reported that the children involved were able to transfer the communication, empathy, and engagement skills outside of the horse arena unless cognitive capacity or parental or environmental support was not present. Similarly, adolescent participants were able to establish better

relational patterns and social interactions with peers and family members. As one provider stated, “They have to pay attention to stay safe in equine therapy of course, um, and so that’s directly translating to all of their relationships with people and animals” (#2).

Medication. Manos et al., (2012) reported that medication provided the greatest outcome for children with ADHD; yet, Moore et al. (2018) reported that this population had the best results with a combination of medication, supportive services, and psychiatric appointments. However, children still exhibited symptoms in both of these research studies despite the use of medication and therapeutic treatments. Children who had failed to show improvements in negatives symptoms with other previous modalities will often seek equine assisted psychotherapy as a last stop effort, per providers in this study.

In this study, one participant reported that the majority of their clients stopped medication or drastically reduced the need for medication following involvement in animal assisted treatment. This was a small finding in this study that could be studied further because the traditional modality for treatment is a combination of medication and therapeutic treatment (Page et al., 2016). However, given this provider reporting a positive reduction in medication management, there is the potential that improved self-regulation and social skills might also lead to a reduced need for medication management.

Location of difference. While there were some differences amongst participant responses in where the change was noted first, whether at home versus at school versus

with peers, the general consensus was that all individuals who completed the program and had support from their family exhibited the positive social changes across the board in all areas of their life. Participant #3 stated,

The kids who finish treatment I find the changes across the board. As long you are working with the family, right, you're not working with the family you're not going to see it across the board...you have to be working with the family and the family unit to be able to see these changes, in all areas...the kid is not an island.

Relationship importance. While there is existing research presenting positive outcomes from using equine assisted psychotherapy to help individuals with a range of symptoms and concerns, Heimlich (2001), Thompson et al., (2012), and Naste et al. (2017) reported that further research was necessary regarding equine assisted psychotherapy to determine the role of relationships and impact upon social skills. The results of the current study indicated that when adolescents are engaged in equine assisted psychotherapy, they were able to establish a relationship with the horse and this relationship became the safe foundation for them to learn new skills. Participant #9 stated,

That they were able to receive that feedback from the horse way better than they could from a human, um, from a kids perspective, um, what I saw was the kids feel like they really helped their horse, their equine partner as well, and in doing so they found it was helpful for them.

The participants reported that the relationship became the foundation for the therapeutic benefit because children were receptive to interactions with the horse in a manner different from adults or therapists. Participant #9 continued by saying,

I know for a lot of the parents they have really valued the relationship aspect with the horse because um they have voiced that the horses were able to provide feedback to them that they have been trying to teach them for years.

Furthermore, a large majority of the participants spoke about the child's relationship with the horse and the safe environment that the horse affords for the youth to practice the social skills as a foundation for success. Providers reported that children were able to develop a unique relationship with the horses that were not present in a traditional therapeutic environment. Participant #1 described it as "And the horses are really good at uh pulling those out, um, but they know what needs to be addressed." . Participants readily spoke to the unique environment equine assisted psychotherapy offered and that horses were much more forgiving and patient with children than peers or parents. Participant #3 said, "Horses are much more able to set boundaries, much more able to say that was then this is now, people don't do such a good job with that." The distinctive dynamic of engagement with a horse and the relationship between the adolescent and the horse fostered unique connections allowing for the youth to practice and learn skills that were previously difficult to practice in a traditional social setting. This was presented partially because horses were more forgiving and safer to practice with, Participant #3 explained, saying "What I love about working with these kids and the horses is, is that the horses give them chance after chance, after chance after chance,

where people do not.” Due to this environment, children were able to test out new skills, learn new boundaries, and establish new patterns of behavior without the negative peer interactions and ensuing negative self-esteem that often had previously resulted from negative peer interactions.

As children interacted with the horse; developed a relationship with the horse; and learned empathy, engagement, and communication patterns with the horse, they were then able to recognize their responses and how others might be responding to them as presented by the interviews. Participant #3 said, “So they start to take more responsibility and then they start to want to have better relationships. Once they start to see that they can have a different relationship.”. When the youth were able to work with the horse, engage with the horse, and develop a relationship and bond with the horse, this became the foundation for transferring the skills outside of the horse arena. Participant #2 reported that “The experiential piece is allowing them to translate the skills more quickly. And more readily to the outside world and that’s the most of the feedback that I get.”

