

The Influence of Equine-assisted Interventions: A Case Study

by

Karla Pinho

Dissertation Proposal Submitted to the Doctoral Program

of the American College of Education

in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

September 2020

The Influence of Equine-assisted Interventions: A Case Study
by

Karla Pinho

Approved by:

Dissertation Chair: Dr. Sarah Sally Everts, Ph.D.

Committee Member: Dr. Elizabeth Johnson, Ed.D.

Copyright © 2020

Karla Pinho

Abstract

Equine-assisted interventions (EAIs) were used to develop physical, social, and emotional skills in participants. The problem was the influence EAIs had on individuals with social or emotional deficits was unknown from the perspective of parents and instructors. The gap in the literature was previous studies lack feedback from the parents and instructors. Contingency leadership theory and biophilia theory framed the study. Research questions asked parents of children participating in EAI and instructors to describe experiences with EAI sessions. Questions were used to explore how parents and instructors perceived the influence and meaning of equine-assisted interventions on the social and emotional health of the clients at three therapeutic equine centers in Connecticut. The purpose of the qualitative, multiple case study was to explore the influence EAIs had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut. The target population for the multiple case study included EAI instructors and parents of individuals with social or emotional deficits who participate in EAIs in the state of Connecticut. Selection criteria included parents of children who utilized five or more equine-assisted intervention sessions in response to social or emotional deficits and the Professional Association of Therapeutic Horsemanship (PATH) certified instructors. Data were collected using semi-structured interviews and open-ended questionnaires. Emergent coding was used for data analysis. The findings of the study indicated equine-assisted interventions positively influenced the social and emotional skills of participants.

Keywords: Equine-assisted interventions, Equine Therapy, horses, social disorders, emotional disorders, parent feedback, mental illness, alternative treatment methods

Dedication

This dissertation is dedicated to my son, Weston, without whom I would not have had the motivation to complete this journey. Setting a good example for you pushed me forward through the hard times. I dedicate this dissertation to my mom, Maria, and all four of my amazing in-laws who helped tremendously with Weston so that I could have hours of uninterrupted work time. I would like to acknowledge Tilly, the best dog and sidekick I could have ever asked for. Thanks for keeping me with a quiet company during those long days and nights of researching. Last but not least, I dedicate this work to my husband, Adam. This was a long and bumpy road, but we made it!

Acknowledgments

This dissertation would not have been possible without my family, who did not sign up for this educational program, but got put to work anyway! I would like to mention my husband, Adam, for listening to me endlessly talking about this dissertation process. I would like to thank my son, Weston, for motivating me and forgiving me for the times I couldn't play because I had to get work done. I would like to acknowledge my dissertation committee including Dr. Sarah Everts and Dr. Elizabeth Johnson for helping me through the process with their guidance and intellect. I want to give a special thank you to my mom, Maria, who would drop anything at any time to help with my son so that I could work. Tilly, thank you for being the best dog. Your calm demeanor brought me peace during stressful times and was more helpful to this process than you will ever understand.

Table of Contents

List of Tables and Figures.....	xi
Chapter 1: Introduction	1
Background of the Problem	2
Statement of the Problem.....	4
Purpose of the Study	5
Significance of the Study	5
Research Questions	6
Theoretical Framework.....	7
Definitions of Terms	7
Assumptions.....	9
Scope and Delimitations	9
Limitations	9
Chapter Summary	10
Chapter 2: Literature Review	11
Literature Search Strategy.....	11
Theoretical Framework.....	12
Contingency Theory.....	13
<i>Fiedler's Contingency Theory</i>	13
The Biophilia Theory	15

	viii
Literature Review.....	17
Animal-assisted Therapy	17
Equine-Assisted Interventions	20
Influence of EAIs	26
Program Duration Needs.....	36
Counterargument.....	38
Chapter Summary	40
Chapter 3: Methodology	42
Research Design and Rationale	43
Role of the Researcher	45
Research Procedures	47
Population and Sample Selection.....	47
Instrumentation	49
Field Testing	51
Data Collection	51
Data Analysis	52
Reliability and Validity.....	54
Ethical Procedures	55
Chapter Summary	57
Chapter 4: Research Findings and Data Analysis Results	59

	ix
Data Collection	60
Data Analysis	61
Coding Process.....	61
Major Themes	63
Results.....	64
Research Question One.....	65
Research Question Two	71
Research Question Three	74
Discrepant Data.....	77
Reliability and Validity.....	78
Chapter Summary	79
Chapter 5: Discussion and Conclusion	81
Findings, Interpretations, Conclusions	82
Literature Review Findings Confirmed	83
Extended Knowledge	85
Limitations	87
Recommendations.....	88
Recommendations for Further Research.....	88
Recommendations for Policies and Practices	90
Implications for Leadership	91

Conclusion	x 92
References	94
Appendix A.....	112
Permission to Conduct	112
Appendix B	114
Flyers and Social Media Posts	114
Appendix C	115
Informed Consent.....	115
Appendix D.....	119
Data Instruments	119
Appendix E	122
Field Testing	122
Appendix F.....	123
How to Plan and Conduct an Interview	123
Appendix G.....	124
Participant Screener Questions	124

List of Tables and Figures

Table 1. <i>Blending Contingency Theories to Build a Framework</i>	14
Table 2. <i>Connecting Themes, Codes, and Research Questions</i>	64
Table 3. <i>Clients' Social/Emotional Deficits</i>	65
Table 4. <i>Areas Influenced by EAI</i>	67
Table 5. <i>Discrepant Data</i>	78
Table 6. <i>Trustworthiness</i>	79

Chapter 1: Introduction

Mental illnesses are described as encompassing a range of conditions which may alter an individual's mood, thinking, and behavior (Mayo Clinic, 2019). Researcher Robert Spitzer was the first to formalize a definition of mental disorder and included distress and disability as the main criteria (Telles-Correia, et al., 2018). Mental illness has been described as a growing global concern, influencing various areas of society (Lake & Turner, 2017). Personal and familial issues have been cited as a byproduct of mental illness (Mayo Clinic, 2019).

When left untreated, mental illnesses were known to cause serious complications to an individual's emotional, behavioral, and/or physical health (Mayo Clinic, 2019). Leiner, et al., (2018) found individuals who experienced mental illnesses were 10 times more likely to become victims of violent crimes and more likely to become incarcerated. Contreras et al., (2016) found unemployment to be an elevated issue globally for individuals with mental illnesses. Lake and Turner (2017) reported that annual fiscal losses connected to mental illnesses, such as depression impeding productivity, fell over \$31 billion.

Lin, Fei, et al., (2018) found an increase in frequency and severity of mental illness in adults in the United States, with the prevalence jumping from 3.33% in 1991-1992 to 7.06% in 2001-2002. In 2017, 46.6 million people were diagnosed with mental illnesses ranging from mild to moderate in severity (National Institute of Mental Health, 2019). In 2019, 1 in 25 adults in the United States experienced serious mental illness (National Alliance on Mental Illness, 2019). One in five adults in the United States experienced mental illness annually (The National Alliance on Mental Illness, 2019). In a 2019 study, suicide was the second leading cause of death for individuals 10-34 years old (The National Alliance on Mental Illness, 2019). Depression was

declared the most prevalent disability worldwide in 2016, with 10 to 20 million suicide attempts, and a million completed acts of suicide recorded (Lake & Turner, 2017).

Leiner, et al., (2018) noted the distressing gap in mental health care services in the United States, represented by at least 3 million untreated adults living with serious mental health conditions. Compounding the issue of treating mental health was a lack of universally effective treatment models. Lake and Turner (2017) stated mental health treatment models failed to adequately address all the dimensions of mental illness. Understanding mental illness has been a complex and confounding undertaking (Einstein & Klepacz, 2017). Genetic and environmental influences such as inherited traits, prenatal environmental factors, and brain chemistry were named as causes of mental illness (Mayo Clinic, 2019). Each individual dealing with mental illness was unique, necessitating an array of proven methods for an individual to choose from when seeking mental health care. A need to investigate alternative mental health care approaches was present, to determine whether a given approach was effective in treating mental illness.

The focus of the study was to consider the influence of one alternative approach, equine-assisted interventions (EAI). McArdle, et al., (2018) explained EAIs as using horses to develop skills and abilities. The research was conducted to consider if EAIs influence the social and emotional deficits of participants, as perceived by the participants' parents and instructors. In Chapter 1, the background of the problem, statement of the problem, the purpose of the study, and the significance of the study are explored. The research questions, theoretical framework, definitions of terms, assumptions, delimitations, and limitations are presented.

Background of the Problem

The background of the problem was traditional methods of counseling may not be effective for all individuals. Considering alternative therapy methods may help individuals for

whom traditional treatment methods do not work (Wang et al., 2018). The extent of the problem was about 30–35% of patients of evidence-based practices did not experience an improvement in mental health symptoms, demonstrating the need to research alternative forms of therapy (Johansen et al., 2016). An increased number of individuals were seeking alternative treatment methods for addressing mental health issues (Lake & Turner, 2017). The use of complementary and alternative medicines (CAM) with children dealing with social and emotional difficulties has increased, where approximately 10 million parents reported the use of CAMs (Wang et al., 2018). Wang et al. (2018), found parents surveyed reported using CAMs instead of traditional pharmaceuticals because CAMs were a helpful, natural, and holistic option.

Equine-assisted interventions (EAI) were alternative treatment options used to help influence physical, social, emotional, and psychological conditions (Johansen et al., 2016). Several different models of EAIs existed, which included mounted and unmounted activities and caring for the horses while in a group or individual session (Cherry & Staudt, 2017). Researchers found EAIs positively influenced social and emotional domains in participants (Anderson & Meints, 2016; Kendall et al., 2015).

Despite the rise in popularity, alternative treatments lacked data supporting the efficacy of such methods (Wang et al., 2018). Often, alternative treatments were investigated by parents, not prescribed or recommended by doctors (Wang et al., 2018). While EAIs were researched, the vast array of treatment methods and treatment populations resulted in the need for further research to be conducted. Research on the influence EAIs had on individuals with social and emotional deficits was limited, and research on parents' perceptions of EAIs was lacking. Parental input played an important role in alternative approaches. Wang et al. (2018), found parents, not doctors, had been the people seeking out alternative or CAM services for children.

An additional concern was there were many studies found to lack validity (Anestis et al., 2014).

Questions of validity highlighted the need for more robust research to be conducted.

Statement of the Problem

The problem was the influence EAIs had on individuals with social or emotional deficits was unknown from the perspective of parents and instructors. Researchers conducted studies which found a positive correlation between exposure to equine interventions and improved mental health symptoms for a variety of participants ranging from children with Autism to armed service Veterans with Post Traumatic Stress Disorder (Anderson & Meints, 2016; Romaniuk et al., 2018). A lack of data on the perception parents and instructors had regarding the influence EAIs had on participants presented a gap in the literature (Xue-Ling Tan & Simmonds, 2018). Previous studies lacked feedback from the parents and instructors, individuals most likely to observe changes occurring in participants.

Understanding the influence EAIs may have on individuals with social and emotional difficulties from the perspective of parents and instructors was an important component in improving the overall understanding of whether EAIs were an effective alternative treatment option (Wang et al., 2018). Parents were often the people closest to the individual involved in the intervention, as well as being responsible for the setup and payment of sessions. Instructors were present for EAI sessions and could comment on observations made regarding participants. Qualitative data collected from parents and instructors offered further insight into the influence EAIs had on individuals with social and emotional difficulties, offering data which supported the use of EAIs as an effective alternative treatment method.

Purpose of the Study

The purpose of the qualitative, multiple case study was to explore the influence EAI had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut. Information on the influence EAI had on clients as perceived by parents and instructors was revealed. A greater understanding of the influence EAI had on individuals experiencing social and emotional deficits was needed. Previously conducted studies contained threats to validity, further demonstrating the need to research the topic (Anestis et al., 2014). Parents' and instructors' perceived understanding of the influence EAI had on individuals with social or emotional deficits was explored. If the research had not been conducted, EAI may have continued to lack valid data (Kendall et al., 2015). Providing data on the observed influence the experience EAI had on clients contributed to the bank of knowledge and resources. The research contributed to the limited data on the influence of EAI on individuals with social or emotional deficits. Findings can be used to assess the efficacy of EAI as a treatment for individuals with social or emotional deficits. The data may be shared with families, educational professionals, and therapeutic equine centers which can apply the data to best practices. Individuals providing services for clients with social or emotional deficits may be better equipped to determine if EAI could be an effective treatment option.

Significance of the Study

The research study was designed to explore the influence EAI had on individuals with social and emotional deficits at three equine riding centers in the state of Connecticut. Feedback offered by parents and instructors of individuals utilizing EAI to manage the social and emotional symptoms of mental health issues was explored. Greater insight into the efficacy of

EAs as an alternative to traditional therapeutic methods when treating individuals with social and emotional deficits was gained.

The findings may offer medical personal an alternative method to the management of social and emotional deficits. Parents of children dealing with mental illness may find the data on EAs helpful in the development of a child's treatment plan. Wang et al. (2018) found parents to be the gatekeepers of a child's mental health care. The data may help those parents when deciding if EAs were an appropriate treatment option. Additionally, educational leaders seeking research-backed alternative methods for servicing students with mental health needs not met by traditional methods may use the findings to explore EAs as a treatment option.

The insight provided in the study addressed the gap in the literature concerning parent's perspectives on the influence of EAs on individuals with social and emotional deficits. Results may work to further build the case for change in policy with regards to alternative medical approaches (Wang et al., 2018). Individuals with social and emotional deficits and the families of those individuals could benefit from policy changes. As more research is conducted, alternative methods such as EAs may find an increase in fiscal and locational accessibility.

Research Questions

Research questions were the questions the dissertation set out to answer. Effective research questions were specific, relevant, original, and rigorous (Mattick et al., 2018). The following research questions had been designed with the preceding criteria in mind.

Research Question One: What are the perspectives of parents and instructors with a child who receives equine-assisted interventions at therapeutic equine centers in Connecticut?

Research Question Two: What is the meaning of equine-assisted interventions for individuals with social/emotional deficits at therapeutic equine centers in Connecticut as described by parents and instructors?

Research Question Three: How do parents and instructors describe the experiences children having during equine-assisted interventions at therapeutic equine centers in Connecticut?

Theoretical Framework

The study of the influence EAs had on social and emotional deficits was framed by contingency leadership theory and biophilia theory. Contingency theorists found leadership strategies to be situationally dependent (Uslu, 2019). Biophilia theory highlighted the physical and mental need for humans to interact with nature (Cho & Lee, 2018). Incorporating equines into therapeutic designs employs characteristics of both theories. The need for an alternative treatment option, such as EAs, was situationally dependent and needed a contingency minded leader to consider as an option. Likewise, EAs relied upon humans interacting with animals and were conducted in natural environments.

The specificity of the research questions required a flexible, qualitative approach. Data were collected using originally designed interview questions in semi-structured interviews and via a brief, electronic, open-ended questionnaire. Analysis of data was conducted using member-checking and emergent coding. More detailed information regarding the connections between the key elements of the framework is provided in the next chapter of the dissertation.

Definitions of Terms

The following terms had multiple meanings and needed to be defined for the context of the study. Definitions were provided to increase the reader's lucidity and knowledge of the

content and include supporting references and details as necessary for clarity. Understanding the identified terms was essential to the study on EAIs.

Emotional Deficits: The ability to accurately perceive, appraise, and express emotion has been identified as emotional intelligence (Koç, 2019). Emotional deficits refer to a lack of emotional intelligence.

Equine-assisted Intervention: The term was used to refer to any program which incorporates horses into programming to benefit the participant in a rehabilitative or educational manner (Kendall et al., 2015).

Equine Therapy or Equine-assisted Therapy: A program which has incorporated horses and was directed by a health service professional, with individualized rehabilitative goals and objectives for each participant (Professional Association of Therapeutic Horsemanship International, 2017).

Instructors: Individuals who have implemented EAIs. Includes any PATH certified individuals, with credentials including Certified Therapeutic Riding Instructors, Therapeutic Riding Instructors, Equine Specialist in Mental Health and Learning, Therapeutic Driving Instructor Interactive Vaulting Instructor (Professional Association of Therapeutic Horsemanship International, 2017).

PATH International: The Professional Association of Therapeutic Horsemanship International (PATH Intl.) has been the international organization responsible for endorsing the use and application of horses for therapeutic work (Professional Association of Therapeutic Horsemanship International, 2017).

Social Deficits: Social intelligence has been referred to as an individual's ability to understand other people's behavior or mental state, including comprehending other people's

thoughts, behaviors, wishes, intentions, desires, beliefs, and how those domains influence an individual's behavior (Malik, et al., 2018). The lack of skills associated with social intelligence was described as social deficits.

Assumptions

Elements which cannot be proven but were assumed to be true exist in the research study (Creswell, 2018). Study participants were expected to respond candidly and honestly. Parents and instructors were assumed to remember a participant's abilities at the start of the equine intervention sessions. Participation was presumed to be authentic and not driven by any sort of perceived incentive. A key assumption of research explained by Patton (2002) was the world consists of knowable and explainable patterns. The data collected and analyzed were believed to have the information needed to explain patterns in the research study.

Scope and Delimitations

Theofanidis and Fountouki (2018) defined delimitations as the constraints set by the researchers. The study problem focused on the influence of EAIs, as opposed to other possible treatment methods. A voluntary participant selection method was selected for the study based on the want to engage available and willing participants. Data collection timeframes were selected to be compatible with the educational pacing of dissertation courses. The selected equine centers were chosen due to the centers' locations and PATH certification. Expanding the research beyond the scope of a three-site case study was not feasible due to time and financial constraints.

Limitations

Limitations are imposed restrictions in a study and are out of the researcher's control (Theofanidis & Fountouki, 2018). The study addressed the influence of equine interventions on social and emotional deficits as perceived by parents and instructors at three PATH certified

equine centers in Connecticut. Findings may not apply to other participant populations or regions. The focus was on individuals with a history of exposure to equine interventions and did not address individuals who lack access due to financial constraints or lack of awareness.

One portion of data collection relied upon a web-based tool. A limiting factor was the participants' access to technology and the internet. Participant schedule conflicts or non-completion of the questionnaire were limiting factors. During the semi-structured interviews, participants could have become anxious which would have influenced responses. The analysis method could be seen as a limitation because qualitative methods cannot be replicated to the same degree quantitative methods can (Theofanidis & Fountouki, 2018). While the study was an important addition to the body of research on equine interventions, the findings may not be generalizable.