Meaning. The meaning of engaging in equine assisted psychotherapy for children and families was improved quality of life and relational interactions for children and families. The foundation starts with the relationship, Participant #5 explained, saying, “But when they felt accepted by the animal that kind of changed a lot of things.” Furthermore, parents and children are reporting that the connection established by children becomes the foundation for future connection. Participant #3 said, “She was basically saying this changed my kids life,” and Participant #6 relayed that a child are

reported to providers that “I was able to make friends.” The ability to have this improved quality of life starts with the relationship with the horse, Participant #3 stated, going on to say,

When they first come in, all they can think about themselves because they are in survival mode and that’s all you can think about, right? I: Um, they begin to very much think about their horse, about what’s going on with their horse.

Participant #1 stated that parents are reporting to providers that “Oh my gosh, like this is my kid,” “I’ve never seen them be able to connect like that,” “look at how calm they are,” or “Look at how happy they are, I haven’t seen them smile like that in years”. These changes were made possible starting with the child’s relationship with the horse as foundational.

Interpretation of Findings

The findings from this study were aligned with the attachment theory in that as relationships and connections develop, social capacity subsequently develops (see Bachi, 2013). Bachi stated that the ability to connect, communicate, and engage was established when an individual develops the ability to attach. As the child worked in equine assisted psychotherapy, they established a relationship with the horse and established an attachment with the horse. This relationship is founded on the attachment that in turn becomes the foundation for the skills to be practiced. Participant #10 shared,

The overarching thing we talk about with everybody is that they are going to be learning how to build healthy relationships with horses. And whatever they are learning with the horses we will then be helping them transfer the principles

learned with the horses to their interactions with people. Right, so it's not about them reaching some sort of magical place and having this sort of beautiful connection and relationship it's the process of that, right?

When children connected with the horse and developed a relationship and attachment with the horse, they were then able to learn skills in an environment safe to them and in turn transfer the skills.

The environment of working with the horse became a safe place, and the horse offered feedback and interactions that the parents or other counseling settings were unable to communicate to the child or the child was unwilling to receive. The unique environment of the child horse interaction and the relationship established between them allowed for the youth to engage with the horse, interact and practice empathy, learn verbal and nonverbal communication skills, and then transfer these skills outside of the horse arena.

Limitations of the Study

The limitations of the study included that interviews were not completed by the parents, so their perceptions of their child's experience were not gathered. This study did not include the perceptions of the children themselves either because only providers were interviewed. Providers were able to speak to what parents and children were reporting to them; however, the information was not obtained directly from either parents or children; consequently, may not accurately reflect the real experiences of the children. Similarly, by only asking about the child's experiences, I did not collect data regarding adult

experiences and whether similar experiences are an outcome of adults with ADHD engaging in equine-facilitated psychotherapy.

This creates a limitation of the study due to the presence of a bias of the results as the participants that were screened in for inclusion were providers. However, despite the bias present, the results presented by the participants can be supported through conjunctive research in the field surrounding parent and school involvement in supporting advancement for children with ADHD, translation of skills exhibiting a dependence upon cognitive capacity of children involved in the program, and practitioners reporting greater success with equine assisted psychotherapy than any other modality they have utilized in their practice history.

This research was focused specifically upon children with ADHD and did not expound upon other emotional disorders, such as anxiety, depression, etc. As Dyck and Piek (2014) presented, children with ADHD frequently experience depression and anxiety in addition to their ADHD symptoms. However, this research study only asked about ADHD symptoms related to social skills and did not expound beyond this line of questioning.

Further limitations included that a significant portion of the sites were Natural Lifemanship sites. While other sites did utilize other models, the models themselves were not compared, such as EAGALA or Professional Association of Therapeutic Horsemanship International (PATH) locations (EAGALA, 2018, PATH International, 2019). These are the other two main models in which individuals will access for equine

assisted psychotherapy. Another model that is emerging is the HERD Institute (2016). This study did not compare these.

Another limitation is that the only animal assisted therapy studied was equine assisted psychotherapy. Other animals are often used in animal assisted therapy (Bachi, 2012; Friesen, 2010), including the dog (Naste et al., 2017). One participant did speak to a belief that other animals can have a role to play in the involvement in therapy, however this was not the focus upon this research study. Due to the fact that this research focused only on equine assisted psychotherapy, this is a limitation in the type of animal studied and if different results might be found depending upon the animal involved in the therapeutic setting.

Recommendations

Recommendations include researching from the children's perspective and obtaining parental involvement. In addition, future research can be completed to include adults within the sample population to gather their input into their experiences and compare and contrast adult to children experiences. Recommendations also include doing in person interviews to allow for more observational data. This will potentially increase the client population for participation. Future research could also be beneficial to determine if all clients with ADHD from all residential areas access this service or if only those locally to the barns access this treatment modality. This would give potentially a greater culturally representative sample.

In addition, future research recommendations would be beneficial to surrounding attachment styles prior to engagement in equine assisted therapy and the impact upon

attachment styles after equine assisted psychotherapy. In this research study providers cumulatively supported the engagement of the youth with the horse and the importance of the relationship. Future research could delve further into specific attachment styles and potential impact upon attachment styles, potentially utilizing the adult attachment interview to examine changes in attachment style.

Another recommendation is to complete future research involving more than horses. As Naste et al., (2017) reported, dogs are commonly researched for animal assisted therapy with trauma survivors. In addition, research could potentially be done to examine if having other animals on site influenced the results. Additionally, research could be beneficial in understanding if dogs are as beneficial as horses in assisting children with ADHD in advancing social skills.

Furthermore, recommendations include doing more sites. Half of the sites were Natural Lifemanship sites. This does not allow for a comparison between different modalities specifically as the models themselves were not examined, such as EAGALA (2018), HERD Institute (2016), PATH (2019). Future research would be beneficial in understanding if different models showed results at different time frames or if the results are consistent across the same time continuum in all models. In addition, comparisons between the models and practice styles could be compared and how these styles potentially influenced relational interaction for children and then potentially how this interaction influenced social skill development. As Naste et al., (2017) reported, attachment and bonding is crucial for the success of animal assisted therapy. This becomes the foundation for future research.

Implications

The implications of this research study are largely related to providing information to families and practitioners who provide equine assisted psychotherapy services to children with ADHD. By providing research that supports that equine assisted psychotherapy can assist children with ADHD in developing social skills, practitioners can direct children and families to a provider using the relational model as an option to facilitate advancement of social skills in a therapeutic setting. For Natural Lifemanship, LLC, and other models of equine assisted psychotherapy, this research supports the validity of equine assisted psychotherapy and can be used to both bring clients to their practitioner sites but can also assist in potentially having more practitioners becoming trained in equine assisted psychotherapy. This in turn creates further social change as more providers can then become trained in this service and provide the service to more children. Given the prevalence of ADHD at nearly 5%, according to the CDC (2018), the population that can be impacted by this information is significant.

Conclusions

In conclusion, this research has resulted in supporting that equine assisted psychotherapy, regardless of the model utilized, positively supports social skill development. However, the relational interaction between the individual and the horse is crucial for the development of those skills. In addition, support and ongoing involvement in the process is also important to involvement. Future research is beneficial to determine if one model exhibits results in different timeframes upon social skills or if other animals also exhibit the same results upon social skills.

References

- Allemande, M., Steiger, A. E., & Fend, H. A. (2014). Empathy development in adolescence predicts social competencies in adulthood. *Journal of Personality, 83*(2), 299-241. <http://dx.doi.org/10.1111/jopy.12098>
- American Psychiatric Association. (2013) . *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.
<http://dx.doi.org/10.1176/appi.books.9780890425596>
- Bachi, K. (2012). Equine-facilitated psychotherapy: The gap between practice and knowledge. *Society & Animals, 20*, 364-380. <http://dx.doi.org/10.1163/15684306-12341242>
- Bachi, K. (2013). Application of attachment theory to equine-facilitated psychotherapy. *Journal Contemporary Psychotherapy, 43*, 187-196.
<http://dx.doi.org/10.1007/s10879-013-9232-1>
- Balluerka, N., Muela, A., Amiano, N., & Caldentey, M. A. (2015). Promoting psychosocial adaptation of youths in residential care through animal-assisted psychotherapy. *Child Abuse & Neglect, 50*, 193-205.
<http://dx.doi.org/10.1016/j.chiabu.2015.09.004>
- Berry, A., Borgi., M., Francia, N., Alleva, E., & Cirulli, F. (2013). Use of assistance and therapy dogs for children with autism spectrum disorders: A critical review of the current evidence. *The Journal of Alternative and Complementary Medicine, 19*(2), 73-80. <http://dx.doi.org/10.1089/acm.2011.0835>

- Betawi, A. (2013). Early childhood student teacher expectations toward kindergarten children's social and emotional competencies. *College Student Journal*, 138-154. Retrieved from <https://www.ingentaconnect.com/content/prin/csj/2013/00000047/00000001/art00015>
- Bizub, A. L., Joy, A., & Davidson, L. (2003). "It's like being in another world": Demonstrating the benefits of therapeutic horseback riding for individuals with psychiatric disability. *Psychiatric Rehabilitation Journal*, 26(4), 377-384. <http://dx.doi.org/10.2975/26.2003.377.384>
- Bottema-Beutel, K., Yoder, P. J., Hochman, J. M., & Watson, L. R. (2014). The role of supported joint engagement and parent utterances in language and social communication development in children with autism spectrum disorder. *Journal of Autism Developmental Disorder*, 44, 2162-2174. <http://dx.doi.org/10.1007/s10803-014-2092-z>
- Boyer, V. E., & Mundschenk, N. A. (2014). Using animal-assisted therapy to facilitate social communication: A pilot study. *Canadian Journal of Speech-Language Pathology and Audiology*, 38(1). Retrieved from <https://www.sac-oac.ca/professional-resources/canadian-journal-speech-language-pathology-and-audiology>
- Breaux, R. P., Langberg, J. M., McLeod, B. D., Molitor, S. J., Smith, Z. R., Bourchtein, E., & Green, C. D. (2018). The importance of therapeutic processes in school-based psychosocial treatment of homework problems in adolescents with ADHD.