Chapter Summary

Increased rates of mental illness and lack of suitable treatment methods were reviewed. The problem was the influence EAIs had on individuals with social or emotional deficits was unknown from the perspective of parents and instructors. A literature review uncovered a plethora of research conducted on the topic of equine interventions. The significance, research questions, delimitations, limitations, and assumptions were examined. Literature related to equine interventions was investigated through the theoretical framework of contingency leadership theory and biophilia theory.

Chapter 2: Literature Review

The problem was the influence EAIs had on individuals with social or emotional deficits was unknown from the perspective of parents and instructors. Parents and instructors had the potential to offer data based on the relationships and the proximity to the individuals engaging in EAI lessons. The purpose of the qualitative, multiple case study was to explore the influence EAIs had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut. Animal-assisted therapy (AAT), equine-assisted interventions (EAI), the influence of EAIs, the duration of influential EAI programs, and contrary findings were topics covered in the literature review. Contingency leadership theory and biophilia theory guided the study. Amanchukwu et al. (2015) stated contingency theory supports leaders making decisions situationally, and biophilia theorists stated humans need contact with the natural world to be physically and emotionally healthy (Cho & Lee, 2018; Rosley et al., 2014). Equine-assisted interventions were alternative therapy methods which relied on human-animal interactions. Integration of EAIs into more mainstream settings, such as schools or hospitals, requires a contingency minded leader with an understanding of biophilia theory.

Literature Search Strategy

Three search engines were used for retrieving data sources in the literature review. American College of Education's electronic library powered by EBSCO Discovery Service, Education Resources Information Center (ERIC), and Google Scholar were used. The search tools allowed for filters to be applied to search criteria. All searches included filters to ensure the data retrieved was current and two of the search engines allow researchers to filter for peer-reviewed materials. Materials acquired using the search engine which did not have a peer review

filter were assessed as being peer-reviewed by examining the publication information. Most searches were conducted looking for materials from within the past five years. Some studies written before 2015 were included because the content reinforced the data found in more recent studies or the resources were seminal works.

A variety of keywords were used in the search procedure. Those words included *animal-assisted therapy*, *animal-assisted therapy social*, *animal-assisted therapy emotional*, *horse therapy*, *horse therapy social*, *horse therapy emotional*, *horseback therapy*, *horseback therapy social*, *horseback therapy emotional*, *equine therapy*, *equine therapy social*, *equine therapy emotional*, *Equine-assisted interventions*, *Equine-assisted interventions social*, *Equine-assisted interventions emotional*, *equine-assisted psychotherapy*, *hippotherapy*, *hippotherapy social*, *hippotherapy emotional*, *animal-assisted interventions*, *animal-assisted interventions social*, *animal-assisted interventions emotional*, *equine autism*, *equine ASD*, *equine ADHD*.

Theoretical Framework

Contingency leadership theory and biophilia theory framed the research. The theories worked to support research on equine-assisted interventions. Scholars stated contingency theory supports the idea leadership strategies were situationally dependent (Amanchukwu et al., 2015; Uslu, 2019). Theorists explained interactions with the natural world were necessary for humans' physical and mental well-being and has been identified as biophilia theory (Cho & Lee, 2018; Rosley et al., 2014). Incorporating equines into therapeutic designs was an alternative to standard therapeutic practices and relied heavily on human-animal interactions, blending the two theories into practice.

Contingency Theory

Scholars stated contingency theory assumes there was no one, ideal, leadership method but rather the best leadership techniques were situational (Amanchukwu et al., 2015; Boehe, 2016; Popp & Hadwich, 2018; Uslu, 2019). Contingency minded leaders focused on specific environmental components to help make decisions about the leadership style to proceed with in a specific situation. Amanchukwu et al. (2015) stated contingency theory explains no one leadership style fits all situations, and the leader's qualities, style, and situation all influence the effectiveness of the solution. Several leadership approaches fell under the contingency leadership theory. Fiedler's Contingency Model, House's Path-Goal Theory, and Hersey and Blanchard's Situational Model are among the most common. A leader's style should be contingent upon situational factors. As shown in Table 1, the approaches differed with regards to what guides the contingency minded leader towards selecting a style for a given situation.

Fiedler's Contingency Theory

In Fiedler's Contingency Theory, a leader's success depends on leadership style, the situation, and the context (Amanchukwu et al., 2015; Boehe, 2016; Popp & Hadwich, 2018; Uslu, 2019). Uslu (2019) explained leadership behavior and conditions as the fundamental elements of successful leadership. Three factors were considered in Fielder's model: the relationship between leader and employee, the structure of the task, and the leader's position of power (Raza & Sikandar, 2018).

House's Path-Goal Theory

Leaders embraced the Path-Goal Theory, which considers the leader, team members, and task (Bickle, 2017). In Path-Goal Theory, a leader's behavior greatly influences the employees' effort and performance (Uslu, 2019). Bickle (2017) noted Path-Goal oriented leaders offered

specific paths to complete goals while removing obstacles and offering support to help employees achieve. To accomplish an organization's objectives, Goal-Path Theory leaders put the onus of disseminating information, support, and resources on the leaders (Uslu, 2019). Bickle (2017) stated leaders shift leadership style to ensure employees remain motivated by the relationship and accomplished goals.

Hersey and Blanchard's Situational Model

In the Situational Model developed by Hersey and Blanchard, leaders pick the best leadership style based on followers' readiness or maturity level, where readiness was defined as a worker's ability, willingness, and accountability (Raza & Sikandar, 2018; Uslu, 2019). Leaders needed to select the best solution for the situation depending on the follower's readiness level (Raza & Sikandar, 2018). Raza and Sikandar (2018) stated leaders who followed the Situational Leadership Model considered the task and leader's relationship behaviors when determining what leadership style was appropriate for a given situation.

Table 1

Blending Contingency Theories to Build a Framework

Fiedler's Contingency Theory	House's Path-Goal Theory	Hersey and Blanchard's Situational Model
Fred Fiedler, 1964	Robert House, 1971	Hersey and Blanchard, 1969
Relationship	Guidance	Readiness

Note. Table 1. Created using information from "A General Overview to Leadership Theories From a Critical Perspective," by O. Uslu, 2019, *Marketing & Management of Innovations*.

Copyright 2019 by the author.

Aspects of the three models were relevant to the study and were incorporated into the theoretical framework. Bickle (2017) explained Path-Goal Theory stressed the relationship between the leader, the follower, and the task. In the study, the leader-follower dynamic lies between the facilitator and participant. The individual experiencing social or emotional deficits became the follower and the individual assisting the leader. For example, a parent, health care provider, or teacher, would be the leader. The task at hand would be improving the mental health care of the participant.

In the three models, solutions were contingent on a variety of variables (Uslu, 2019). The claim supported the research because EAI's were alternative therapy methods which may work for some individuals. For any social or emotional intervention to work, the leader implementing the intervention should first develop a healthy relationship with the employee, then assess the employee's readiness to take on the task. Bickle (2017) explained leaders should offer guidance and a clear path with barriers removed, and Uslu (2019) stated leaders should assist the employee in achieving the rewards and motivation tied to completing the task at hand.

The Biophilia Theory

The term biophilia was presented by social psychologist Eric Fromm and later propagated by biologist Edward Wilson (Browning et al., 2014; Cho & Lee, 2018). Cho and Lee (2018) explained biophilia as a Latin term, meaning love of life. While humans resided in environments full of artificial attributes, biophilia focuses on the importance of humans connecting with nature throughout human evolution. Humans' physical form, cognizance, and senses evolved in response to the natural world (Berto et al., 2018; Kellert & Calabrese, 2015).

Mankind was inherently attached to nature, perceiving the environment as comfort and pleasure which plays a vital role in human emotion and psyche (Kellert & Calabrese, 2015;

Rosley et al., 2014). Cho and Lee (2018) explained biophilia as being intrinsic, linked to human evolution and genetic fitness, connected to attaining personal fulfillment, and driven by the conservation of nature. Researchers found equine-assisted interventions relied heavily on the connection humans feel with nature, with the focus of the interventions being the interaction between client and horse (McArdle et al., 2018).

Biophilic Design

Biophilia theory has been embraced in architectural design. Architects implemented the theory into building designs reducing workplace stress, improve student performance, patient recovery, and workers' overall well-being (Browning et al., 2014; Kellert & Calabrese, 2015). Kellert and Calabrese (2015) explained biophilic design has helped people improve health, fitness, and well-being by creating structures with nature in mind.

The benefits of biophilic design were well documented and include mental health components such as stress reduction, improved cognitive performance, and were shown to influence emotion and mood (Browning et al., 2014; Hes et al., 2018). Browning et al. (2014) explained visual connections with nature resulted in lowered blood pressure and heart rate, improved concentration, and resulted in increased happiness. Thermal and airflow variability, meaning an environment allowed individuals to experience changes in temperature and feel airflow across the skin, were shown to increase comfort, productivity, and increased concentration (Browning et al., 2014). Browning et al. (2014) linked prospect, or when an individual has an unobstructed view over an expanse, to a reduction in stress, boredom, irritation, and fatigue, while improving comfort and perceived safety. Equine-assisted interventions inherently had the potential to reap those benefits because EAIs take place in natural, expansive settings.

Components used in biophilic design, such as a visual connection with nature, biomorphic forms and patterns, and thermal and airflow variability, can be applied to other areas and practices (Browning et al., 2014; Tavis, 2016). Biophilic design offered leaders a means of creating healthier and happier work environments, stimulating workers' brains and engagement (Tavis, 2016). For EAIs to be considered as an alternative intervention, leaders should maintain a contingent mindset, while considering the value of biophilia.

Literature Review

Dr. Boris Levinson used and developed a systematic approach to animal-assisted therapies (AAT) in 1961 after realizing animals positively influenced children with emotional disturbances (Firmin et al., 2016; Swanson, 2014). The integration of animals into therapeutic settings and practices has been embraced by many practitioners and patients. The literature review considers Information and contrary information are considered in the literature review. Findings are summarized with contingency leadership theory and biophilia theory as a framework.

Animal-assisted Therapy

Professionals defined animal-assisted therapy as a treatment model delivered by a health service professional and involve the inclusion of any animal in non-talk-based interventions for social, emotional, and cognitive therapies (Dunlop & Tsantefski, 2018; Notgrass & Pettinelli, 2015). Animal-assisted therapies were considered successful interventions for individuals who had not had success with talk therapy, in part because the nonverbal nature of AATs resulted in an engaging and accessible therapeutic environment (Dunlop & Tsantefski, 2018; Firmin et al., 2016; Lentini & Knox, 2015). Firmin et al. (2016) conducted a phenomenological study in which interviews with 14 EAI therapists from the Midwestern United States were conducted.

Interviews were conducted to gain an understanding of the definitions of roles, goals, and success. The findings of Firmin et al. (2016) suggested AATs were successful when conventional therapy methods had failed, although EAIs were not well suited for all clinicians or participants.

In biophilia, the connection between humans and nature has been acknowledged as culturally and genetically inspired (Berto et al., 2018; Mitchell & Mueller, 2011). The connection may account for the influence made by animals in therapeutic settings. Having animals in the environment made therapeutic environments less threatening and allowed for improved communication between participants and therapists (Stefanini et al., 2016).

Academics found animals involved in AATs take on a co-therapist role and develop a trusting and safe human-animal relationship (Dunlop & Tsantefski, 2018; Stefanini et al., 2016). Dunlop and Tsantefski (2018) explained, by not being human, animals offered participants a sanctuary away from the negative social interactions participants may have experienced with other people. The animal acted as a bridge, helping to connect the participant and service provider. Participants' relationship with the animal may have helped to improve the participant's relationships with people. Uslu (2019) explained contingency leaders recognize the role relationship building plays in successful leadership, thereby understanding the importance of the animals' role in the AAT dynamic.

Animal-assisted therapies were proven to be viable and effective therapeutic interventions for a variety of populations (Lanning, 2018; Stefanini et al., 2016; Xue-Ling Tan & Simmonds, 2018). Individuals with a variety of conditions, including Autism, intellectual disability, stress management, trauma, and mental illness-related diseases were helped by Animal-assisted interactions (AATs) (Duffy, 2018). Structured AATs improved functioning for

individuals with Autism or those who experienced trauma (Hoagwood et al., 2017; Rumayor & Thrasher, 2017; Stefanini et al., 2016).

Social behaviors like interpersonal skills and sociability were shown to increase after clients engaged in AATs, as well as improved global and psychological functioning, and helped with internalizing symptoms (Rumayor & Thrasher, 2017; Stefanini et al., 2016). Animal-assisted activities improved social thinking and skills, self-efficacy, and self-esteem in children who had psychiatric disabilities (Jang et al., 2015). Participants in AATs experienced lower cortisol levels, reduced symptoms of post-traumatic stress disorder, and showed improvements in anger-management (Firmin et al., 2016).

A study was conducted which used data from focus groups and analyzed secondary qualitative data on studies involving the use of care farms with a variety of populations (Hassink et al., 2017). Researchers reported children with behavioral problems, people with severe mental illness, and individuals with dementia, benefited from the experience of working with farm animals (Hassink et al., 2017). Hassink et al. (2017) found participants contributed to meaningful work, developed important relationships, acquired skills required to master tasks, experienced reciprocity, could relax, participated in activities encouraging healthy behavior, and had opportunities to be given feedback and to make reflections.

Benefits of AATs cover a wide range of pro-social goals for individuals struggling with social and emotional deficits. The type of animal used was contingent on the individual and the focused skills being used. Participants working with larger animals developed a sense of pride in mastery and increased self-esteem, while security was developed while working with smaller animals (Hassink et al., 2017; Jang et al., 2015). Animal-assisted therapies were not one size fits

all, and contingency minded leaders investigating AATs should consider a variety of situational and environmental needs.

Equine-Assisted Interventions

Xue-Ling Tan and Simmonds (2018) used the term equine-assisted interventions (EAI) as a term for programs which integrated horses into a variety of physical and mental health treatments. To avoid confusion caused by using a wide variety of terminology, the term equine-assisted interventions (EAI) was used throughout the dissertation to encompass all interventions including a horse in activities targeting improving the health of a human participant. Equine-assisted interventions included: equine-assisted learning (EAL), equine-assisted therapy (EAT), equine-facilitated learning, and equine-facilitated counseling or wellness (Notgrass & Pettinelli, 2015), equine-assisted social work (Carlsson et al., 2015), hippotherapy, therapeutic horseback riding (Mickelsson, 2019), equine-assisted occupational therapy (Murphy et al., 2017), equine-assisted psychotherapy (Boyd & Le Roux, 2017), and equine-facilitated psychotherapy (Kendall et al., 2015).

While variations exist between each intervention, the foundational characteristics remained constant over all the listed equine interventions. Each intervention involves a trained professional integrating a horse or horses into practices to elicit improvements towards the patient's goal(s) (Xue-Ling Tan & Simmonds, 2018). The goal of the present study was to consider the influence equines had on social and emotional growth in participants. A variety of treatment styles fell under EAI and were covered in the literature review. The specific type of intervention was not a focus within the literature review and simplifying the language by using a term such as EAI was appropriate.

Mickelsson (2019) explained equine-assisted interventions were AATs which occurred in a variety of settings and with a range of participants. A wide range of symptoms and disorders were treated using equine-assisted interventions, which incorporate interactions with horses into traditional therapeutic methods (Dunlop & Tsantefski, 2018; Lee & Makela, 2018; McArdle et al., 2018; Romaniuk et al., 2018). McArdle et al. (2018) stated equine-assisted interventions focused on the interaction between the participant and the horse, allowing the participants to develop a variety of skills and abilities. Animal-assisted therapies and EAI showed promising outcomes for individuals with mental health care needs (Notgrass & Pettinelli, 2015; Rumayor & Thrasher, 2017).

Why Horses

Equine-assisted interventions had positive psychological outcomes and specifically benefited those who would not participate in traditional psychotherapy (Kendall et al., 2015). Positive outcomes of EAIs occurred for a variety of reasons. At the most basic level, EAIs may capture participants' attentiveness via the novelty of these practices. The novelty, or enjoyment factor, should not be disregarded. Oh et al. (2018), found interactions with horses were enjoyable for some participants and led to higher motivation to participate and alter behaviors. The historic relationship between horse and man, as well as horses' stature, disposition, and responsiveness, were all cited as beneficial components in the human and horse relationship (Equine Heritage Institute, 2013; Hassink et al., 2017; Lee & Makela, 2018; Dunlop & Tsantefski, 2018).

Human and Horse History. No animal played as pivotal a role in human history as the horse (McIntosh, 2014). Horses assisted humans through wars, helped plow farmer's fields, functioned as transportation, and offered companionship to humans over the 5,000 to 6,000-year relationship (Equine Heritage Institute, 2013; McIntosh, 2014). The appearance of horses in cave

art in France and throughout the world emerged between 15,000 and 12,000 B.C (The Equine Heritage Institute, 2013). Equine's speed and power gave man the ability to approach tasks in a faster and more efficient manner (McIntosh, 2014). For instance, horses were essential to the British during the Great War, were used to carry supplies, ammunition, and soldiers into battle, as well as provided companionship to soldiers (Flynn, 2018). Equine-assisted interventions were another step in the development of the human and horse relationship.

The history of the human and horse relationship was celebrated, where the horse was an icon of strength and beauty (McIntosh, 2014). *Black Beauty* and *The Black Stallion* were classic novels which prominently featured the relationship between people and horses (McIntosh, 2014). The Triple Crown of Thoroughbred Racing is a sporting event celebrated by many each year (McIntosh, 2014). Integration of the horse as an image of strength and beauty in American culture may have contributed to motivating participants to try EAIs.

Horses' Stature. As a result of horses' large size, relationship building with horses was shown to promote self-confidence as well as relationship and problem-solving skills (Hassink et al., 2017; Jang et al., 2015; McNamara, 2017). When a participant managed a large animal such as a horse via physical or vocal commands, the individual was proud, and confidence was boosted (Hassink et al., 2017). Duffy (2018) conducted a literature review and found participants felt confidence increased after exposure to EAIs across several studies.

Horses' Disposition. Horses were described as having a relatable disposition, which played a factor in the success of EAIs (Lee & Makela, 2018). Equines were known to exhibit a playful and relaxed demeanor while maintaining assertiveness and boundaries (Lee & Makela, 2018), skill sets with which many individuals with social or emotional deficits struggled. The

modeling of such behaviors not only assisted participants in expressing comfortability in the EAI setting but may help participants in developing those skills.

Horses' Responsiveness. Horses were attuned to the environment and were known to behave responsively to interactions with individuals (Carlsson et al., 2015; Dunlop & Tsantefski, 2018). Responsiveness made horses effective therapeutic animals because horses gave participants immediate feedback, allowing participants an instantaneous connection between personal behaviors and the horses' responses (Waite & Bourke, 2013). Horses were observed mirroring humans' emotions, meaning horses were able to observe and interpret humans' nonverbal behavior and emotions, then offered participants instantaneous feedback (Carlsson et al., 2015; Earles et al., 2015; McNamara, 2017; Mickelsson, 2019). When participants observed the horses' behaviors and reactions, the individual was able to reflect upon and gain a better understanding of personal behaviors (Saggers & Strachan, 2016).

Biophilia theorists have explained, humans had an inherent affinity toward the natural world, and a cooperative interdependence between nature and humans exists (Kellert & Calabrese, 2015; Mitchell & Mueller, 2011). Kellert and Calabrese (2015) explained how interdependence may relate to evolution. Throughout history, humans evolved alongside nonhuman, animal life forms.

Including horses in treatment facilitated participants' personal and social growth (Dunlop & Tsantefski, 2018). Dunlop and Tsantefski (2018) conducted a qualitative study to explore the benefits of EAI on children of parents with problematic substance abuse. The horses offered child clients a feeling of safety, where secured relationships were built out of nonverbal communication and touch, thereby fostered personal and social growth through understanding, trust, and calmness (Dunlop & Tsantefski, 2018).

Participants may have been more receptive to feedback coming from the horse, than from a human. Equine-assisted interventions served as a mechanism through which therapists built trusting relationships with individuals exhibiting behavioral issues (Mickelsson, 2019). When the staff used the horse's perspective to address topics with participants, staff avoided triggering a participant's defense mechanisms (Carlsson et al., 2015). The horse acted as a mediator, allowing information to be shared between the staff member and the participant.

Environment

Scholars found participants who engaged in EAIs had an opportunity to receive care in a non-institutional environment and were afforded a perception of a community (Hassink et al., 2017; Mickelsson, 2019). The importance of spending time in natural settings was foundational to biophilia theory, where data supported the hypotheses. Researchers conducted an exploratory study which compared biophilia between young children in urban versus rural areas to see if different exposures to environmental elements such as water, plants, and animals affected attitudes and biophilia (Yanez et al., 2017). Yanez et al. (2017) found information supporting time outside positively influenced children's cognitive, physical, emotional, and mental health. Data were collected via structured interviews and found no difference in biophilic attitudes when comparing children between the two settings. The findings may have indicated biophilia was an inherently human characteristic and not a socially developed preference.

Browning et al. (2014) cited Ulrich's 1984 study revealed accelerated recovery rates for patients with a view of nature versus those without a view of nature. Ulrich (1984) reviewed the records of 46 individuals who underwent gallbladder surgery in a suburb in Pennsylvania between 1972-1981. The 23 patients in rooms which faced natural scenes had shorter hospital stays, compared to the 23 similar patients recovering in rooms with window views of brick walls.

In Attention Restoration Theory (ART), which has been correlated to biophilia theory, when humans were engaged with nature the brain processed differently, which allowed people to feel refreshed and better focused when returning to tasks (Stevenson et al., 2019; Tavis, 2016). Architect Frederick Olmsted tapped into the concept, pointing out the refreshing and reinvigorating juxtaposition between being simultaneously tranquilized and enlivened by nature (Browning et al., 2014). Stevenson et al. (2019) conducted a study which found exposure to nature had cognitive restoration in children, which suggested children and adults experienced unique cognitive benefits from nature.

Perceptions of being part of a community may have been a motivating factor in participation for some individuals. Research conducted by Dunlop and Tsantefski (2018) and Mickelsson (2019) found children expressed EAI environments as a safe space with kind and compassionate staff. Participants felt comfortable displaying emotions and felt a sense of belonging (Dunlop & Tsantefski, 2018; Mickelsson, 2019).

Emotional connection with the animals played a part in successful AAT programming. Research was conducted to investigate the ability of horses to help participants and instructors build authentic relationships (Carlsson et al., 2015). The study used video recordings of human-horse interactions to capture exchanges between three instructors and four self-harming participants aged 15-21 years old. Carlsson et al. (2015) found participants developed more authentic relationships with the horses when the EAI environment acknowledged the horses as a subject, where staff explained the meaning of the horse's behaviors, rather than environments which treated the horse as an object of equestrian sport.

One pattern of biophilic design has been the incorporation of something risky coupled with a reliable safeguard (Browning et al., 2014; Tavis, 2016). Tavis (2016) found adding an

element of risk to a constructed environment has been shown to elicit a strong pleasure response in the brain. While EAIs were safe activities, done with highly trained animals, an element of risk may still have been experienced by participants. The biophilic properties of EAI, which include the natural environment in which EAIs took place, as well as the interactions with non-human beings, offered a multitude of social and emotional benefits to participants.

Influence of EAIs

Equine-assisted interventions helped a wide variety of individuals with physical and psychological issues, including veterans, cancer survivors, individuals with schizophrenia, Attention Deficit Disorder (ADHD), Autism (ASD), Alzheimer's disease, PTSD, anger management issues, substance abuse, anxiety, behavioral problems, and juvenile delinquents (Anderson & Meints, 2016; Johansen et al., 2016; Kendall et al., 2015; Lentini & Knox, 2015; Mendonça et al., 2019; Mickelsson, 2019; Parisi et al., 2016). Research studies showed EAIs affected children, adolescents, and the elderly (Duffy, 2018). The vast array of populations showed the versatility and potential of EAIs as a treatment option.

Domains in which EAIs showed an influence were as diverse as the populations which utilized these interventions and included physical and mental health. The focus of the literature review was mental health domains because social and emotional domains were the focus of the research study. Social and emotional skills were vital components of success. Individuals with higher functioning social and emotional skills exhibited better long-term mental health and achieved higher academically compared to individuals with lower functioning social and emotional skills (Whitley & Gooderham, 2015). Findings supported EAIs positively influenced a variety of mental health areas and the development of pro-social skills.

Psychological

Data has shown an increase in the number of children with chronic mental health, behavioral, and learning issues (Stein et al., 2016). Mental health was the number one problem confronting schools, with an estimated 15-30% of students impacted (Whitley & Gooderham, 2015). Individuals dealing with mental health issues were at a higher risk for lifelong difficulties in a variety of areas, including academic difficulties, disengagement with school, and poor family relationships (Ebesutani et al., 2015; Whitley & Gooderham, 2015). Uslu (2019) explained contingency minded leaders understood the need to eliminate barriers in the way of employee success. Untreated mental health issues may have been considered a barrier.

Several studies noted EAIs had a positive psychological influence on participants. Kendall et al. (2015) conducted a review of studies and found a variety of populations all showed EAIs had beneficial psychological effects. Parents of children using EAIs reported psychosocial benefits (Boyd & Le Roux, 2017; Xue-Ling Tan & Simmonds, 2018). Equine-assisted interventions helped individuals with psychosocial challenges and those with ASD developed increased empathy (Anderson & Meints, 2016; Dunlop & Tsantefski, 2018; Kendall et al., 2015). Veterans with PTSD who attended EAIs with significant others displayed fewer psychological symptoms after participation in interventions, an improvement which was maintained at a 3-month follow-up (Romaniuk et al., 2018).

Equine-assisted interventions occurred with the help of the natural world. Biophilia theory has shown time in natural settings can make positive psychological influences (Browning et al., 2014). Researchers found when school children had a visual connection to nature, cognitive development was enhanced (Tavis, 2016). When routine contact with nature occurred,

humans experienced improved cognitive functioning, because time spent with nature allowed the mind to rest and restore (Browning et al., 2014).

Attention Deficit Hyperactive Disorder. Academics defined ADHD as the most common neurodevelopmental disorder among school-aged children and present with symptoms which include inattention, hyperactivity, and impulsivity (Jang et al., 2015; Luo & Levin, 2017). These symptoms may cause social difficulties and could have influenced an individual's self-esteem (Oh et al., 2018). Equine-assisted interventions positively influenced individuals with ADHD.

Behavioral improvements were noted in individuals with ADHD after equine interventions (Cuypers et al., 2011; Kendall et al., 2015). Equine-assisted interventions were correlated to a reduction in core ADHD symptoms such as hyperactivity and impulsivity while increasing quality of life (Jang et al., 2015; Oh et al., 2018). Jang et al. (2015) researched the influence of a 12-week EAI had on 20 children with ADHD, ranging in age from 6-13 years old. Data were collected using a wide variety of standardized tools, including the ADHD-Rating Scale, the Gordon Diagnostic System, and quantitative electroencephalography. Jang et al. (2015) found the EAI improved core ADHD symptoms in participants.

The influence of EAI on pharmacotherapy was compared via a study which involved 34 children with ADHD (Oh et al., 2018). Participants were assigned to pharmacotherapy or hippotherapy twice a week for 24 sessions (Oh et al., 2018). A multitude of assessments was used pre- and post-treatment, with the primary measure being the ADHD Rating Scale. Oh et al. (2018) found the EAI not to be inferior to pharmacotherapy in treating children with ADHD. Luo and Levin (2017) explained ADHD was more prevalent in individuals with substance abuse disorders. As a result, considering non-pharmaceutical treatment options may have been

beneficial. Families looking to treat ADHD symptoms without the help of pharmaceuticals may consider EAIs as an alternative option. Some patients who used medicines to manage ADHD improved core ADHD symptoms, but did not improve peer relationships or social issues (Jang et al., 2015). Individuals treated with medicines may find the addition of EAIs beneficial when targeting social skill development.

Anxiety and depression. Seğer et al. (2019) explained anxiety was a common adaptive reaction to stress, resulting in distress, strain, and restlessness. A natural sensation, anxiety has been experienced at extreme levels, causing negative effects. American Psychiatric Association (2013) and Seğer et al. (2019) explained if the severity of anxiety has hindered a person from socializing, sleeping, attending school, or work, then the anxiety was an impairment and was considered an anxiety disorder.

Reicher and Matischek-Jauk (2017) described depression as a major and increasingly frequent health problem among young people, which peaked at the onset of adolescence. Academics further detailed depression as a mood disorder which was presented with symptoms such as extended unhappiness, anxiety, restlessness, or irritability, and difficulties with sleeping, eating, and self-esteem (Frederick et al., 2015; Seğer et al., 2019). Ebesutani et al. (2015) noted anxiety and depression were prevalent, and frequently comorbid, forms of psychopathology.

Equine-assisted interventions may have led to improvements in anxiety and depression in a variety of participants. Children with PTSD showed improvement in depression and anxiety symptoms after EAI (Cherry & Staudt, 2017). Earles et al. (2015) conducted a study in which 16 participants with PTSD resulting from a traumatic event, decreased anxiety, and depression symptoms after taking part in six, 2-hour EAI sessions. Equine-assisted interventions helped to

reduce depression, stress, and PTSD symptoms for veterans, especially when partners, such as a husband or wife, participated (Romaniuk et al., 2018).

Ebesutani et al. (2015) explained loneliness may have been a link between anxiety and depression, where anxiety resulted in loneliness and lead to depression. The involvement of a loved one increasing favorable results may have been explained by the link to loneliness. The relationships forged between participants and horses may have helped participants reduce perceptions of loneliness.

Equine-assisted interventions helped individuals develop skills which may have specifically influenced anxiety and depression. Bradshaw (2019) explained mindfulness as a skill which has been shown to help individuals with anxiety by teaching the individual to focus on the present moment. Equine-assisted interventions were shown to increase mindfulness in participants (Earles et al., 2015). Adolescents with anxiety and depression who engaged in EAIs improved self-confidence and self-esteem while noting a decrease in unfavorable behaviors (Wilson et al., 2017).

The influence EAI had on increasing hope in at-risk youth was investigated (Frederick et al., 2015). A treatment and control group were compared where the treatment group received five weeks of EAI, and the control continued with typical treatments. Frederick et al. (2015) found the EAI helped vulnerable adolescents develop hope, which had an inverse association with depression; when hope increased, depression decreased. Hope has been noted as a factor in healthy social-emotional development and had been linked to positive factors in an adolescent's well-being and positive development in pro-social and academic areas (Moore et al., 2015). Combat veterans dealing with PTSD increased hopefulness after participation in EAIs (Lanning, 2018; Romaniuk et al., 2018).

Autism Spectrum Disorder. Scholars defined Autism Spectrum Disorder (ASD) as a neurodevelopmental disorder with a heterogeneity of symptoms (Borgi et al., 2016; McDaniel Peters & Wood, 2017). Academics noted ASD symptomology included deficits in social interaction and social communication (McDaniel Peters & Wood, 2017; Xue-Ling Tan & Simmonds, 2018). Borgi et al. (2016) stated the cause or causes of ASD were still unknown but may include a combination of genetic and environmental influences. McDaniel Peters and Wood (2017) noted the heterogeneity of ASD symptoms across individuals highlighted the need for treatment plans to be multifaceted and individualized.

Animal-assisted interventions were an effective intervention for children with ASD (Borgi et al., 2016). the nonverbal nature of the method may have influenced the effectiveness of AAI's with individuals with ASD. Borgi et al. (2016) found equine interventions were documented as one of the most impactful animal-assisted interventions for children with ASD.

The influence of EAIs on individuals with ASD has been heavily researched. McDaniel Peters and Wood's (2017) review of 25 studies found broad proof EAIs helped children and adolescents with ASD. Trzmiel et al. (2019) analyzed 15 articles and found EAIs were a valuable treatment option for children with ASD.

One study divided a participant pool of 28 male children with ASD aged 6-12 years old into an experiment group and a control. The children with ASD who received the EAI showed improvement in social functioning compared to the control group (Borgi et al., 2016). Parents of children with ASD reported improvements in self-regulatory and social skills, including relationship building with the horses and practitioners, social motivation, and higher quality social interactions (Xue-Ling Tan & Simmonds, 2018). Borgi et al. (2016) linked interacting

with horses to a temporary improvement in mental well-being, a sense of self-efficacy, and self-esteem which positively influenced individuals' quality of life and global functioning.

Behavioral Concerns. Studies suggested the most common issues parents raised to pediatricians were behavior, learning, and mental health concerns (Stein et al., 2016). Kindergarten teachers rated behavioral skills, like staying seated, not disrupting class, not hitting, taking turns, and sharing with peers, just as important as academic skills for school readiness (Hartman et al., 2017). Cognitive abilities influenced behavior, but behavioral issues have been shown to influence cognitive functioning (Hartman et al., 2017). Behavioral issues caused distractions to peers and took time away from learning, as well as resulting in interrupted instructional time for educators to manage discipline.

Equine-assisted interventions produced promising outcomes when used to address child and adolescent social and behavioral issues (Kendall et al., 2015). Mickelsson (2019) found students with behavioral issues exhibited better behavior, mood, and cooperation around the horses than in the school-therapeutic environment. Enhancements in mood related to biophilia included reductions in aggression and improvements in socializing (Kellert & Calabrese, 2015). When asked to reflect, children enrolled in an EAI stated the program helped improve interpersonal behavior (Dunlop & Tsantefski, 2018).

Social and Emotional Skill Development

Whitley and Gooderham (2015) stated strong mental health was not just the absence of mental illness, but the presence of social and emotional aptitude and well-being. Mental health skills should be supported and developed in conjunction with traditional academic learning because the two intertwine and influenced one another. Equine-assisted interventions were noted

as helping participants develop a wide variety of pro-social and emotional skills (Guerino et al., 2015; Mickelsson, 2019; Romaniuk et al., 2018).

Equine-assisted interventions helped participants learn responsibility, trust, cooperation, and problem-solving (Mickelsson, 2019). Activities which incorporated horses helped to motivate learning, develop independence, promote verbal communication (Guerino et al., 2015), develop relationship skills, and problem-solving skills (Jang et al., 2015). Veterans reported the acquisition of new or enhanced self-mediation coping skills after participating in an EAI (Romaniuk et al., 2018). Boyd and Le Roux (2017) found children's speech improved with EAI interventions, which built social confidence and promoted more interactions with people. Ho et al., (2017) found an EAI intervention led to enhancement in character skills and positively influenced students' grade point averages.

In another study, researchers found participants were able to use conflict resolution approaches, improve emotional regulation, and enhance communication skills with family members and those around after an EAI (Vasher et al., 2017). The results of Pendry et al.'s (2014) study indicated EAIs stimulated improvement in personal responsibility, decision making, goal-directed behavior, self-awareness, and self-management for students in grades 5-8 who were assessed as having low social competences. Two EAI programs, one for veterans and one for victims of sexual abuse, both found EAIs improved the cognizance of independence (Guerino et al., 2015).

Relationship Development. The ability to develop and maintain positive relationships with people such as family members, teachers, peers, and coaches is an important life skill. Moore et al. (2015) found healthy relationships positively influenced academic outcomes, overall

child development, and satisfaction with life. Equine interventions helped a variety of clients develop relationships with both humans and horses.

Carlsson (2017) analyzed the types of relationships developed between EAI participants, horses, and implementers. Three types of relationships developed: (1) trust between implementers and participant with the horse indirectly related, (2) trust between the implementers and participant as well as between the participant and horse, and (3) trust between the participant and horse needed to form to assist the relationship between implementer and participants'. These relationships may have been viewed as a sliding scale, where the horse's involvement in the relationship slid from tertiary to vital depending on the participant's needs. Variations within the participant-horse-implementer relationship showed EAIs positively influenced the relationship skills of a variety of individuals and dysfunctions. The difference displays the need for EAIs to be implemented by contingency-minded leaders, who understood and respond to the complexities which existed within the intervention.

Equine-assisted interventions helped participants with relationship problems build relationships and trust (Mickelsson, 2019). Children described interactions with horses during EAIs as welcoming, loving, trusting, and calming (Dunlop & Tsantefski, 2018). Dunlop and Tsantefski (2018) found EAIs offered a quasi-secure attachment relationship, crucial to child development and adults' social and emotional well-being. A secure environment which elicited such perceptions offered participants a setting to experiment and extend further into relationships, allowing for social and emotional growth.

Mickelsson (2019) found a program involving students with behavioral issues resulted in improved pedagogical relationships between school staff members and students involved. Veterans with PTSD who completed an EAI succeeded in building trusting relationships by

working with the horses and getting to know each animal as an individual; the skills were then generalized into the veterans' daily life (Vasher et al., 2017). Carlsson (2017) explained the relationship between participant and implementer was made more authentic by the horses' involvement, which helped the participant gain emotional cognizance.

Communication Skills. In the situational Model of contingency leadership theory, leaders noted the difference between task-oriented leaders and relationship-oriented leadership, with both styles requiring clear communication (Hersey & Blanchard, 1969). Task-oriented leaders communicated roles and instructions while relationship-oriented leaders utilized communication skills to reduce interpersonal conflicts and develop healthy relationships (Hersey & Blanchard, 1969). Leaders following a contingency model understood the importance of communication skills.