Journal of Consulting and Clinical Psychology, 86(5), 427–438.

<http://dx.doi.org/10.1037/ccp0000300>

Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary

Ainsworth. *Developmental Psychology*, 28, 7595-775. Retrieved from

<https://www.apa.org/pubs/journals/dev/>

Busch, C., Tucha, L., Talarovicova, A., Fuermaier, A. B. M, Lewis-Evans, B., & Tucha,

O. (2016). Animal-assisted interventions for children with attention

deficit/hyperactivity disorder: A theoretical review and consideration of future

research directions. *Psychological Reports*, 118(1), 292-331.

<http://dx.doi.org/10.1177/0033294115626633>

Center for Disease Control. (2018, September 21). Attention deficit/hyperactivity

disorder: Data & statistics. Retrieved from

<https://www.cdc.gov/ncbddd/adhd/data.html>

Chitic, V., Rusu, A. S., & Szamoskozi, S. (2012). The effects of animal assisted therapy

on communication and social skills: A meta-analysis. *Erdélyi Pszichológiai*

Szemle, 13(1), 1-17. <http://dx.doi.org/10.1037/rep0000025>

Choi, J., & Ae Ohm, J. (2018). Pretend play and social competence in peer play groups of

five-year-old boys and girls. *Social Behavior and Personality: An International*

Journal, 46(8), 1255–1270. <https://dx.doi.org/10.2224/sbp.6928>

Cooper, B. R., Moore, J. E., Powers, C. J., Cleveland, M., & Greenberg, M. T. (2014).

Patterns of early reading and social skills associated with academic success in

elementary school. *Early Education and Development*, 25(8), 1248-1264.

<http://dx.doi.org/10.1080/10409289.2014.932236>

Cote, S. M., Boivin, M., Liu, X, Nagin, D. S., Zoccolillo, M., & Tremblay, R. E. (2009).

Depression and anxiety symptoms: Onset, developmental course and risk factors during early childhood. *The Journal of Child Psychology and Psychiatry*, 50(10).

<http://dx.doi.org/10.1111/j.1469-7610.2009.02099.x>

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE Publications.

Cuypers, K., De Ridder, K. & Strandheim, A. (2011). The effect of therapeutic horseback riding on 5 children with attention deficit hyperactivity disorder: A pilot study.

The Journal of Alternative and Complementary Medicine, 17(10).

<https://dx.doi.org/10.1089/acm.2010.0547>

Davidsson, M., Hult, N., Gillberg, C., Särneö, C., Gillberg, C., & Billstedt, E. (2017).

Anxiety and depression in adolescents with ADHD and autism spectrum disorders; Correlation between parent- and self-reports and with attention and adaptive functioning. *Nordic Journal of Psychiatry*, 71(8), 614–620.

<http://dx.doi.org/10.1080/08039488.2017.1367840>

Davis, T. N., Scalzo, R., Butler, E., Stauffer, M., Farah, Y. N., Perez, S.,... Coviello, L.

(2015). Animal assisted interventions for children with autism spectrum disorder:

A systematic review. *Education and Training in Autism and Developmental Disabilities*, 50(3), 316-329. Retrieved from

<http://daddcec.org/Publications/ETADDJournal.aspx>

- DeVeney, S. L., Hoffman, L., & Cress, C. L. (2012). Communication-based assessment of developmental age for young children with developmental disabilities. *Journal of Speech Language and Hearing Research, 55*, 695-709.
[http://dx.doi.org/10.1044/1092-4388\(2011/10-0148\)](http://dx.doi.org/10.1044/1092-4388(2011/10-0148))
- Dilts, R., Trompisch, N., & Berquist, T. M. (2011). Dolphin-assisted therapy for children with special needs: A pilot study. *Journal of Creativity in Mental Health, 6*(1), 56-68. <http://dx.doi.org/10.1080/15401383.2011.557309>
- Dyck, M. J., & Piek, J. P. (2014). Developmental delays in children with ADHD. *Journal of Attention Disorders, 18*(5), 466-478.
<http://dx.doi.org/10.1177/1087054712441832>
- Eagala. (2018). The global standard: For equine-assisted psychotherapy & personal development. Retrieved from <https://www.eagala.org/index>
- Earles, J. L., Vernon, L. L., & Yetz, J. P. (2015). Equine-assisted therapy for anxiety and posttraumatic stress symptoms. *Journal of Traumatic Stress, 28*, 149-152.
<http://dx.doi.org/10.1002/jts.21990>
- Fallesen, P., & Wildeman, C. (2015). The effect of medical treatment of attention deficit hyperactivity disorder (ADHD) on foster care caseloads. *Journal of Health & Social Behavior, 56*(3), 398-414. <http://dx.doi.org/10.1177/0022146515595046>
- Fedor, J. (2018). Animal-assisted therapy supports student connectedness. *NASN School Nurse, 33*(6), 355-358. <https://doi-org./10.1177/1942602X18776424>