Equine-assisted interventions helped participants improve communication skills (Guerino et al., 2015). Communication, trust, and friendships among clients and caregivers were developed via EAIs (Firmin et al., 2016). Researchers found equine-assisted interventions positively influenced communication, problem-solving, and interpersonal skills within the families of veterans with PTSD, where veterans reported the use of effective communication with family members and other people the veterans encountered (Romaniuk et al., 2018; Vasher et al., 2017). In a mixed-method study conducted by Murphy et al. (2017), qualitative data showed EAIs helped develop improvement in problem-solving, communication, active listening, and reflection skills. Students with behavioral issues who attended an EAI program displayed improved communication skills (Mickelsson, 2019).

Self-esteem. Self-esteem has been defined as the overall sense of self-worth for an individual (Zaman & Munaf, 2019). Zaman and Munaf (2019) found individuals with higher

self-esteem navigated emotionally challenging experiences with less stress, while the same situation has caused a person with low self-esteem to become sad or depressive. Self-esteem, or the lack thereof, may have influenced an individual's social and emotional health.

Equine-assisted interventions were shown to develop self-esteem, trust, and reduce stress in clients (Firmin et al., 2016; Lentini & Knox, 2015; Woodford et al., 2017). A variety of participants who used EAIs developed better self-esteem. Equine-assisted interventions helped individuals with physical and psychiatric disabilities develop self-efficacy and self-esteem (Dunlop & Tsantefski, 2018; Guerino et al., 2015; Jang et al., 2015; Lundquist Wanneberg, 2014). Veterans with combat PTSD displayed lower levels of anxiety and depression and increased levels of self-confidence, gratitude, patience, and hope after exposure to EAIs (Lanning, 2018; Romaniuk et al., 2018). Guerino et al. (2015) found an EAI program used with sexual abuse victims resulted in a 50% improvement in sociability and self-esteem. Lundquist Wanneberg (2014) reported individuals who were injured or dealing with illness found EAIs helped to reinvent personal identity and increased self-esteem. Guerino et al. (2015) found EAIs helped individuals who suffered serious emotional stress develop improved self-esteem.

Program Duration Needs

Boehe (2016) explained contingency leadership theory requires leaders to determine the appropriateness of leadership styles in the face of a specific situation. Leaders considering EAIs may contemplate a variety of factors, including cost. Considering duration needs were necessary because if EAIs can be effective with limited exposures, costs would be reduced making EAI a more desirable option. A variety of EAI programs ranging widely in domain and participants have worked with limited exposures (DiMarco et al., 2015; Frederick et al., 2015; Pendry et al., 2014).

Children showed a statistically significant improvement in coping skills and improvement in internalizing maladaptive behaviors after five weeks of programming which integrated horses and occupational therapy (DiMarco et al., 2015). In another study, individuals with ASD under 18 years old who participated in an EAI at least once a week for a month improved self-concept and emotional wellbeing (Xue-Ling Tan & Simmonds, 2018). A 5-week equine program helped at-risk youth develop hopefulness and decreased depression (Frederick et al., 2015).

Researchers studied the influence of 6 weeks of EAI on participants with PTSD and uncovered a significant decrease in PTSD (Earles et al., 2015; Johnson et al., 2018). Johnson et al. (2018) found statistically significant improvement in PTSD after three weeks, and further reduced PTSD at the 6-week mark. Veterans who took part in an 8-week EAI experienced decreased anxiety and depression (Lanning, 2018). Eight weeks of EAI improved the quality of life and social behaviors for children with ADHD (Cuypers et al., 2011). Equine-assisted interventions were used for 9 weeks with children of parents with problematic substance abuse issues, which led to personal and social growth and improved interpersonal behaviors (Dunlop & Tsantefski, 2018).

In an 11-week program focused on social competencies in children, researchers found moderate positive effects and determined pro-social behavioral improvements were significantly associated with attendance and the number of sessions attended (Pendry et al., 2014). Attention Deficit Hyperactive Disorder (ADHD) symptoms in children were effectively reduced in both an 11-week and a 12-week program (Jang et al., 2015; Oh et al., 2018). Oh et al. (2018) analyzed the difference between a 12-week EAI program and pharmacotherapy and found no significant difference between the two treatments. When a 6-month EAI program for victims of sexual

abuse was analyzed, researchers found increased affective abilities and ability to display emotions (Guerino et al., 2015).

In a 10-week, 2-hour session, EAI program for children with PTSD, no significant difference in symptoms developed in children who were exposed to EAI versus the control group who continued with traditional therapies (Mueller & McCullough, 2017). The researchers analyzed changes in symptom levels of children aged 10-18 with PTSD. Mueller and McCullough found a decrease in symptoms in both groups suggesting EAI as useful but lacked evidence to support the EAI program was more effective than traditional methods.

Counterargument

While the majority of the research studying the influence of EAI produced positive outcomes, some researchers found EAI made no significant changes (Anderson & Meints, 2016; Earles et al., 2015). Discomfort with the horses and environment and lack of longevity resulted in noted counterarguments (Dunlop & Tsantefski, 2018; Romaniuk et al., 2018). Methodological shortfalls and a lack of evidence supporting EAI as a superior method were sighted as reasons to question the influence EAI had on participants (Kendall et al., 2015; McNamara, 2017; Mueller & McCullough, 2017).

Some children were fearful and uncomfortable for the duration of the programming (Dunlop & Tsantefski, 2018). The fear of horses may correlate to biophobia, the counterpart to biophilia (Cho & Lee, 2018). Biophobia has been described as the dislike of nature which may have been a result of an individual lacking exposure to nature, prompting further human-nature separation (Cho & Lee, 2018). Remaining fearful throughout an EAI program could challenge the development of pro-social behaviors, rather than develop the domains. Contingency theory

would call for leaders to assess a participant's comfort level and consider biophilia and biophobia when determining if EAI was an appropriate intervention for the specific person.

In Dunlop and Tsantefski's (2018) study, over 25% of the children felt angry, scared, and annoyed due to disruptive peer behaviors and empathetic discomfort for peers who displayed emotions like sadness. When considering programming, participants should be matched to the intervention which best serves personal needs and dispositions (Dunlop & Tsantefski, 2018). Amanchukwu et al. (2015) explained contingency minded leaders understood the need to analyze the situation to find the most effective fit for the situation.

Another counterargument to the influence EAIs had was the longevity of the results. While Romaniuk et al. (2018) found reductions in PTSD symptoms in single and couple interventions, only the couples' intervention results were sustained 3 months later. The reduction in solo participants' symptoms was only experienced short-term, and participants returned to pre-intervention levels (Romaniuk et al., 2018). McNamara (2017) noted a lack of parental involvement in EAIs. The claim which could have been made was participants may not have sustained the growth made without support from within the home from a parent or partner.

Researchers mentioned methodological shortfalls and stated EAIs could not be deemed an effective intervention due to a lack of reliability (Kendall et al., 2015; McNamara, 2017). Studies lacked a well-defined experimental design or a systematic account of the EAI process (Carlsson, 2017; McNamara, 2017; Stefanini et al., 2016). The research was compromised by threats to validity, like lacking controlled conditions or basing conclusions off of anecdotal data, resulting in unreliable findings (Anestis et al., 2014; Notgrass & Pettinelli, 2015; Stefanini et al., 2016).

Evidence EAI was superior to traditional therapies lacked. Mueller and McCullough (2017) found, while EAIs were effective, there was no evidence to support EAI treatments were more effective than traditional therapies, or time passing (Anestis et al., 2014). Similarly, in a study focused on core ADHD symptoms, no significant difference between exposure to an EAI and pharmacotherapy was observed (Oh et al., 2018).

In another study, the influence of EAIs was strongly correlated to the protocol followed by the facilitating staff. The connectedness between participant and horse was noted as a vital component of successful EAIs (Carlsson et al., 2015). Carlsson et al. (2015) found if staff perceived the horse as an object and gave instruction resembling equine sports, sessions did not facilitate authentic client-horse relationships. If staff and clients interacted with the horses as subjects, with staff considering the horse's behavior and perspective, sessions were more beneficial (Carlsson et al., 2015). The variation in instructor protocol may have influenced the success of an EAI.

Chapter Summary

The literature review covered topics of animal-assisted therapy, equine-assisted interventions, the influence equine-assisted interventions have on a variety of behavioral and emotional areas, the duration of influential EAIs, and contrary findings. Completing a literature review resulted in understanding EAIs positively influence the behavior and mental health of clients within a limited number of sessions. Some research results did not support those findings.

Contingency leadership theory and biophilia were theories guiding the study. Biophilia claims humans were positively influenced by interacting with the natural world, a notable component of equine-assisted interventions. Leaders who practice contingency leadership theory may have found equine-assisted interventions beneficial in some instances with some

populations. The gap in the literature was the influence of EAIs for individuals with social or emotional deficits from the perspective of parents and instructors was unknown. To determine if EAIs were an influential alternative approach in the counseling and education of individuals with social or emotional deficits, the study was necessary. In the next chapter, the research design and methodology are outlined. Methods, analysis, ethical issues, reliability, and validity of the research study are discussed.

Chapter 3: Methodology

Equine-assisted interventions were described as treatment options used to help individuals change dysfunctional behaviors, including physical, social, emotional, and psychological conditions (Johansen et al., 2016). Several different models of equine-assisted interventions were used, which included mounted and unmounted activities and caring for the horses while in a group or individual session (Cherry & Staudt, 2017). While EAIs were used with primarily positive results, research on the influence EAIs had on individuals with social and emotional deficits was limited. The purpose of the qualitative, multiple case study was to explore the influence EAIs had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut.

Zamanzadeh et al. (2015) explained research questions as the core of a case study, used to guide the researcher in selecting or designing research tools. An assessment has been identified as valid when the tool measures the intended phenomenon (Hancock & Algozzine, 2017). Clearly defined research questions may have helped the case study maintain validity. The research questions guiding the study included:

Research Question One: What are the perspectives of parents and instructors with a child who receives equine-assisted interventions at therapeutic equine centers in Connecticut?

Research Question Two: What is the meaning of equine-assisted interventions for individuals with social/emotional deficits at equine centers in Connecticut as perceived by parents and instructors?

Research Question Three: How do parents and instructors describe the experiences children having during equine-assisted interventions at therapeutic equine centers in Connecticut?

The research methodology was qualitative. Scholars noted qualitative research uses a variety of data instruments such as interviews and observation to explore the meaning of a phenomenon as defined by the participants while in a natural setting (Hancock & Algozzine, 2017). The qualitative research methodology was appropriate for the study because the research questions and purpose focused on parents' and instructors' perceptions of the influence of EAIs on children and clients.

The research design and rationale of the research study are discussed. An explanation of the rationale for selecting a qualitative, case study is offered. The role of the researcher is defined, and research procedures are explained. Data analysis, reliability, and validity, and ethical procedures are delineated.

Research Design and Rationale

A multiple case study design was used for the research study. Scholars described case study research as looking to increase understanding of a phenomenon and meaning for the people involved (Dwyer & Buckle, 2009; Hancock & Algozzine, 2017; Yin, 2018). The study was conducted to understand the meaning of EAIs for participants as perceived by the parents and instructors involved, making case study an appropriate research design. Yin (2018) explained multiple case design was preferred over a single-case design because analytic conclusions from multiple-case design were more robust, compelling, and powerful. The research study included three different equine facilities in Connecticut, all held the Professional Association of Therapeutic Horsemanship (PATH) certifications.

Protecting human research participants was a vital component of the research process. Mentally disabled persons and children were cited as vulnerable populations needing additional protections (National Institutes of Health, 2011). To refrain from involving vulnerable populations, parents and instructors involved in EAIs were participants rather than involving the protected population directly. Parents with children engaged in EAIs could speak to observations during EAI sessions and in other settings such as home, social gatherings, and school. The perspective of instructors offered data from professionals who were immersed in EAIs and could speak to the influence EAIs had on a larger number of individuals.

A case study design was appropriate for answering the research questions. The questions investigated were driven by the impetus to explore, understand, and analyze meaning from experiences as told by the people involved; all features which were noted as attributes of case study design (Hancock & Algozzine, 2017; Harrison et al., 2017). Yin (2018) noted investigations involving a limited number of participants could be completed using a case study design.

Several advantages and benefits of the case study design were noted. Case study research, a design described as exploring multifaceted issues in real-life settings in an attempt to understand a phenomenon, has grown in reputation and has been considered a pragmatic and flexible research method (Harrison et al., 2017). Harrison et al. (2017) explained case study research could accommodate a variety of philosophical positions, allowing researchers to adapt research to fit the research problem. The research study was developed to address a unique phenomenon from an under-investigated perspective and made the adaptability of the case study appealing. Case study research has been applied to research questions asking why, what, and how which allowed researchers to explore and evaluate complex issues within a real-life context

(Harrison et al., 2017; Yin, 2018). The versatility case study offered, helped to develop a deeper understanding of the phenomenon being investigated in the research study.

Role of the Researcher

The role of the researcher was relevant to all qualitative methodologies because researchers played a direct and intimate role in the collection and analysis of data (Dwyer & Buckle, 2009; Greene, 2014). In the study, the role of the researcher was an observer. Yin (2018) explained, as an observer, no active participation within the actions being studied occurred.

A limited professional relationship at one of the equine centers should be noted. The equine center was used as an incentive for the researcher's students who were enrolled in a program which utilized a token economy system to manage behavioral concerns. Token economy systems were described as the oldest and most widely used procedures in applied behavior analysis (Hackenberg, 2018). Students earned the ability to attend a monthly field trip to the equine center. Field trips were framed as recreational, although therapeutic methods were used during the trips. Visits to the center occurred monthly for one school year, then were discontinued after the school year due to lack of funding. The only residual contact was during attendance at an annual fundraising dinner held by the equine center.

No connection or supervisory role over the research participants or the children participating in EAIs was present. Participants may have felt the research was being conducted by an insider researcher due to information shared during introductions. The information disclosed included a brief explanation of the researcher's role as an educator, teaching individuals with social, emotional, and behavioral deficits. Research conducted using a population the investigator belongs to has been referred to as insider research (Dwyer & Buckle, 2009; Greene, 2014). Detailed reflection with an awareness of personal biases and perspectives

was used to reduce the potential concerns associated with insider membership (Dwyer & Buckle, 2009).

Insider researchers may enhance a study through access and acceptance while raising questions about objectivity, reflexivity, and authenticity (Dwyer & Buckle, 2009; Greene, 2014). Rather than a dichotomy, a dialectical approach was embraced in the study. The dialectical approach has been described as acknowledging each researcher may have similarities and differences to the participants, with attributes brings pros and cons to the research study (Dwyer & Buckle, 2009; Greene, 2014).

The insider researcher position had the potential to influence the reliability and validity of interpretations and conclusions. Dwyer and Buckle (2009) found participants could have shared less due to assumed similarities and understandings, inadvertently shaping the interview around the interviewer's experience and not the participant's experience. Greene (2014) found participants may share less due to perceiving the interviewer was too close to the situation. Several scholars noted such issues can be avoided and rapport could be authenticity maintained by utilizing semi-structured interview questions and by maintaining an awareness of personal biases via reflective methods like writing memos and journaling (Dwyer & Buckle, 2009; Greene, 2014; Harrison et al., 2017; Saldaña, 2016; Stuckey, 2015).

Ethical issues tied to researching within one's work environment were not relevant to the study because none of the locations were associated with work environments. Issues which come from attempts to maintain double roles were not an issue because dual roles were not present. Individuals who felt intrinsically motivated to volunteer to participate were recruited. Participation was not incentivized, as Zutlevics (2016) found incentives reduced intrinsic motivation in volunteers.

Research Procedures

A qualitative case study required a strict protocol to be put in place to ensure validity and reliability. Baxter and Jack (2008) noted delineated boundaries assisted in avoiding becoming overwhelmed during case study research. In the following sections, procedures regarding population and sample selection, instrumentation, data collection, and data preparation are discussed.

Population and Sample Selection

Leung (2015) explained qualitative research studies targeted a specific issue or phenomenon in a certain population or ethnic group. The target population for the multiple case study included parents and instructors of individuals with social or emotional deficits who participated in EAIs in the state of Connecticut. Parent participants were required to have a child participating in EAIs to address social or emotional deficits and have had at least five lessons.

Three research sites were asked and agreed to participate in the study (see Appendix A). Between the three research sites selected for the research study, the total average population of EAI clients was approximately 103 people per year, with an average of five part-time, certified therapy instructors. The target number of participants for the multiple case study was between 15 and 20 participants, and 18 of the 20 individuals who volunteered met eligibility criteria.

Individuals who fell within the subgroup of parents and instructors of individuals with social and emotional deficits may have opted-out of participation due to the personal and private nature of being within such a population. Social and emotional deficits are often stigmatized by society making participation difficult for some individuals to discuss openly. The participant requirements delineated by case study research allowed for flexibility in participant numbers and allowed the study to continue even with a smaller number of participants. Yin (2018) explained

using too large of a sample size in case study research does not allow for more than a superficial examination of the case data.

Riding centers used in the study were required to be PATH members. Professional Association of Therapeutic Horsemanship (PATH) has been noted as the largest equine-assisted therapy organization in the United States (Burk & Gramlich, 2018). A minimum of five sessions were determined to be a reasonable amount of exposure, based on previous research showing EAIs influenced clients with as few as five exposures (Frederick, et al., 2015).

Due to the sensitive nature of the study and the specificity in population requirements, participants were acquired via voluntary sampling. Voluntary sampling has been described as a non-probability sampling design which may assist in acquiring participants who meet the target population qualifications and are willing to participate (Murairwa, 2015). The use of voluntary sampling allowed for advertising in locations where qualified participants were likely to be.

High-quality research established inclusion and exclusion criteria for study participants, where inclusion criteria were defined as the features of the target population (Patino & Ferreira, 2018). The inclusion criteria for the study encompassed parents of children who utilized five or more EAI sessions in response to social or emotional deficits and PATH certified instructors. Patino and Ferreira (2018) explained exclusion criteria were the additional characteristics within potential participants, which could interfere with the success of the study. Volunteers were excluded from partaking in the study if an inability to participate fully in the interview, questionnaire, and member checking was communicated during the screening process.

The initial plan for advertising for participation was to advertise with the equine centers' permission, using flyers hung at all three equine centers and through posts to the equine centers' social media pages (see Appendix B). Due to COVID-19 and other issues, directors at all three

sites chose not to advertise via social media. Flyer postings included name, a brief description of the study, and a contact phone number. Prolonged engagement, a method described as spending sufficient time in the research setting to develop relationships, was planned to be used to develop a rapport with participants (Amankwaa, 2016; Poduthase, 2015). Due to COVID-19 closures and social distancing guidelines, prolonged engagement at the research sites was not possible.

Participants' rights were protected by providing written informed consent (see Appendix C). Per the National Institutes of Health (2011), informed consent should have included: the purpose of the study, any risks or benefits to the participant, confidentiality protections, injury compensation, contact information, and conditions of participation, including the right to refuse or withdraw. Informed consent was explained in a manner which allowed a reasonable person to make an informed decision. Signed consent forms were acquired before the start of data collection.

Evidence from a multiple case study has been viewed as stronger than a single case study (Yin, 2018). Multiple case design was used in the study. Cases were described as being bound by time and place, time and activity, or by definition and context (Baxter & Jack, 2008; Yin, 2018). Cases in the study were bound by the three equine center locations and by time as the data collection occurred concurrently.

Instrumentation

The nature of the study necessitated the creation of original instruments due to the specificity of the research questions (see Appendix D). Scholars noted reliability was impossible to achieve without content validity (Zamanzadeh et al., 2015). One step in achieving content validity was ensuring the items created were relevant to the research questions. Interview questions and the questionnaires were developed to align with the research questions. Data were

collected using audio-recorded, semi-structured face to face or virtual interviews, and online, open-ended questionnaires.

Semi-structured interviews were conducted with individuals who were parents or instructors of clients who participated in EAIs to address social or emotional deficits. Unlike structured interviews, semi-structured interviews were described as flexible, allowing for unscripted questions to be asked as new information emerges during the conversation (Ahlin, 2019; Belotto, 2018; Noble & Smith, 2015). Semi-structured interviews were described as beginning with a set of standard questions which guided the conversation (Ahlin, 2019).

Interview questions developed for the research study gathered data regarding parents' and instructors' perceptions of EAI's influence on individuals with social or emotional deficits. The researcher-developed questions were reviewed by experts in the field. Semi-structured interviews were defined as targeted and insightful, making an appropriate source of evidence which could sufficiently answer the study's research questions (Hancock & Algozzine, 2017; Yin, 2018). Interview protocol for the study was adapted from Hancock and Algozzine's (2017) *How to Plan and Conduct an Interview* (see Appendix F).

During face to face or virtual, audio-recorded interviews, participants were asked prepared questions, with additional probing questions asked as needed. Member checking has been used by researchers to enhance credibility and was used in the study (Varpio et al., 2017). In the research study, member checking occurred in two phases. As Varpio et al. (2017) described, participants first reviewed transcripts and then final data points to ensure recorded data matches intended meanings, and if an inconsistency was found, the data were modified to fall in line with the participant's intended meaning.

All participants were offered the chance to complete an open-ended questionnaire for those who wanted to add further information after reflecting on the interview. Yaddanapudi and Yaddanapudi (2019) found open-ended questionnaires required respondents to answer questions in a manner which resulted in more detailed information. Participants were provided with a link to the website Survey Monkey to access the questionnaire. Individuals who choose to participate in the questionnaire remained anonymous. Ikart (2018) suggested questionnaires be designed efficiently to avoid survey fatigue. The open-ended questionnaire consisted of five questions.

Field Testing

As scholars recommended, all researcher-developed questions were reviewed by experts in the field (Belotto, 2018; Yaddanapudi & Yaddanapudi, 2019). Zamanzadeh et al. (2015) suggested a panel of at least five experts be appointed to analyze the relevancy and comprehensiveness of the instrument(s) to measure content validity. The researcher-developed questions were reviewed by experts in the field. Seven experts agreed to analyze the instruments for the study, and three offered feedback for improvement regarding word choice and question sequence. Experts were enlisted to assist with field testing the instruments through a therapeutic riding center in Connecticut, which was not one of the case sites (see Appendix E).

Data Collection

Data were collected from parents and instructors of individuals using EAIs to assist with social or emotional deficits. When participants volunteered, screener questions were asked to ensure the individual met the inclusion and exclusion criteria (see Appendix G). Interview questions and questionnaires were first approved by the Institutional Review Board (IRB). Once approved, participants were sent a Google Form electronically. The Google Form included a

participation request with the Consent to Participate document. Participants electronically signed the Google Form to confirm participation.

Upon accepting, participants scheduled an interview to be held at the corresponding riding center or via virtual means, at a time suitable for the participant to promote a comfortable, unrushed environment. Each participant was interviewed once, for approximately 30-60 minutes. Interviews were recorded using the iPhone applications Call Recorder and Otter, with handwritten notes taken by the interviewer. Belotto (2018) explained semi-structured questions ensured the interviewees were asked the same questions in the same manner, while having room to probe as needed. After the interview, a link to the Questionnaire form was sent to all participants for those who wanted to add further information after reflecting on the interview.

The data was stored safely and confidentially by keeping all electronic files on a password-protected computer, using security codes for computerized records, and keeping the interview transcripts confidential by using pseudonyms for the riding centers and interviewees. All data shall continue to be stored safely until an appropriate retention period has passed. As has been suggested by the American College of Education (2016), data shall not be destroyed until a period of at least five years has passed. Once ethical requirements in data retention are met, electronic data shall be digitally deleted, and hard copies shredded after five years.

Data Analysis

Data preparation included transcribing interview audio files and organizing questionnaire data. Information was recorded and transcribed using the iPhone applications Call Recorder and Otter. Transcriptions were reviewed and compared to the audio recordings to verify accuracy. Data were prepared for analysis using computer-assisted qualitative data analysis software (CAQDAS). Computer assisted qualitative data analysis software has been described as aiding

the analysis process by helping boost accuracy and speed via data management (Saldaña, 2016; Zamawe, 2015).

Humble (2015) explained the CAQDAS program Dedoose has been used to assist in data coding, analysis, and management by importing and organizing text and audio files and organizing memos and notes. Dedoose was used in the study to code via an inductive approach. Armat et al. (2018) explained inductive coding as a process where codes were created using the data and developed and modified throughout the coding process. Data were initially coded using hard copies to ensure inexperience with the software program did not negatively influence data analysis. After hardcopies were coded, the information was input into Dedoose.

Saldaña (2016) explained researchers should start coding as data were collected and formatted, which could be done via circling, highlighting, bolding, and underlining of significant words or quotes from the interview transcripts and questionnaire responses. In the pre-coding phase, such notations were used to make note of preliminary words or phrases as potential codes (Saldaña, 2016; Stuckey, 2015). Detailed notes recorded phases of the coding process and included combining codes, splitting codes, and decision making. Researchers recommended keeping detailed notes throughout the research process as a means of recalling decisions and changes made throughout the study (Saldaña, 2016; Stuckey, 2015). Data were manually coded on hard copy printouts, then input into the CAQDAS program.

Data were analyzed using coding methods detailed by Strauss and Corbin (1998). From a qualitative research perspective, codes were described as words or phrases assigned to a piece of data to organize and capture a deeper meaning within the data and were the first step towards data analysis and interpretation (Saldaña, 2016; Stuckey, 2015). Emergent coding was used, which Stuckey (2015) described as concepts and meanings evolving from the data.

Strauss and Corbin (1998) suggested the three stages in coding used in the study. The stages included open, axial, and selective coding. Scholars detailed the process as follows: codes were derivative of the text during open coding, divided into more specific categories during axial coding, and then organized around central concepts during selective coding (Blair, 2016; Strauss & Corbin, 1998). Consistent reflection on the research questions assisted in focusing the coding process. A codebook, or data dictionary, was used to define the meaning of each code. Scholars noted a codebook can serve as evidence of credibility in the study (Saldaña, 2016; Stuckey, 2015).

Reliability and Validity

Amankwaa (2016) defined credibility as confidence in the truth of the findings. Member-checking and triangulation were used to establish credibility in the qualitative research study. Triangulation has been a highly respected and commonly employed method, in which data were acquired from multiple sources (Greene, 2014; Hancock & Algozzine, 2017; Harrison et al., 2017; Noble & Smith, 2015). Leung (2015) and Noble and Smith (2015) explained triangulation as improving reliability and validity in research. The multiple case study took place at three different therapeutic riding centers, allowing for triangulation of settings. Additionally, interviewing both parents and instructors triangulated the data sources.

One credibility tool used in the study was member checking. Member checking has been described as a process where transcripts and final data points were presented to participants for review to ensure recorded data matches intended meanings (Amankwaa, 2016; Hancock & Algozzine, 2017; Varpio et al., 2017). Triangulation and member checking supported the dependability of the research. Amankwaa (2016) described dependable research findings as showing consistency and repeatability.

Thick description has been used by researchers to produce transferability, meaning the findings applied to other contexts (Amankwaa, 2016; Greene, 2014). Scholars explained appropriate details can be used to allow the audience to evaluate the extent to which the conclusions drawn may be transferred to other settings or situations (Amankwaa, 2016; Noble & Smith, 2015). Details such as setting, participant and researcher attitudes, and observations of participants' physical responses were included in journal notes.

Confirmability has been related to neutrality and sought to ensure the findings were not influenced by biases (Amankwaa, 2016). Reflexivity and triangulation established confirmability. Triangulation of data sources supported confirmability through consistency in findings between collection methods. Reflexivity was a researcher's continuous, internal discussion and self-evaluation. Researchers were described as reflexive individuals who analyzed themselves to consider the influence their presence had on the study data and interpretations (Berger, 2015). Reflexive practices were used in the research study via reflexive journaling. As recommended by researchers, the journal consisted of entries detailing decision making, logistics, personal values, and any personal interests which may have influenced the study (Amankwaa, 2016; Berger, 2015). Credibility, transferability, dependability, and confirmability helped establish trustworthiness and were accounted for, and transparency was established, by utilizing Amankwaa's (2016) trustworthiness table throughout the research process.

Ethical Procedures

The three basic ethical principles cited by the National Institutes of Health (2011) included respect for persons, beneficence, and justice. Several steps were taken to ensure the three principles were upheld in the research study. Participants' rights were protected by

providing written informed consent, and explained the following in a manner which allowed a reasonable person to make an informed decision: the purpose of the study, any risks or benefits to the participant, confidentiality protections, injury compensation, contact information, and conditions of participation which included the right to refuse or withdraw (National Institutes of Health, 2011). Informed consent was provided to volunteers electronically after screener questions determined volunteers fit inclusion and exclusion criteria. Interviews did not begin until an electronically signed informed consent was submitted.

Children and people with mental illness, among others, were noted as vulnerable populations (National Institutes of Health, 2011). The research study was designed to ensure no children, or any other specified vulnerable populations were included as research subjects. Voluntary participation offered further protection of the participants, as all data were acquired from voluntary, consenting adults. Signed consent forms were electronically acquired before the start of data collection. Confidentiality was maintained by using security codes for computerized records and by using pseudonyms for the riding centers and interviewees.

Appropriate research participant protections are the shared responsibility of researchers and IRB (The National Institutes of Health, 2011). Once approval from the IRB was granted, individuals were sent a Google Form electronically. The form included a participation request. Individuals who moved forward with participation were prompted to electronically sign to confirm understanding of the research study and consent to participation. Participant interviews were labeled with pseudonyms to maintain the participants' anonymity. Likewise, data were accessed, and identifiable markers were removed to further safeguard participants' anonymity.

Hard copies of documents were stored in a locked filing cabinet throughout data analysis. All hard copies were backed up electronically and stored in no less than two electronic locations.

Electronic files were password protected and access limited. Data shall remain stored and secured for 3 years beyond the completion of the study. As the American College of Education (2016) recommended, if the study becomes published, data shall be stored for 10 years.

The research was not conducted at a workplace, avoiding the related ethical issues. Best practice was to avoid utilizing participants the researcher has authority over (National Institutes of Health, 2011). While an acquaintanceship with one of the riding facilities was present, the relationship was not one which would cause bias or a conflict of interest. A position of authority was not held in any of the research environments nor with the people engaged in the research.

Chapter Summary

The methodology of the qualitative, multiple case study was explained and justified in chapter three. A qualitative research design was appropriate for the study because the research questions and purpose focused on parents' and instructors' perceptions of the influence EAIs had on children and clients. The role of the researcher in the study was observer, taking a dialectical approach embraced the notation one can be both an insider and outsider researcher. Voluntary sampling methods were used to engage the target population for the multiple case study and included parents and instructors of individuals with social or emotional deficits who participated in EAIs in the state of Connecticut. The specificity of the research questions led to the need to design original instruments.

Semi-structured interviews and open-ended questionnaires were used to gather data. Data preparation included transcribing interview audio files and organizing questionnaire responses. Information was organized and coded using a combination of manual and electronic methods. Credibility, transferability, dependability, and confirmability were supported throughout all stages of the research process via triangulation, member checking, and reflexive journaling.

Several protocols were put in place to ensure the ethical practices which included respect for persons, beneficence, and justice (National Institutes of Health, 2011) were flagships of the research process. In the next chapter, the results of the study are explained and details on data collection, analysis, reliability, and validity are discussed.

Chapter 4: Research Findings and Data Analysis Results

The purpose of the qualitative, multiple case study was to explore the influence EAIs had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut. Research populations included parents of individuals participating in equine-assisted interventions (EAIs) and the Professional Association of Therapeutic Horsemanship (PATH) certified instructors. Interviews and questionnaires were conducted face-to-face, over the phone, and online using a holistic case study methodology. The goal of the case study was to identify if data supports the use of EAIs as an alternative to standard therapeutic methods for individuals with social and emotional deficits.

The study was framed by contingency leadership theory and biophilia theory, which worked together to support the importance of researching EAIs. Contingency minded leaders understood the best solutions and strategies were reliant on the situation (Uslu, 2019). Biophilia theory highlighted the influence of interactions with nature on an individual's physical and mental health (Cho & Lee, 2018). Data collection methods included a semi-structured interview and an open-ended questionnaire.

The research findings are outlined in Chapter 4. Themes emerged throughout data analysis, with the research questions guiding the study, and are detailed. The research questions were as follows:

Research Question One: What are the perspectives of parents and instructors with a child who receives equine-assisted interventions at therapeutic equine centers in Connecticut?

Research Question Two: What is the meaning of equine-assisted interventions for individuals with social or emotional deficits at therapeutic equine centers in Connecticut as described by parents and instructors?

Research Question Three: How do parents and instructors describe the experiences children having during equine-assisted interventions at therapeutic equine centers in Connecticut?

Data Collection

Three PATH certified equine intervention centers in the state of Connecticut provided the research sites for data collection. A total of 20 people volunteered for the study, with 18 individuals meeting the necessary criteria to participate. All 18 voluntary participants took part in the interview process. Seven individuals chose to complete the post-interview questionnaire.

Two sources were used for data collection: researcher-developed semi-structured interviews and online open-ended questionnaires, both of which were reviewed by experts in the field. Interviews took place via phone call or in person. Volunteers were each interviewed once for an average duration of 30 minutes. Interviews were conducted over 3 months, with the first conducted on April 15, 2020, and the last on June 27, 2020.

The questionnaires were disseminated and completed electronically. Participants were asked to complete the questionnaire within a week of completing the interview, with the questionnaire closing on July 4, 2020. The data obtained from the interviews and questionnaires provided insight on various interpretations and understandings of the phenomenon.

Notably, the shutdown protocol for the COVID-19 pandemic coincided with the start of data collection and influenced the data collection timeline. Connecticut Governor Ned Lamont required the nonessential business to shut down, resulting in difficulty advertising the study to

potential volunteers. The pandemic closures resulted in a period of 3 weeks in late April, to early May without any volunteers. One volunteer was acquired during May, before another month-long stretch with no volunteers. Dissertation proposal changes were submitted to the IRB on April 8, 2020, and June 13, 2020. In April, the update was written to include virtual interviews, and in June to add a third research site. Both proposed changes were approved by the IRB. Approximately 50% of the participants volunteered within a week of Connecticut's Phase One reopening. Fourteen volunteers participated in interviews via phone call. Four interviews were conducted at the corresponding riding centers with facemasks and social distancing protocols in place.

Data Analysis

Data confidentiality was secured by keeping all electronic files on a password-protected computer, using security codes for computerized records, and keeping hard copies in a locked filing cabinet. The questionnaire and transcribed interviews were kept confidential by using pseudonyms for the riding centers, interviewees, and any other identifiable data such as town names, references to other people, and references to specific horses. Transcripts were first reviewed by the participant for the member checking process, and once returned, all names were replaced with pseudonyms.

Coding Process

The three stages of coding as outlined by Strauss and Corbin (1998) were used in the study. These stages included: open, axial, and selective coding. During open coding, codes were derived from the text. Emergent coding allowed for the evolution of ideas and meanings. Inductive coding was used, whereby codes were created using the data and developed and modified throughout the coding process (Armat et al., 2018). Employing an inductive process

allowed the perspectives of the parents and instructors to become the foundation for understanding the phenomenon.

During open coding, interview transcripts and questionnaire responses were combined during analysis. All data documents were read, and notable excerpts were highlighted. Excerpts were deemed notable when a connection to the research questions could be seen. Consistent reflection on the research questions assisted in focusing the coding process. The notable excerpts were then reviewed and labeled, evolving into codes.

A chart of the initial notes and codes was constructed and used to look for themes across data samples. The data review was conducted in a cyclical manner, where codes were developed, expanded, and collapsed. In several instances, multiple codes could be collapsed into one overarching code. For example, initially, codes were created for each of the individual mental health conditions described by participants: trauma, post-traumatic stress disorder (PTSD), Attention Deficit Hyperactivity Disorder (ADHD), etc. After a review, the categories were collapsed into one parent code, Client Description. Once the codes were compiled and analyzed, three key child codes emerged within the client description, based on the frequency: Anxiety Deficit, Communication Deficit, Relationships Deficit. The process was completed for all the codes in the study.

Some codes were too general and needed to be expanded into multiple codes to clarify meaning and maintain fidelity. For instance, the initial coding phase used a code, *relationships*, to label all mention of relationships. Deficits and growth in relationships were both being spoken about throughout the interviews. As a result, the code was broken into two codes, to allow for clarity.