- Fiksdal, B, Houlihan, D, & Barnes, A. (2012). Dolphin-assisted therapy: Claims versus evidence. *Autism Research and Treatment, 2012*.
<http://dx.doi.org/10.1155/2012/839792>
- Friesen, L. (2010). Exploring animal-assisted programs with children in school and therapeutic contexts. *Early Childhood Education, 27*, 261-267.
<http://dx.doi.org/10.1007/s10643-009-0349-5>
- Gabriels, R. L., Pan, Z., Dechant, B., Agnew, A., Brim, N., & Mesibov, G. (2015). Randomized controlled trial of therapeutic horseback riding in children and adolescents with autism spectrum disorder. *Journal American Academy Child Adolescent Psychiatry, 54*(7), 541-549.
<http://dx.doi.org/10.1016/j.jaac.2015.04.007>
- Geist, T. (2011). Conceptual framework for animal assisted therapy. *Child & Adolescent Social Work Journal, 28*(3), 243-256. <http://dx.doi.org/10.1007/s10560-011-0231-3>
- Grandgeorge, M., Tordjman, S., Lazartigues, A., Lemonnier, E., Deleau, M., & Hausberger, M. (2012). Does pet arrival trigger prosocial behaviors in individuals with autism? *Plos One, 7*(8). Retrieved from <https://journals.plos.org/plosone/>
- Grigore, A. A., & Rusu, A. S. (2014). Interaction with a therapy dog enhances the effects of social story method in autistic children. *Society & Animals, 281-341*.
<http://dx.doi.org/10.1163/15685306-12341326>

- Hale, T. S. (2014). A distributed effects perspective of dimensionally defined psychiatric disorders: and convergent versus core deficit effects in ADHD. *Frontiers in Psychiatry*, 5(62), 1-16. <http://dx.doi.org/10.3389/fpsy.2014.00062>
- Heimlich, K. (2001). Animal-assisted therapy and the severely disabled child: A quantitative study. *Journal of Rehabilitation*. 67(4), 48-54. Retrieved from <https://www.nationalrehab.org/journal-of-rehabilitation>
- Helseth, S. A., Waschbusch, D. A., Gnagy, E. M., Onyango, A. N., Burrows-MacLean, L., Fabiano, G. A.,... Pelham, W. E., Jr. (2015). Effects of behavioral and pharmacological therapies on peer reinforcement of deviancy in children with ADHD-only, ADHD and conduct problems, and controls. *Journal of Consulting and Clinical Psychology*, 83(2), 280–292. <http://dx.doi.org/10.1037/a0038505>
- HERD Institute. (2016). The human-equine relational development (HERD). Retrieved from <https://herdinstitute.com/>
- Huss, M., Duhan, P., Gandhi, P., Chen, C. W., Spannhuth, C. W., & Kumar, V. (2016). Methylphenidate dose optimization for ADHD treatment: Review of safety, efficacy, and clinical necessity. *Neuropsychiatric Disease and Treatment*, 2017(13), 1741-1751. Retrieved from <https://www.dovepress.com/neuropsychiatric-disease-and-treatment-journal>
- Jang, B., Song, J., Kim, J., Kim, S., Lee, J., Shin, H.,... Joung, Y. (2015). Equine-assisted activities and therapy for treating children with attention-deficit/hyperactivity disorder. *The Journal of Alternative and Complementary Medicine*, 21(9). <http://dx.doi.org/10.1089/acm.2015.0067>

- Jobe, T. D., & Shultz-Jobe, B. N. (2016). *Fundamentals of Natural Lifemanship: Trauma focused equine-assisted psychotherapy (TF-EAP)*.
- Johansen, S. G., Arfwedson Wang, C. E., Binder, P. E., & Malt, U. F. (2014). Equine-facilitated body and emotion-oriented psychotherapy designed for adolescents and adults not responding to mainstream treatment: A structured program. *Journal of Psychotherapy Integration, 24*(4), 323–335. <http://dx.doi.org/10.1037/a0038139>
- Klontz, B. T., Bivens, A., Leinart, D., & Klontz, T. (2007). The effectiveness of equine-assisted experiential therapy: Results of an open clinical trial. *Society & Animals, 15*, 257-267. Retrieved from <https://www.animalsandsociety.org/human-animal-studies/society-and-animals-journal/>
- Kofler, M. J., Harmon, S. L., Aduen, P. A., Day, T. N., Austin, K. E., Spiegel, J. A.,... Sarver, D. E. (2018). Neurocognitive and behavioral predictors of social problems in ADHD: A Bayesian framework. *Neuropsychology, 32*(3), 344-355. <http://dx.doi.org/10.1037/neu0000416>
- Kogan, L. R., Granger, B. P., Fitchett, J. A., Helmer, K. A., & Young, K. J. (1999). The human-animal team approach for children with emotional disorders: Two case studies. *Child & Youth Care Forum, 28*(2), 105-121. Retrieved from <https://link.springer.com/journal/10566>
- Kwon, K., Kim, E. M., & Sheridan, S. M. (2014). The role of beliefs about the importance of social skills in elementary children's social behaviors and school attitudes. *Child & Youth Care Forum, 43*(4), 455-467. <http://dx.doi.org/10.1007/s10566-014-9247-0>

- Lac, V. (2017). *Equine-facilitated Psychotherapy and Learning the Human-equine Relational Development Herd Approach*. London, United Kingdom:Academic Pr.
- Lanning, B. A., Matyastick Baier, M. E., Ivey-Hatz, J., Krenck, N., & Tubbs, J.D. (2014). Effects of equine assisted activities on autism spectrum disorder. *Journal Autism Developmental Disorder, 44*, 1897-1907. <http://dx.doi.org/10.1007/s10803-014-2062-5>
- Lundquist Wanneberg, P. (2014). Disability, riding, and identity: A qualitative study on the influence of riding on the identity construction of people with disabilities. *International Journal of Disability, Development and Education, 61*(1), 67–79. <http://dx.doi.org/10.1080/1034912X.2014.878543>
- Maber-Aleksandrowicz, S., Avent, C., & Hassiotis, A. (2016). A systemic review of animal-assisted therapy on psychosocial outcomes in people with intellectual disability. *Research in Developmental Disabilities, 49-50*, 322-338. <https://dx.doi.org/10.1016/j.ridd.2015.12.005>
- Manos, M. J., Caserta, D. A., Short, E. J., Raleigh, K. L., Guiliano, K. C., Pucci, N. C., & Frazier, T. W. (2012). Evaluation of the duration of action and comparative Effectivenss of Lisdexamfetamine dimesylate, and behavioral treatment in youth with ADHD in a quasi-naturalistic setting. *Journal of Attention Disorders, 19*(7), 578-590. <http://dx.doi.org/10.1177/1087054712452915>
- McNamara, J. (2017). Equine facilitated therapy for children and adolescents: A qualitative pilot study. *Journal of Creativity in Mental Health, 12*(4). <http://dx.doi.org/10.1080/15401383.2017.1340215>

- Moore, J. A., Karch, K., Sherina, V., Guiffre, A., Jee, S., & Garfunkel, L.C. (2018). Practice procedures in models of primary care collaboration for children with ADHD. *Families, Systems & Health, 36*(1), 73-86.
<http://dx.doi.org/10.1037/fsh0000314>
- Naste, T. M., Price, M., Karol, J., Martin, L, Murphy, K., Miguel, J., & Spinazzola, J. (2017). Equine facilitated therapy for complex trauma (EFT-CT). *Journal Child Adolescent Trauma, http://dx.doi.org/10.1007/s40653-017-0187-3*
- Nurenberg, J. R., Schleifer, S. J., Shaffer, T. M., Yellin, M., Desai, P. J., Amin, R., Bouchard, A., & Montalvo, C. (2015). Animal-assisted therapy with chronic psychiatric inpatients: Equine-assisted psychotherapy and aggressive behavior. *Psychiatric Services, 66*(1). <http://dx.doi.org/10.1176/appi.ps.201300524>
- O'Haire, M. E., Guirin, N. A., & Kirkham, A. C. (2015). Animal-assisted intervention for trauma: A systematic literature review. *Frontiers in Psychology, 6*.
<http://dx.doi.org/10.3389/fpsyg.2015.01121>
- O'Haire, M. E., & Rodriguez, K. E. (2018). Preliminary efficacy of service dogs as a complementary treatment for posttraumatic stress disorder in military members and veterans. *Journal of Consulting and Clinical Psychology, 86*(2), 179-188.
<http://dx.doi.org/10.1037/ccp0000267>
- Page, T. F., Pelham, W. E., Fabiano, G. A., Greiner, A. R., Gnagy, E. M., Hart, K. C....Pelham, W. E. (2016). Comparative cost analysis of sequential, adaptive, behavioral, pharmacological, and combined treatment for childhood ADHD.