Data were reviewed at the emergence of a new code or changes to old codes. The process

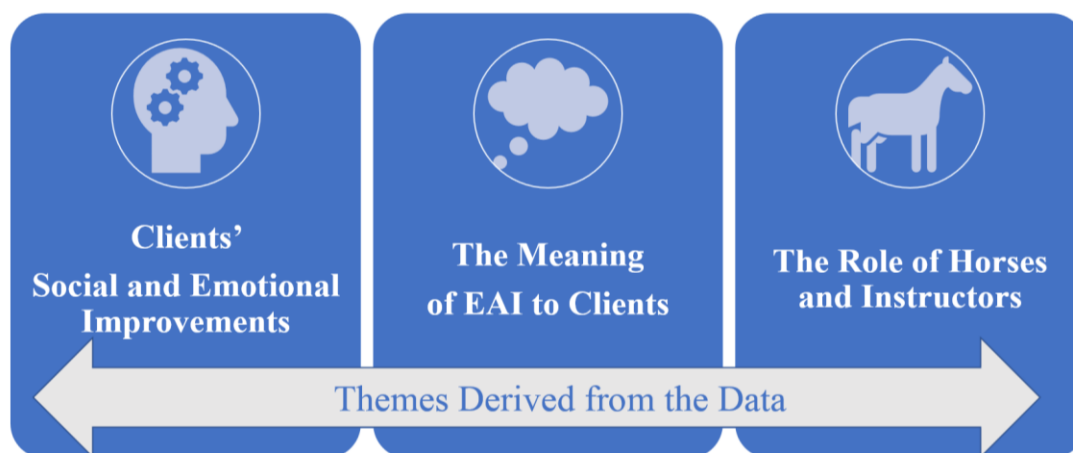
continued until a final code dictionary was developed, with parent and child codes organizing key concepts and themes. Documents were reviewed two more times using the final code dictionary to ensure accuracy.

Major Themes

Once all data points were coded using the finalized code dictionary, codes were analyzed to develop themes which encompassed major concepts. Three primary themes emerged from the data analysis: clients' social and emotional improvements attributed to EAI, the meaning of EAI to clients, and the role of horses and instructors in the EAI process (see Figure 1). These themes incorporated most of the codes derived from the data, in addition to being developed with the research questions in mind. Discrepant data were analyzed and explained in detail in the Results section of the chapter.

Figure 1.

Three Primary Themes



Note. Three major themes emerged from the coded data.

Results

The qualitative, multiple case study aimed to pursue possible answers to the three research questions. Coding was completed with the research questions in mind, and themes developed out of the codes were connected back to the research questions (see Table 2). Results reflected themes developed by the frequency of responses. Discrepant data were addressed at the end of the section.

Table 2

Connecting Themes, Codes, and Research Questions

Theme	Codes which Themes Derived From	Connected Research Question(s)
Client Improvements attributed to EAI	Client Description Anxiety deficit Communication deficit Relationships deficit Influence EAI Anxiety improved Communication improved Confident /Confidence Emotional development Generalizing skills Leadership Learning/skill development Mindfulness/focus/reflection motivated to attend Relationships improved Social development would recommend to others Influence on Parents	Research Question One: What are the perspectives of parents and instructors with a child who receives Equine-assisted interventions at therapeutic equine centers in Connecticut?
Meaning of EAI to Client	Importance to Client Independent/individualized Experience Love Volunteerism The Role of Horses	Research Question Two: What are the perspectives of parents and instructors with a child who receives Equine-assisted interventions at therapeutic equine centers in Connecticut?
Connecting Themes, Codes, and Research Questions the Role of Horses and Instructors in success with EAI	Lesson Description Length of participation Nature/location Results after... Ways of Measuring Growth What brought you to EAI?	RQ3: How do parents and instructors describe the experiences children having during Equine-assisted interventions at therapeutic equine centers in Connecticut?

Research Question One

The question posed by Research Question One was: What are the perspectives of parents and instructors with a child who receives equine-assisted interventions at therapeutic equine centers in Connecticut? Data collected showed parents observed a variety of social and emotional improvements attributed to engaging in EAI. Instructors noted clients displayed improvements.

Client Description

The research question cannot be properly answered without first considering the reasons parents sought out EAI treatments. Participants mentioned an array of social and emotional deficits. Parents and instructors mentioned diagnoses like PTSD, ADHD, Autism, Downs Syndrome, and many others. Regardless of diagnoses, three key social and emotional deficit areas were mentioned most frequently: anxiety, depressive behaviors, and relationship deficits. Difficulties with anxiety were the most frequently mentioned deficits in the study, with most participants having multiple diagnoses. Depressive behaviors and relationship struggles were mentioned by many interviewees. Descriptions of the social and emotional state of clients before seeking EAI treatment were provided by parents and instructors and are outlined in Table 3.

Table 3

Clients' Social/Emotional Deficits

Deficit	Parent or Instructor Description of Clients
Anxiety	<p>"She's had trauma... not just that one traumatic event... her pediatrician at the time said that she believed she was suffering from PTSD. Um, she's always been a bit of an anxious child"</p> <p>"She's diagnosed with mental illness. She has a depression and anxiety disorder"</p> <p>"He's very anxious. He overthinks things... very concerned about pleasing others."</p> <p>"he has attention deficit disorder ... anxiety and dyslexia"</p> <p>"I have some who come to me specifically for social-emotional growth, you know, a lot of them nowadays are having some anxiety in school"</p>

Deficit	Parent or Instructor Description of Clients
Anxiety	<p>“She’s got anxiety, autism disorder and developmentally delayed so she’s functioning on probably about a two to three-year-old level”</p> <p>“We decided to go with therapeutic riding to try to help with some of the anxiety that we’ve been dealing with.”</p>
Depression	<p>“she used to be, I wouldn’t say depressed by any means, but just like a little bit mokey.”</p> <p>“[she is] sad. sometimes she’ll just start crying for no reason.”</p> <p>“She was in regular therapy for four years. And I really wasn’t seeing any change. She was still depressed. Still suicidal, still angry... she became very distant...”</p> <p>“years in and out of hospitals dealing with a combination of anxiety and... depression.”</p> <p>“She had a history of depression and anxiety. And obviously, you know, her home life was very stressful, and, you know, just upside down for her.”</p>
Relationship Deficits	<p>“[she has had] difficulty finding friends, which would make school very unpleasant. If she does find a friend, the friend has many other friends. So that makes it difficult to balance out. And just being really unsure of herself. She’s a people pleaser and puts a lot of unnecessary pressure on herself.”</p> <p>“[She does] a lot of self-blame... A lot of trouble regulating her emotions. She had a lot of difficulty with relationships, just trying to maintain friendships.”</p> <p>“[there was a child] who was struggling both at home and at school, with family relationships and social relationships and was doing quite a bit of self-isolating. Had some symptoms of depression, some suicidal ideation, and suicidal gestures”</p>

Influence of EAls on Clients

The perspectives of parents and instructors were in alignment. All 18 participants in the study made statements supporting the idea clients displayed social and emotional improvements after engaging in EAls. Parents and instructors offered many examples of skill acquisition. While the developed skills varied from client to client, an improvement in confidence was mentioned by 15 of the 18 individuals interviewed (see Table 4).

Much like the comorbidity noted in the client descriptions, areas of improvement overlapped, with one area of growth, supporting other areas of improvement. After engaging in EAI, clients managed anxiety and depression better using the pro-social skills developed during lessons. Through the growth of horsemanship skills, relationship skills advanced through the bond between client and instructor or horse. The development of skills led to confidence, lending

to the growth of other abilities. Skills like mindfulness and social development helped individuals develop coping mechanisms to manage anxiety. Improvement in these areas led to better communication and relationship skills. A theme of a positive influence on mood and emotionality was evident. Participants frequently referred to EAI as *relaxing*, *calming*, and affording clients time and space to *reset* after a troubling day. The mood-enhancing quality of EAI may account for clients' willingness to participate and learn and develop skills.

Some improvement areas, such as leadership and empathy, were mentioned by fewer people in the study but were worthy of mentioning because the topics were cited as themes in other research studies (Anderson & Meints, 2016; Dunlop & Tsantefski, 2018; Kendall et al., 2015). P10 described, "they let him take a lead, which I think has helped him with leadership". P18 explained skills learned at EAI helped the client take on a leadership role in the household when training a new puppy. Building a relationship with the horses and volunteers helped some clients develop empathy. Table 4 offers some of the notable quotes offered by interviewees.

Table 4

Areas Influenced by EAI

Area Which was Improved with EAI	Parent or Instructor Quotes of Clients' Improvement
Anxiety Improved	<p>"...now he, he does tend to speak up and advocate for himself more... and work himself through any anxiety that he's experiencing."</p> <p>"it built confidence, which helps, you know, with the anxiety. Yeah, I think that it's just a positive experience as far as the confidence-building and the stress-relieving"</p> <p>"the kids who I see that will come to me with sort of either the generalized anxiety or they'll have trauma ... they come, shut down, they're reserved. And at the end of our sessions, they're clapping and giggling and they're going home in such a better mood."</p>
Communication Improved	<p>"She's more open with me. She would tell me things was bothering her, you know, so I could take control of it and let therapists know... we have a better relationship now..."</p> <p>"She has definitely been a little bit more expressive with the family and that I think is definitely helping her to start to reach out to others and build other relationships."</p> <p>I mean, she's actually able to be more expressive... I think because of [the horses], she's actually able to express herself more."</p>

	"I think that even for kids that are nonverbal, they have to tap the horse or make some sort of interaction and eye contact if they can, to get something communicated."
Area Which was Improved with EAI	Parent or Instructor Quotes of Clients' Improvement
Communication Improved	<p>"I definitely see kids have improvement in speech and in willingness for kids who have a speech issue... become much more willing to talk and make jokes and do stuff like that."</p> <p>"her language and her vocabulary... her sight words increased exponentially."</p>
Confidence	<p>"he had a lot of positive feedback from the instructors which boosted his confidence"</p> <p>"this is like her happy place where I think she feels that confidence and... strength."</p> <p>"it has given her more self-confidence... a purpose. Maybe makes her feel a little powerful. Just like an overall happiness"</p> <p>"She has more confidence. She learned to love herself... it gives her a sense of control"</p> <p>"learning... with the horse helped for her to be able to get more confident... that's helped her to develop more confidence and try to build stronger bonds with people as well."</p> <p>"there's part of her that probably thinks... look at me up here... Look what I can do."</p> <p>"[at home] she will often go 'I can't do that; can you help me'. I've never heard her say I can't do that when she's on the horse"</p> <p>"The one word that would describe it for her would be empowering... it empowers her"</p>
Emotional Development/Influence	<p>"some of the benefits that people receive are an increase in their... ability to problem solve in novel situations as well as increase their self-awareness, increase skills, and emotional regulation."</p> <p>"I know just personally when I go to the barn, you come you leave and you're so much calmer and it just really I think for everyone involved, it's just a good experience."</p> <p>"I haven't heard her talk about suicide in a few months. She's upbeat, attitude is great. She learned to love herself. She loves herself and you know she is getting better and better."</p> <p>"on that horse, it's more of her happiness... she's like a totally different person on that horse."</p> <p>"I think the horse riding helps her recognize what it feels like to be calm for an extended period of time. And I know that doesn't sound like much, but for her that's huge."</p>
Learning/Skill Development	<p>"she learns to take control of her life by learning how to take control of her horse"</p> <p>"I really liked her kind of bonding with the other student that was in the class, learning something new, knowing all those things, were going to help her."</p> <p>"She wants to be here learning new stuff... If she doesn't know something and wants to know, she'll ask"</p> <p>"I think that he enjoyed the challenge and he enjoyed the connection."</p> <p>"He was very excited to learn how to jump with the horse... for him that that was big because it was not something even the other riders were doing"</p> <p>"She is very excited when she comes home, and she's learned a new skill working with [her horse]. She enjoys talking about their progress together."</p>
Mindfulness	<p>"He doesn't have time to worry about the other things going on in life, because you have to pay attention to the horses. So, it's that mindfulness of focusing on what you're doing."</p> <p>"when she's on the horse she has to be focused... connecting with the animal."</p> <p>"your body language affects the horses. [it] made him aware of what happens when you're around other people too... your body language affects the things around you."</p> <p>"When you're in the presence of a horse, it's very difficult to, to not be aware of that horse to not be noticing the moment, especially, if they begin to move... they're huge and so we are immediately drawn to the presence by being with them. And so, we can help people who have anxiety or are experiencing symptoms of post-traumatic stress... by creating activities and experiences with the horse that allow them to stay very mindful and very present. And that's a powerful intervention for anxiety and depression."</p>

Area Which was Improved with EAI	Parent or Instructor Quotes of Clients' Improvement
Mindfulness	have anxiety or are experiencing symptoms of post-traumatic stress... by creating activities and experiences with the horse that allow them to stay very mindful and very present. And that's a powerful intervention for anxiety and depression."
Relationships Improved	<p>"They [client and instructor] have like a connection, a really good connection."</p> <p>"It's a very important learning tool in learning about not just relationships. But another way to look at people in general and how people act and interact."</p> <p>"I think [bonding with the horse] helped her to develop more confidence and try to build stronger bonds with people as well."</p> <p>"we can help clients focus on particular skills such as mutual attention, creating a point of interest between the two relationship partners, being able to maintain focus and attention on what is occurring in the relationship that's a critical social skill. Being able to maintain control of impulses, could influence the social relationship. So, we spend a good amount of time practicing impulse control and self-awareness, what is my behavior doing to influence this relationship, for better or for worse?"</p> <p>"we were able to see some very concrete improvements, in social abilities at school, reduction of depressive symptoms, and an increased engagement with peers and an exploration of new peers... we saw some very significant steps forward with that client"</p>
Social Development	<p>"when she was there with the instructor she clicked with, I think it definitely brought out her personality and ... she was more socially connected"</p> <p>"And I think it helps like kids with people skills... like the body language thing"</p> <p>"they become so much more open with us, instructors working with the horses and you know, they build a social bond, and emotionally with their volunteers as well."</p>

Influence of EAIs on Parents

An additional benefit noted by six of the 11 parents interviewed was the positive influence EAIs had on the parents directly. Parents discussed participating in riding lessons, feeding the animals, or enjoying the environment, as resulting in positive social and emotional effects on themselves. The positive influence of EAIs on parents was a benefit given little to no attention in the pieces of literature reviewed for the study. Parents' commentary centered around ideas of community, stress relief, and pride in the child for participating in something the parents found intimidating.

The most frequently stated theme parents claimed personal benefit from was stress relief at observing lessons and being in the EAI environment. Being in the EAI environment helped parents relax and enhanced mood. P10 stated:

[I]t was a stress reliever for me to go there and just be at the farm and watch and see the horses and, seeing the happy participants was uplifting for me. So not only benefited my son, it benefited me.

Another form of stress relief was the respite of finding a results-yielding, treatment for the child. “It took a lot of pressure off of me,” explained P11, whose child had been suicidal before participating in EAIs.

Several parents stated a sense of community developed around the EAI patrons and staff. Parents engaged with each other while standing on the sidelines watching the children participate in lessons. A comradery developed, and as the participants laughed and enjoyed each other’s company, the parents did as well. P2 explained, “We’re all laughing together because ... they’re all having fun. They’re enjoying themselves, and we get to see them enjoying themselves. And that is the most beautiful thing.”

Parents mentioned a mingling of fear and pride. While watching the child engage with the horses, parents gained a sense of pride in the child’s bravery. Several parents remarked at having taken lessons and finding the experience intimidating and fear-producing. P2 stated, “seeing her up there is just amazing. And I always tell her ... I’m so proud of her because I couldn’t do it.” A couple of individuals remarked at being afraid of horses, a feeling lessened through engagement in activities like feeding the animals treats and learning about the horses from the children. Parents were pushed to face fears and interact with the horses because of the children’s enrollment in EAI. P17 explained, “I’m afraid of horses ... but they actually have a

horse here, and I actually started to pet him. and we became friends. Every time he sees me, he expects a carrot.”

Research Question Two

Research Question Two: What is the meaning of equine-assisted interventions for individuals with social and emotional deficits at therapeutic equine centers in Connecticut as described by parents and instructors? Equine-assisted interventions represent a place of comfort and community for clients. People make individualized gains in a loving environment and contribute back to the EAI community in a variety of ways.

Love

The assertion clients love multiple components of EAIs was made numerous times by several individuals. *Love* was mentioned 51 times over 18 interviews; love for the horses, activities, people, and environment was noted. Sentiments repeated by multiple people included the clients’ love of riding and interacting with the horses. Trail rides, as compared to sessions in the riding pen, were specifically described as loved by clients. Such engagement with the natural setting may have been more enjoyable due to the interaction with the natural world, supported by the ideas of biophilia theory.

Love of horses or animals, in general, was noted as a trait of participants and a motivating factor for parents when initially seeking out information regarding equine interventions. Learning new horsemanship skills was described as loved by clients. At the riding center, learning skills came easier to the EAI participant than learning in a classroom or traditional talk therapy setting. P18 described, “[s]he loves horses. It's just always been an interest of hers and just doing some research, I thought it would be better than traditional talk therapy.” Perceptions of success during EAIs may contribute to individuals loving sentiments.

Parents described clients as connected to the horses and staff, with love for a specific staff member or horse. When describing a client's relationship with the horse, P2 explained, "it's like a love that I've never seen." Similarly, several parents observed children as having a love for a specific instructor or volunteer. Such affection could have been a motivating factor for some clients, influencing motivation to attend and perform during lessons. Students who were motivated to participate were more likely to learn, which may explain why a nurturing EAI environment would have yielded successful results in social and emotional skills development.

Staff members used the word love to describe working with clients and horses. Numerous staff members detailed a lifelong love of horses. Some remarked about love for working in EAIs as a volunteer, love of being instructors, and love of working with clients. The word love being used by both staff and participants implies clients may have been influenced by the emotional environment developed by the staff. A caring environment was developed by staff and responded to by participants.

Independent or Unique Experience.

Individuals enrolled in EAIs seemed to find the experience meaningful because of the independent or unique nature of the activity. Finding an independent activity without competition and crowds of onlookers helped clients find more enjoyment in EAIs, compared to other activities. Several parents remarked at having tried to engage the children in traditional sports before trying EAIs. Some children excelled in the physical ability but floundered when placed in competitive situations, or in front of audiences. Others were described as not being athletic. As P10 explained, "[EAI is] an outlet... not every kid is good at soccer or baseball or basketball." P13 explained how for some clients, EAIs were a means of participating in an activity "instead of being on the sidelines".

Participants found the uniqueness of EAIs meaningful. Clients who were not gaining significant experiences from more mainstream activities were able to feel pride in participating in activities not every child gets to do and acquiring a unique skill set. P16 explained:

I think that the horses, you know, it makes him feel good. It makes him feel, that he can still do something because otherwise, honestly, he is just at home either reading a book or playing on the computer. So, I think that it's a nice outlet for him to still have something where, you know, he can feel accomplished.

An aspect of self-care played a factor for some clients. Many of the clients were described as having had personal experiences with trauma. Equine lessons were described as a time to focus on themselves. P17 described the client as living with family health stressors, stating, “she can get out and be herself for a while. It doesn't have to be about anybody else.” P19, a parent of an individual dealing with PTSD, remarked, “I think the lack of pressure and just having time to engage in something that is just solely hers.”