Journal of Clinical Child & Adolescent Psychology, 45, 416-427.

<http://dx.doi.org/10.1080/15374416.2015.1055859>

PATH International. (2019). Learn about EAAT. Retrieved from

<https://www.pathintl.org/resources-education/resources/eaat/60-resources/efpl/201-equine-facilitated-psychotherapy>

Pelham, W. E., Burrows-MacLean, L., Gnagy, E. M., Fabiano, G. A., Coles, E. K., Wymbs, B. T., Chacko, A., Walker, K. S., Wymbs, F., Garefino, A., Hoffman, M. T., Waxmonsky, J. G., Waschbusch, D. A. (2014). A dose-ranging study of behavioral and pharmacological treatment in social settings for children with ADHD. *Journal of Abnormal Child Psychology*, 42, 1019-1031.

<http://dx.doi.org/10.1007/s10802-013-9843-8>

Pfiffner, L. J., Villodas, M., Kaiser, N., Rooney, M., & McBurnett, K. (2013).

Educational outcomes of a collaborative school-home behavioral intervention for ADHD. *School Psychology Quarterly*, 28(1), 25-36.

<http://dx.doi.org/10.1037/spq0000016>

Purvis, K. B., Cross, D. R., Dansereau, D. F., & Parris, S. R. (2013). Trust-based relational intervention (TBRI): A systemic approach to complex developmental trauma. *Child & Youth Services*, 34(4), 360-386.

<http://dx.doi.org/10.1080/0145935X.2013.859906>

VERBI. (2019). *The #1 software for qualitative method & mixed methods research*.

Retrieved from <https://www.maxqda.com/>

- Raman, S. R., Marshall, S. W., Gaynes, B. N., Haynes, K., Jaftel, J., & Sturmer, T. (2015). An observational study of pharmacological treatment in primary care of children with ADHD in the United Kingdom, *Psychiatric Services*, *66*(6), 617-624. <http://dx.doi.org/10.1176/appi.ps.201300148>
- Rapport, M. D., Organ, S.A., Kofler, M. J., & Friedman, L. M. (2013). Do programs designed to train working memory, other executive functions, and attention benefit children with ADHD? A meta-analysis review of cognitive, academic, and behavioral outcomes, *Clinical Psychology Review*, *33*, 1237-1252. Retrieved from <https://www.journals.elsevier.com/clinical-psychology-review>
- Reed, R., Ferrer, L., & Villegas, N. (2012). Natural healers: A review of animal assisted therapy and activities as complementary treatment for chronic conditions. *Revista Latino-Americana De Enfermagem (RLAE)*, *20*(3), 612-618. Retrieved from http://www.scielo.br/scielo.php?script=sci_serial&pid=0104-1169&lng=en&nrm=iso
- Salley, B., Gabrielli, J., Smith, C. M., and Braun, M. (2015). Do communication and social interaction skills differ across youth diagnosed with autism spectrum disorder, attention-deficit/hyperactivity disorder, or dual diagnosis? *Research in Autism Spectrum Disorders*, *20*, 58-66. <http://dx.doi.org/10.1016/j.rasd.2015.08.006>
- Scott, K. M., Barbarin, O. A., & Brown, J. M. (2013). From higher order thinking to higher order behavior: Exploring the relationship between early cognitive skills

- and social competence in Black boys. *American Journal of Orthopsychiatry*, 83(2–3), 185–193. <http://dx.doi.org/10.1111/ajop.12037>
- Selby, A., & Smith-Osborne, A. (2012). A systematic review of effectiveness of complementary and adjunct therapies and interventions involving equines. *Health Psychology*, 32(4), 418-432. <http://dx.doi.org/10.1037/a0029188>
- Shannon, P., & Tappan, C. (2011). Identification and assessment of children with developmental disabilities in child welfare. *National Association of Social Workers*. Retrieved from <https://www.socialworkers.org/>
- Starman, A. B. (2003). The case study as a type of qualitative research. *Journal of Contemporary Educational Studies*, 28-43. Retrieved from <https://www.sodobna-pedagogika.net/en/>
- Thompson, J. R., Iacobucci, V., & Varney, R. (2012). Giddyup! or Whoa Nelly! Making sense of benefit blaims on websites of equine programs for children with disabilities. *Journal of Development Physical Disabilities*, 24, 373-390. <http://dx.doi.org/10.1007/s10882-012-9276-2>
- Torres, N., Veríssimo, M., Monteiro, L., Ribeiro, O., & Santos, A. J. (2014). Domains of father involvement, social competence and problem behavior in preschool children. *Journal of Family Studies*, 20(3), 188-203. <http://dx.doi.org/10.1080/13229400.2014.11082006>
- Trotter, R. T. (2012). Qualitative research sample design and sample size: Resolving and unresolved issues and inferential imperatives. *Preventative Medicines*, 55(5). <http://dx.doi.org/10.1016/j.ypped.2012.07.003>

- Wilkes-Gillan, S., Cantril, A., Parsons, L., Smith, C., & Cordier, R. (2017). The pragmatic language, communication skills, parent-child relationships, and symptoms of children with ADHD and their playmates 18-months after a parent-delivered play-based intervention. *Developmental Neurorehabilitation*, *20*(5), 317-322. <http://dx.doi.org/10.1080/17518423.2016.1188861>
- Wilson, K., Buultjens, M., Monfries, M., & Karimi, L. (2017). Equine-assisted psychotherapy for adolescents experiencing depression and/or anxiety: A therapist's perspective. *Clinical Child Psychology*, *22*(1), 16-33. <http://dx.doi.org/10.1177/1359104515572379>
- Yoo, J. H., OH, Y., Jang, B., Song, J., Kim, J., et al. (2016). The effects of equine-assisted activities and therapy on resting-state brain function in attention-deficit/hyperactivity disorder: A pilot study. *Clinical Psychopharmacology and Neuroscience*, *14*(4), 357-364. <http://dx.doi.org/10.9758/cpn.2016.14.4.357>
- Yorke, J., Nugent, W., Strand, E., Bolen, R., New, J. & Davis, C. (2013). Equine-assisted therapy and its impact on cortisol levels of children and horses: A pilot study and meta-analysis. *Early Child Development and Care*, *183*(7), 874-894. <http://dx.doi.org/10.1080/03004430.2012.693486>
- Zents, C. E., Fisk, A. K., & Lauback, C. W. (2017). Paws for intervention: Perceptions about the use of dogs in schools. *Journal of Creativity in Mental Health*, *12*(1), 82-98. <http://dx.doi.org/10.1080/15401383.2016.1189371>

Zilcha-Mano, S., Mikulincer, M., & Shaver, P. R. (2011). Pet in the therapy room: An attachment perspective on animal-assisted therapy. *Attachment & Human Development, 13*(6), 541-561. <http://dx.doi.org/10.1080/14616734.2011.608987>

Appendix A: Interview Questions

1. What experience did you and your child have engaging in animal assisted therapy?
2. Did this experience have any influence on your child's social, communication, and empathy, and engagement skills?
3. What meaning did you gain from having your child with ADHD participate in animal assisted therapy?
4. Anything further you would like to add about your experience and the meaning that engaging in animal assisted therapy had for your child and your family?

Appendix B: Interview Questions Format - Parents

1. Are you 18 years old or older?
2. How long was your child in animal assisted therapy?
3. How was your child around other kids before therapy?
4. How was your child on the playground?
5. How about at school with other kids?
6. Did this change after animal assisted therapy?
7. What experience did you and your child have engaging in animal assisted therapy?
8. Did this experience have any influence on your child's social, communication, and empathy, and engagement skills?
9. What about at home?
10. What about at school?
11. What about with family?
12. What meaning did you gain from having your child with ADHD participate in animal assisted therapy?
13. Did you find it made a big difference or no difference?
14. Can you think of any other diagnoses or treatment that might have influenced the results?
15. Anything further you would like to add about your experience and the meaning that engaging in animal assisted therapy had for your child and your family?

Appendix C: Interview Questions Format - Providers

1. Are you 18 years old or older?
2. How long was your client in animal assisted therapy?
3. How was your client around other kids before therapy?
4. How was your client on the playground?
5. How about at school with other kids?
6. Did this change after animal assisted therapy?
7. What experience did your client and family report having engaged in animal assisted therapy?
8. Did this experience have any influence on the child's social, communication, and empathy, and engagement skills?
9. What about at home?
10. What about at school?
11. What about with family?
12. What meaning did you client's family and client gain from having your client with ADHD participate in animal assisted therapy?
13. Did you find it made a big different or no difference?
14. Can you think of any other diagnoses or treatment that might have influenced the results?

Anything further you would like to add about your experience and the meaning that engaging in animal assisted therapy had for your client and their family?

Appendix D: Screening Process

Provider:

In order to participate, you must be:

1. 18 years of age or older
2. A provider of a child with ADHD
3. A provider of a child who has participated in or is currently participating Equine Assisted Psychotherapy (EAP)

Parents:

In order to participate, you must be:

1. 18 years of age or older
2. A parent of a child with ADHD
3. A parent of a child who has participated in or is currently participating Equine Assisted Psychotherapy (EAP)