One thing all interviewees agreed upon was the idea clients see EAI as attending a recreational activity, as opposed to a therapeutic one. Several interviewees stated the clients were unaware of a therapeutic component and simply saw EAI lessons as entertaining. P3 stated, “I don't know if she recognizes more than it's something that she enjoys doing... she's so perceptive that [if she felt it was therapeutic] I think it would turn off to it.” Connecting to EAIs on a recreational level was meaningful for clients because EAI was an arena in which social and emotional success may be attained.

Volunteerism

Six out of the seven instructors interviewed explained volunteerism as the starting point for a career in EAI. Many started volunteering as young as high school age. Volunteer work

ignited the passion to pursue instructorship as a career. P14 explained, “I became their intern. And I loved it so much. I was like, I want to be certified immediately. And so, I started working on it.” Additionally, each riding center relied on the help of volunteers to safely run lessons. In volunteer roles as side-walkers, standing on the side of the horse to ensure clients stay on safely, relationships with the clients were developed. Perhaps these examples of volunteerism were why many of the clients made meaning of volunteer work as part of the EAI experience.

Several older clients were invited to participate in summer camp as volunteers. P10 explained, “I think being asked to volunteer for the summer camp was a big deal for him because, I think, he took it as ‘Oh, they have faith in me, and they believe in me.’” Others volunteered in ways to assist other people in accessing EAIs. Some clients assisted by working at an annual fundraiser, while one created his own. P10 described:

I think it was like maybe third or fourth grade, he started making his own candles and selling them like a nonprofit and donating the money to the farm ... for one of the summer camps, it allowed like one student to go for free. Like, he covered the costs with the candles.

Volunteerism revealed how the individuals who participated in EAIs felt about the entire EAI experience, showing clients not only thrived because of EAI, but wanted to help others succeed, building a community of reciprocity where EAI helped the client, and the client, in turn, helped the EAI center. Reciprocity hailed back to the idea of relationship building and exemplified clients’ gains.

Research Question Three

The third question asked in the research study was: How do parents and instructors describe the experiences children having during equine-assisted interventions at therapeutic

equine centers in Connecticut? Interviewees offered insight into the role of the horses. The influence of the natural setting was a key component of the EAI experience.

The Role of Horses.

Study participants explored the role of horses in both a recreational and relational way. Recreationally, the horse was viewed as entertainment or a tool in the EAI process. The novelty of working with an animal was highlighted. Clients' enjoyment of animals was an initiating factor in parents seeking out EAIs. P3 explained, "most people like animals and horses, there's something about them; their size, their demeanor ... typically it's calming."

The movement of the horse was described as calming, in a mechanical way which used the horse as a tool for creating movement. P12 explained, "the input of the movement from the horse on somebody who has anxiety has a huge influence on calming everything down." The benefits of the horses' movement were sighted by parents, P3 explained, "the whole-body movement and the sensory ... looking for the feedback and stuff and just being able to be in her skin and feel what it feels like to just be calm."

The horses' size played a role, with P16 stating, "some of these are very large animals and to be able to control and work with ... an animal of their size. I think...it helps tremendously." Instructors held a similar viewpoint, with P16 stating, "I think that for like, children, it is an absolute benefit to be able to ride and ... get that power that it contributes [to] your confidence."

The role of horses in the EAI experience was a relational one as well. Emotional connections and bonding between the horse and client were mentioned numerous times. P1 explained horses as social relationship partners, who reacted and responded naturally and authentically, creating a mutual relationship where the horse and client need to trust one another.

The horse is just communicating what they are experiencing. And people are able to have dramatic insights into their own behavior in relationship with others. Which I have not seen in any other type of intervention. So, it allows people to ... break down the skills of relationships into very identifiable pieces. For example, rhythm, reciprocity, vulnerability, the ability to be a trustworthy relationship partner, and experience what that feels like in a relationship to an animal that is seeking a trustworthy relationship partner.

Some parents commented on the horses' awareness of clients' needs, stating the horses *knew* when an individual had special needs and responded with calmness. P3 remarked, "and she understands, the horse does. It doesn't react to, if [the client] were to have a meltdown on top of [the horse] ... I don't think the horse would do anything but stand there."

An equine intervention focused on the relationship development between client and horse was called Liberty Work. During Liberty Work, the client and horse were in the arena. With no gear on, the horse was free in the ring with the rider. The instructor helped to guide the client in communicating with the horse using body language. P5, who uses Liberty Work, explained:

[I]t's very interesting to see how that progresses over the course of the lesson. and add the level of competence that happens when they realize that, the horse is actually communicating with them and understands what they're asking them. and the horse will eventually, if what is happening is actually authentic.

Nature and Location

The natural settings EAI take place in was a significant factor in the EAI experience. Interviewees commented about the influence being in nature had on clients. Several parents mentioned the benefit of the EAI setting, framing the concept around the idea of being away from technology. P16 summed up the thoughts expressed by several parents when stating, "just

being around nature and outside and you know, it's different from being cooped up in front of a computer all day ... I think it's nice to be outside and a change of pace and change of scenery.” Parents and instructors credited the *resetting* of clients’ moods to the natural environment as well. P12 explained, “going out into nature. it resets you. You could be having a bad day and you can come and ride and it's going to reset you, whether it's anxiety, behaviors, or whatever it is.” The idea of the natural environment positively influencing clients lends itself to biophilia theory, which explained humans had an innate need for exposure to the natural world.

Experiences of EAI concerning the natural world was explained from a physiological perspective. P12 described, “for some, it's sensory, you know, sensory input, grounding, being outside and with the horse in nature. It has a huge influence regardless of their disability”. The specific location came up for P19, who explained there were EAI centers closer in proximity to home, but opted to go to the riding center, calling the location the child’s “happy place”, because, “I don’t know if spiritual is the right word ... we just feel more connected [here].”

Discrepant Data

Discrepant data were found during the analysis (see Table 5). The participant(s) did not feel a connection to EAI staff, nor was the generalizing of skills observed. Upon further inspection, the discrepant data correlated to the overall theme of the role of horses and instructors in the EAI process as vital to success. The interviewees who did not feel connected to EAI staff were the same participants who stated staff did not communicate with parents regularly and stated skills were not generalized to other settings. One theme was the relationship between client and staff assisted in EAIs making a positive influence on social and emotional skill development. The connection between these pieces of discrepant data supported the theme because the lack of relationships showed a lack of growth.

Table 5

Discrepant Data

Majority of the Data	Discrepant Data
Clients feel connected to staff	One client felt no connection to a staff member who replaced an instructor with whom a strong bond had been developed. The lack of connection led to the termination of lessons
Clients generalized skills learned during EAI into other settings	Three parents stated skills exhibited at the riding center were used elsewhere.
Good repour with staff, clear communication	Two parents explained there was little to no communication regarding what took place during lessons, skill development, etc.
Clients were unaware of the specialized nature of EAI, saw EAI as recreational	One parent reported the child as self-conscious about telling peers which riding center she attended, due to the fact “therapeutic” was in the title.

Reliability and Validity

In Chapter 3, methods of controlling threats to validity and reliability were outlined. The reliability and validity of the multiple case study were managed through credibility, transferability, dependability, and confirmability. Triangulation, member checking, and journaling were tools used to support reliability and validity in the study.

Triangulation and member-checking were used to establish credibility and dependability. Research locations included three different therapeutic riding centers, allowing for triangulation of settings. Data sources were triangulated as a result of interviewing parents and instructors. The use of interviews and open-ended questionnaires triangulated data. Confirmability was established using the triangulation of data sources through consistency in findings between collection methods.

Member checking, where participants were asked to review transcripts for accuracy, was used as a credibility tool. Thick description in journaling was used to produce transferability.

Reflexivity journaling consisted of entries about decision making, logistics, personal values, and interests which could have influenced the study. Credibility, transferability, dependability, and confirmability helped to establish trustworthiness in the study and were accounted for and using the Trustworthiness Measures table (see Table 6).

Table 6

Trustworthiness Measures

Criteria	Technique Used
Credibility	Member checking after interviews were transcribed and when final drafts of ideas were developed. Triangulation of locations, data collection tools, and population (parents and instructors)
Transferability	Thick description in journaling Reflexivity journaling consisted of entries about decision making, logistics, personal values, and interests which could have influenced the study.
Dependability	Triangulation: 3 locations, parent, and instructor feedback, and two data collection instruments Member-checking during data collection and analysis.
Confirmability	Triangulation of data sources Consistency in findings between collection methods.

Chapter Summary

A review of the data found in the multiple case study was provided in the chapter. Data collection was discussed, which required the use of semi-structured interview questions and an open-ended questionnaire designed by the researcher with help from experts in the field. The three research questions were reviewed and answered. Parents' and instructors' perspectives were clients made positive social and emotional growth through the influence of EAIs. Equine-assisted interventions represented a place of comfort and community for clients, where a loving environment was established, which helped clients make individualized gains and contributed

back to the EAI community in a variety of ways. The horse and natural environment were key components of the EAI experience. A summary of the findings, implications, and recommendations are provided in Chapter 5.

Chapter 5: Discussion and Conclusion

Globally, mental health disorders increased resulting in health, social, human right, and economic consequences (World Health Organization, 2019). Individuals living with mental illnesses, such as anxiety and depression, experience higher rates of incarceration, victimization of violent crimes, and unemployment (Contreras et al., 2016; Leiner et al., 2018). Investigating the influence of alternative methods of managing such illnesses could have provided benefits, not only for the individual but societally as well. The purpose of the qualitative study was to explore the influence EAIs had on individuals with social or emotional deficits from the perspective of parents and instructors at three therapeutic riding centers in Connecticut.

Findings, interpretations, conclusions, limitations, recommendations, and implications for leadership were reviewed. Data presented in Chapter 4 were discussed concerning the information from the literature review and the theoretical framework of contingency leadership theory and biophilia theory. The following research questions guided the study:

Research Question One: What are the perspectives of parents and instructors with a child who receives Equine-assisted Interventions at therapeutic equine centers in Connecticut?

Research Question Two: What is the meaning of Equine-assisted Interventions for individuals with social/emotional deficits at therapeutic equine centers in Connecticut as described by parents and instructors?

Research Question Three: How do parents and instructors describe the experiences children having during Equine-assisted Interventions at therapeutic equine centers in Connecticut?

The qualitative case study was conducted to explore the perspectives of 18 parents and instructors of individuals participating in EAIs for social and emotional skill development at three Professional Association of Therapeutic Horsemanship (PATH) certified riding centers in Connecticut. Data were acquired and analyzed using semi-structured interviews and open-ended questionnaires. Exposure to equine-assisted interventions resulted in a positive influence on individuals with social and emotional deficits, in a variety of areas including confidence building, communication, relationship skills, and many others.

The results of the data collected and analyzed in Chapter 4 were discussed in the chapter. Information was synthesized, and the findings of the study were summarized with the framework of biophilia theory and contingency leadership theory (Cho & Lee, 2018; Uslu, 2019). The findings, interpretations, and conclusions were based on the three research questions. Limitations, recommendations, and implications for leadership are discussed.

Findings, Interpretations, Conclusions

Internationally, the increased rates of mental illness and lack of suitable treatment methods resulted in a variety of societal concerns (Lake & Turner, 2017). Society may benefit from a better understanding of alternative approaches to traditional therapeutic methods when treating individuals with social and emotional deficits. The study was conducted to focus on determining the influence of one alternative treatment, equine-assisted interventions (EAIs), had on participants' social and emotional development. Parents' and instructors' experiences and observations were the focus of the study. Previous studies left a gap in feedback from the parents and instructors. The data uncovered in the study confirmed equine-assisted interventions had a positive influence on the development of numerous prosocial and emotional skills. Findings were supported by biophilia theory, which highlighted the personal fulfillment achieved by human's

connection to the natural world (Cho & Lee, 2018). Contingency minded leaders with an awareness of biophilia theory may reap the rewards of considering incorporating EAIs into practices.

Literature Review Findings Confirmed

The role of horses in the EAI process was detailed in the literature review as well as being a major theme in the study. Data revealed the horses' involvement was integral on multiple levels. For instance, horses' stature promoted the development of self-confidence in participants (Duffy, 2018). Several interviewees commented on the confidence boost controlling a large animal had on EAI participants. Horses were noted as animals who balanced a relaxing effect while being assertive and creating boundaries (Lee & Makela, 2018). Engagement with the natural world supporting the development of attributes of mental health, which occurred for clients in the study, was a key to biophilia theory. Participants frequently referred to the horses as relaxing or calming.

The literature review resulted in understanding horses were responsive to human interactions and the environment (Carlsson et al., 2015; Dunlop & Tsantefski, 2018). In the present study, participants referred to horses as *knowing* the needs of the clients, responding to clients' body language, and developing a *bond* with clients. Responsiveness of the horses allowed for clients to be self-reflective about what the client brought into a relationship, while developing prosocial relationship skills in real-time, with the help of the instructor, as a relationship with the horse(s) was developed.

The influence of the environment on individuals was noted in the literature review and was deeply rooted in the theoretical framework of the study. Previous researchers found the physical environment of EAIs fostered a sense of community (Hassink et al., 2017; Mickelsson,

2019). The community was a major theme uncovered in the research study. Parents noted the relaxing properties of being in the natural environment of the EAI riding centers. In Biophilia theory, human's physical and emotional health was linked to contact with nature (Cho & Lee, 2018; Rosley et al., 2014).

According to the literature reviewed and findings of the conducted study, the influence of EAIs was far-reaching regarding the populations influenced and the skills developed. The development of anxiety reduction, self-esteem, self-confidence, and relationship skills were a few of the influences frequently discussed in EAI literature. Leaders should consider the spectrum of individuals, skills, and EAI styles when trying to find a program for an individual.

Anxiety reduction was a theme throughout the literature and the conducted study. Equine-assisted interventions helped reduce anxiety symptoms in a variety of individuals with varying diagnoses. Bradshaw (2019) explained mindfulness as a skill helping to combat perceptions of anxiety by keeping the individual focused on the present moment. Horses' mindfulness and attentiveness to the task at hand were described by participants, with one instructor calling horses, *mindfulness masters*.

The development of self-esteem has been noted in many studies; self-confidence and self-esteem increased after participation in EAIs (Borgi et al., 2016; Firmin et al., 2016; Wilson et al., 2017). More than 80% of the study participants stated EAIs helped clients increase self-confidence. Growth in self-confidence may have led to the development of other prosocial skills, such as improvements in relational skills, benefiting not only the individual but those interacting with the individual.

There were discrepant data points in the study. Participant(s) lacking a social or emotional connection to EAI staff may not have yielded the same positive results as a more

connected participant. The literature reviewed supported the notion of connectedness as a vital component of successful EIAs (Carlsson et al., 2015). One study participant stated a lack of connectedness resulted in the discontinuation of attending EIAs. The parent explained the one-on-one format was uncomfortable for the client when paired with an incompatible instructor. Lee and Makela (2018) explained the relationships between clients and EAI instructors played an essential role.

Another parent mentioned the negative influence that changing instructors had on her child. The experience negatively influenced the client's motivation to attend EAI lessons. Different clients felt varying degrees of connectedness with the same staff member. A staff member may have been described as connected to one client, and not to another. To capitalize on the full potential of EIAs, contingent leaders should be aware of the variation in relationships and put extra effort into considering relationship dynamics when pairing clients and staff.

Extended Knowledge

Data to dispute the information in the literature review was not revealed in the study. Knowledge regarding the influence of EIAs was extended by the study. Two concepts which emerged during the study were the importance and multi-layered nature of volunteerism in EAI programs, and the influence of EIAs on the parents of individuals participating in EIAs.

A key theme in the study was volunteerism in EAI. Volunteerism offered riding centers' fiscal benefits and added safety measures. All three EAI facilities relied on volunteers to safely run programming. Upon deeper analysis, volunteerism played a pivotal role in the social and emotional development clients experienced. The volunteers forged relationships with clients and helped to develop a sense of community and caring during lessons. In return, clients became volunteers, helping with summer camps, fundraising events, and developing fundraisers. The

clients' volunteerism allowed for new riders to participate in EAI programs.

The volunteerism component played a large role in developing a sense of community at the riding centers. Other researchers found perceptions of the community motivated some participants' attendance and comfort in participation (Dunlop & Tsantefski, 2018; Mickelsson, 2019). Contingency minded leaders may consider the important role of volunteerism, not only in EAIs but in other settings where meaningful relationships and perceptions of a community may develop.

The influence EAIs had on parents was another theme uncovered during the present study. Parents expressed EAIs as not only meaningful in a tertiary way, finding meaning through the clients, but in a directly personal way. Although only one individual physically participated in riding, social and emotional benefits permeated into the parents attending as a spectator. Xue-Ling Tan and Simmonds (2018) found parents described personal benefits from having a child in EAIs.

Parents expressed pride in the equestrian, social, and emotional accomplishments made by the children. Pride for clients' bravery was cited. Parents expressed a positive influence from the natural EAI environment. Further supporting the biophilic notion which stressed the physical and mental need for people to interact with the natural world (Cho & Lee, 2018). Several parents explained relationships and improved comfort levels developed via exposure and interactions with the horses. Lastly, parents highlighted the parent community, developed while standing on the sidelines together watching clients during the lessons.

Equine-assisted interventions had a positive effect on the parents themselves. As leaders within the family unit, parents observed and gained direct and indirect benefits from contingency minded practices. The positive influence of EAIs was not only on the clients but on parents as

attributed to the unorthodox approach taken by the family leader in managing a family member's mental health needs.

Limitations

Several limitations applied to the study. Triangulation of data collection instruments was used to support dependability and confirmability (Amankwaa, 2016). Only 7 of the 18 individuals chose to complete the open-ended questionnaire, limiting the analysis. Although only seven people completed the questionnaire, the responses provided were assessed for consistency and resulted in research saturation.

Another limiting factor was the influence the COVID-19 pandemic had on the study. Pandemic shutdowns resulted in a disruption to people's daily life. When shutdowns first occurred, acquiring volunteers was extremely difficult. Once the state began phasing out COVID-19 restrictions, the number of volunteers increased significantly.

Thick description in journaling was used to promote transferability and dependability (Amankwaa, 2016). Interviewing via a phone call instead of face-to-face was a limiting factor because descriptions could not include factors like body language and facial expressions. Even individuals who chose to interview face-to-face were influenced by COVID and were required to wear masks and maintain a physical distance of 6 feet during the interview.

Credibility was maintained using member checking (Amankwaa, 2016). After data were analyzed, participants were asked to review the results and offer feedback if discrepancies were noted. Several participants chose not to complete the member checking process, resulting in a limiting factor.

The study allowed for a broad range of individuals to participate; from clients without a formal diagnosis looking to improve social skills, to individuals with significant clinical

disabilities. While alike in PATH certification, the three sites differed greatly in practice. Some focused on social and emotional growth as a signature part of the EAI process, hiring mental health professionals to run programming. Other sites saw EAI as a physical activity which yielded social and emotional development as a tertiary outcome. Regardless of location or client profile, all three sites offered similar feedback which resulted in the themes developed in the previous chapter. As a result of the spectrum of individuals' needs and site styles, the results of the study can be applied in many other settings.

Recommendations

Prior research and the study findings indicate individuals with social and emotional deficits have benefitted from equine-assisted interventions as an alternative to more mainstream treatments like talk therapy, especially individuals who were motivated by engaging with animals. Leaders, such as parents and educators, should take a situational approach when determining what type of intervention would best suit a specific individual. The following recommendations were derived from the research data and include suggestions for future researchers and ideas for improving EAI policies and practices.

Recommendations for Further Research

The results of the study correlated with the findings in most of the research on EAI. Equine-assisted interventions promoted relationship building between client, staff, and horse were successful in reducing social and emotional deficit areas. To discover new information, future researchers may consider focusing on skill deficits rather than labels, analyzing durational data, and considering additional data collection methods.

Focus on Deficits, Not Labels

Including all individuals using EAIs to help social and emotional deficits in the study, rather than focusing on individuals with one specific disability, allowed the emphasis to be on the influence of EAIs on deficit areas rather than disability. Future researchers should consider conducting research in a way which focuses on deficits rather than disability labels, because it may offer relevant information to a wider population. For example, for the study clients of EAI included individuals with Autism, Downs Syndrome, ADHD, depression, PTSD, and dyslexia. Regardless of disability label, most EAI clients discussed dealing with anxiety, which was positively influenced by participating in EAI.

Study Duration with Precision

Another suggestion for future study was to consider the duration of attendance before influence was noted with more precision. Most of the study participants had been engaged in EAIs for years. In the study, participants were asked to accurately reflect on how long clients were involved in EAIs before a social or emotional influence was noted. Study participants' responses revealed such questioning was difficult to accurately reflect on and resulted in unsure answers. In future research, interviewing individuals at the start of EAI exposure and periodically throughout treatment may offer more accurate durational information.

Consider Additional Data Collection Methods

A great deal of information was retrieved using interviews and open-ended questionnaires. Future researchers may consider adding observations to the data collection methods. Observations would allow the researcher to see nuanced differences in practices between instructors, sites, and clients. Gathering data via lesson observations could assist in improving validity and reliability.

Recommendations for Policies and Practices

The study yielded results for areas where EIAs could benefit from changes in policies or practices. Recommendations stemmed from correlating comments made by multiple study participants, viewed through the lens of the theoretical framework. Increased accessibility, longer lessons, and improvement in communication between staff and parents were the recommendations presented.

Increased Accessibility

Riding centers offering EIAs should consider ways to increase accessibility, on a variety of fronts. Equine-assisted interventions were not widely advertised. Many individuals do not know EIAs exist and cannot benefit from EIAs as a treatment option. Spreading the word about EIAs, for example, through riding centers' community outreach programming or better maintained social media accounts, may help increase the awareness of EIAs to the general population.

Another accessibility issue, which was brought up by seven of the parents interviewed, was the cost of attending. Due to the expense of EAI programs, individuals who may have benefited from EAI do not have the ability due to fiscal constraints. Riding centers typically hold fundraising events to help reduce costs, but costs to attend remained high. A recommendation for tackling the issue may be appealing to health insurers. Several parents mentioned wishing EAI lessons could be covered by insurance, similarly to the way talk therapy was covered. Riding centers should band together with parents and work with insurance companies to discover ways EIAs may be covered, thereby reducing out of pocket costs for some participants.

Longer Lesson Times

Access to longer lessons was a concern voiced by parents. Several parents felt the process was rushed, even before COVID restrictions were in place which resulted in an amplifying of these perceptions. Parents noted the *actual* lesson being far less than an hour, which was expressed as the ideal amount of time. Riding centers should consider making sure lessons were an hour in length, to prevent parents and clients from feeling rushed or short-changed.

Improved Communication

Communication between riding center staff and parents was another area recommended for riding centers to consider for improvement. Parents' connectedness to, and understanding of, EAI programming varied greatly, with some parents knowing all the ins and outs of lessons while others knew nothing beyond dropping the client off at the door. An interest in knowing more about what occurs during lessons was expressed by parents who did not know about lessons, as well as perceiving an awkwardness in wanting to respect the client's privacy in a therapeutic setting. Riding centers should consider ways all parents can feel comfortable asking questions, observing lessons, and understanding the skills and developments being made by clients.

Implications for Leadership

As previously stated, mental health pertained to a global issue (Lake & Turner, 2017). Finding appropriate treatment options was situationally dependent and needed a contingency minded leader to gain steam. Integrating alternative approaches, like equine-assisted interventions, relied on contingency minded leaders who understood considering individual needs positively influenced the greater good. For some, biophilia theory pointed out, the best

course of action may be fostering situations where humans are offered opportunities to interact with animals and the natural environment.

Participants who partook in EAIs have seen a positive influence on a variety of social and emotional deficits. The influence of exposure may have had a ripple effect from participants to families and organizations. Family leaders choosing to enroll a family member in EAIs may have reaped benefits beyond the individual. Parents reported observing EAIs had a positive influence on mood and relationship dynamics with the individual participating. The development of improved communication and relationship skills may have had a positive influence on overall family functioning, with the potential for generalizing prosocial behaviors into other environments as well.

Organizational leaders, like those in education, may find exploring EAIs beneficial. District leaders looking to improve social and emotional learning outcomes for specialized student populations may consider EAI. Improving the behavior of students via the development of social and emotional skills could result in fewer classroom interruptions and an improved learning environment for all students (Clark, 2020).

Conclusion

Horses offered humans companionship and assistance for over 5,000 years (Equine Heritage Institute, 2013; McIntosh, 2014). In the trenches of war, pulling plows in fields, and as transportation, horses helped mankind in a multitude of areas. Throughout history, horses proved to be important to mankind. The positive results yielded by incorporating equines into therapeutic settings has been one more step in the evolution of the horse-human partnership.

Individuals developed a variety of skills during EAI interventions, helping to manage social and emotional deficits, improving quality of life in the process. Connectedness and fun

were keys to successful EAI programming. A telling component of EAI was the theme of love.

In years of working with individuals enrolled in a wide variety of therapies, never has the word *love* been applied, with such frequency and by many people, to a method of therapy. The sentiment of *love* shows EAI clients feel connected to the staff, animals, and location.

Equine-assisted interventions looked and felt like a recreational activity for the clients participating. Individuals' love of horses and learning horsemanship skills allowed EAIs to feel less like a therapy session and more like a hobby or interest. Connectedness and recreation worked together to foster an environment where clients were free to be less guarded and to be open to true social and emotional growth.

When leaders lead only with the majority in mind, the outliers were not accounted for. Contingency minded leaders understood an organization can only work at full capacity if each member of the group were given the tools needed to succeed. Equine-assisted interventions are one tool leaders should consider when working towards helping individuals with social and emotional deficits.

References

- Ahlin, E. (2019). Semi-structured interviews with expert practitioners: Their validity and significant contribution to translational research. *SAGE Research Methods Cases*.
<https://doi.org/10.4135/9781526466037>
- Amanchukwu, R., Stanley, G., & Ololube, N. (2015). A Review of leadership theories, principles, and styles and their relevance to educational management. *Scientific and Academic Publishing*. 6-14. <https://doi.org/10.5923/j.mm.20150501.02>.
- Amankwaa, L. (2016). Creating protocols for trustworthiness in qualitative research. *Journal of Cultural Diversity*, 23(3), 121–127.
<https://www.thefreelibrary.com/Trustworthiness+in+qualitative+research.-a0476729520>
- American College of Education. (2016). *Institutional Review Board (IRB) handbook: Version 1.0*. <https://ace.instructure.com/courses/860602/pages/institutional-review-board>
- American Psychiatric Association. (2013). Anxiety disorders. *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Anderson, S., & Meints, K. (2016). Brief Report: The Effects of Equine-Assisted Activities on the Social Functioning in Children and Adolescents with Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 46(10), 3344-3352.
<https://doi.org/10.1007/s10803-016-2869-3>
- Anestis, M. D., Anestis, J. C., Zawilinski, L. L., Hopkins, T. A., & Lilienfeld, S. O. (2014). Equine-related treatments for mental disorders lack empirical support: A systematic review of empirical investigations. *Journal of Clinical Psychology*, 70, 1115-1132.
<https://doi.org/10.1002/jclp.22113>

- Armat, M., Assarroudi, A., Rad, M., Sharifi, H., & Heydari, A. (2018). Inductive and deductive: Ambiguous labels in qualitative content analysis. *The Qualitative Report*, 23(1), 219-221. <https://nsuworks.nova.edu/tqr/vol23/iss1/16>
- Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544-559. <http://www.nova.edu/ssss/QR/QR13-4/baxter.pdf>
- Belotto, M. J. (2018). Data analysis methods for qualitative research: Managing the challenges of coding, interrater reliability, and thematic analysis. *Revista Brasileira de Enfermagem*, 71, 2622–2633. <https://nsuworks.nova.edu/cgi/viewcontent.cgi?article=3492&context=tqr>
- Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research*, 15(2), 219. <https://doi.org/10.1177/1468794112468475>
- Berto, R., Barbiero, G., Barbiero, P., & Senes, G. (2018). An individual's connection to nature can affect perceived restorativeness of natural environments. Some observations about biophilia. *Behavioral Sciences* (2076-328X), 8(3), 34. <https://doi.org/10.3390/bs8030034>
- Bickle, J. T. (2017). Developing remote training consultants as leaders-dialogic/network application of path-goal leadership theory in leadership development. *Performance Improvement*, 56(9), 32–39. <https://doi.org/10.1002/pfi.21738>
- Blair, E. (2016). A reflexive exploration of two qualitative data coding techniques. *Journal of Methods and Measurement in the Social Sciences*, (1), 14. <https://doi.org/10.2458/jmm.v6i1.18772>
- Boehe, D. M. (2016). Supervisory styles: A contingency framework. *Studies in Higher Education*, 41(3), 399–414. <https://doi.org/10.1080/03075079.2014.927853>

- Borgi, M., Loliva, D., Cerino, S., Chiarotti, F., Venerosi, A., Bramini, M., Nonnis, E., Marcelli, M., Vinti, C., De Santis, C., Bisacco, F., Fagerlie, M., Frascarelli, M., & Cirulli, F. (2016). Effectiveness of a standardized equine-assisted therapy program for children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 46(1), 1–9. <https://doi.org/10.1007/s10803-015-2530-6>
- Boyd, L., & Le Roux, M. (2017). “When he’s up there he’s just happy and content”: Parents’ perceptions of therapeutic horseback riding’, *African Journal of Disability* 6(0), a307. <https://doi.org/10.4102/ajod.v6i0.307>
- Bradshaw, G. (2019). The importance of mindfulness for anxious students. *BU Journal of Graduate Studies in Education*, 11(2), 27–30. <https://www.brandonu.ca/master-education/files/2019/09/BU-Journal-of-Graduate-Studies-in-Education-2019-vol-11-issue-2-1.pdf>
- Browning, W., Ryan, C., & Clancy, J. (2014). 14 Patterns of biophilic design: Improving health and well-being in the built environment. *Terrapin Bright Green*. <http://www.terrabinbrightgreen.com/wp-content/uploads/2014/09/14-Patterns-of-Biophilic-Design-Terrapin-2014p.pdf>
- Burk, S. V., & Gramlich, C. E. (2018). College coursework and skills valued for employment in the equine-assisted activities and therapies field. *NACTA Journal*, 62(1), 16–22. <https://www.nactateachers.org/index.php>
- Carlsson, C. (2017). Triads in equine-assisted social work enhance therapeutic relationships with self-harming adolescents. *Clinical Social Work Journal*, (4), 320. <https://doi.org/10.1007/s10615-016-0613-2>

- Carlsson, C., Ranta, D., & Traeen, B. (2015). Mentalizing and emotional labor facilitate equine-assisted social work with self-harming adolescents. *Child & Adolescent Social Work Journal*, 32(4), 329–339. <https://doi.org/10.1007/s10560-015-0376-6>
- Cherry, D., & Staudt, M. (2017). Equine facilitated therapy and trauma: Current knowledge future needs. *Advances in Social Work*, 18(1), 403–414. <https://doi.org/10.18060/21292>
- Cho, Y., & Lee, D. (2018). ‘Love honey, hate honey bees’: reviving biophilia of elementary school students through environmental education program. *Environmental Education Research*, 24(3), 445–460. <https://doi.org/10.1080/13504622.2017.1279277>
- Clark, A. (2020). Social-emotional learning: What you need to know. <https://www.understood.org/en/learning-thinking-differences/treatments-approaches/educational-strategies/social-emotional-learning-what-you-need-to-know>
- Contreras, N. A., Fossey, E., Castle, D. J., Harvey, C., Crosse, C., Morgain, D., & Rossell, S. L. (2016). What is the personal experience of jobseekers with severe mental illness undertaking a cognitive remediation program? *Psychosocial Intervention*, 25(3), 195–201. <https://doi.org/10.1016/j.psi.2016.02.003>
- Creswell, J. W. (2018). *Research design: Qualitative, quantitative, and mixed method approaches* (5th ed.). Thousand Oaks, CA: Sage Publications, Inc. <https://doi.org/10.1002/nha3.20258>
- Cuyper, K., De Ridder, K., & Strandheim, A. (2011). The effect of therapeutic horseback riding on 5 children with attention deficit hyperactivity disorder: A pilot study. *Journal of Alternative & Complementary Medicine*, 17(10), 901–908. <https://doi.org/10.1089/acm.2010.0547>

- DiMarco, C., Davies, L., Hargett, C., Kimberly, H., Odle, A., Takeno, E., Jelenek, A., Karros, J., Wilson, J., Lishia, D., Scuderi, A., & Murphy, L. (2015). The effects of an equine-assisted occupational therapy program on adaptive behaviors in children and youths. *American Journal of Occupational Therapy*, 69, 1295–1297.
<https://doi.org/10.5014/ajot.2015.69S1-PO1103>
- Duffy, A. (2018). Equine-assisted learning in mental health care: A natural fit with recreation therapy? *Journal of Therapeutic Recreation Ontario*, 13, 87–98.
http://www.horsemuse.ca/uploads/1/1/0/8/110818405/equine_assisted_learning_mental_health_care.pdf
- Dunlop, K., & Tsantefski, M. (2018). A space of safety: Children's experience of equine-assisted group therapy. *Child & Family Social Work*, 23(1), 16–24.
<https://doi.org/10.1111/cfs.12378>
- Dwyer, S. C., & Buckle, J. L. (2009). The space between: On being an insider-outsider in qualitative research. *International Journal of Qualitative Methods*, 54–63.
https://doi.org/10.1177/160940690900800105D_
- Earles, J. L., Vernon, L. L., & Yetz, J. P. (2015). Equine-assisted therapy for anxiety and posttraumatic stress symptoms. *Journal of Traumatic Stress*, 28(2), 149–152.
<https://doi.org/10.1002/jts.21990>
- Ebesutani, C., Fierstein, M., Viana, A. G., Trent, L., Young, J., & Sprung, M. (2015). The role of loneliness in the relationship between anxiety and depression in clinical and school-based youth. *Psychology in the Schools*, 52(3), 223–234. <https://doi.org/10.1002/pits.21818>

- Einstein, E. H., & Klepacz, L. (2017). What influences mental illness? Discrepancies between medical education and conception. *Journal of Medical Education and Curricular Development*, 4, 238212051770512. <https://doi.org/10.1177/2382120517705123>
- Equine Heritage Institute. (2013). Shaping civilizations: The role of the horse in human societies. <http://www.equineheritageinstitute.org/shaping-civilizations-the-role-of-the-horse-in-human-societies/>
- Firmin, M. W., Brink, J. E., Firmin, R. L., Grigsby, M. E., & Trudel, J. F. (2016). Qualitative perspectives of an animal-assisted therapy program. *Alternative & Complementary Therapies*, 22(5), 204–213. <https://doi.org/10.1089/act.2016.29073.mwf>
- Flynn, J. (2018). Sense and sentimentality: The soldier-horse relationship in the great war. <http://hdl.handle.net/10545/621040>
- Frederick, K. E., Hatz, J., & Lanning, B. (2015). Not just horsing around: The influence of equine-assisted learning on levels of hope and depression in at-risk adolescents. *Community Mental Health Journal*, 51(7), 809–817. <https://doi.org/10.1007/s10597-015-9836>
- Greene, M. J. (2014). On the inside looking in: Methodological insights and challenges in conducting qualitative insider research. *Qualitative Report*, 19(29), 1–13. <http://www.nova.edu/ssss/QR/QR19/greene15.pdf>
- Guerino, M. R., Briel, A. F., & Rodrigues AraÚJo, M. D. G. (2015). Hippotherapy as a treatment for socialization after sexual abuse and emotional stress. *Journal of Physical Therapy Science*, 27(3), 959–962. <https://doi.org/10.1589/jpts.27.959>
- Hackenberg, T. D. (2018). Token reinforcement: Translational research and application. *Journal Of Applied Behavior Analysis*, 51(2), 393–435. <https://doi.org/10.1002/jaba.439>

- Hancock, D. R., & Algozzine, R. (2017). *Doing case study research: A practical guide for beginning researchers* (3rd ed.). New York: Teachers College Press.
- Harrison, H., Birks, M., Franklin, R., & Mills, J. (2017). Case study research: Foundations and methodological orientations. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 18(1). <http://dx.doi.org/10.17169/fqs-18.1.2655>
- Hartman, S., Winsler, A., & Manfra, L. (2017). Behavior concerns among low-income, ethnically, and linguistically diverse children in childcare: Importance for school readiness and kindergarten achievement. *Early Education & Development*, 28(3), 255–273. <https://doi.org/10.1080/10409289.2016.1222121>
- Hassink, J., De Bruin, S. R., Berget, B., & Elings, M. (2017). Exploring the role of farm animals in providing care at care farms. *Animals* (2076-2615), 7(6), 45. <https://doi.org/10.3390/ani7060045>
- Hersey, P., & Blanchard, K. H. (1969). Life cycle theory of leadership. *Training & Development Journal*, 23(5), 26. <http://www.astd.org/TD/>
- Hes, D., Soderlund, J., Desha, C., & Pidcock, C. (2018). Natural connectors: Biophilic design takes root. *Sanctuary: Modern Green Homes*, (45), 68-73. <https://doi.org/10.2307/90026753>
- Ho, N. F., Zhou, J., Fung, D. S. S., & Kua, P. H. J. (2017). Equine-assisted learning in youths at-risk for school or social failure. *Cogent Education*, 4(1). <https://doi.org/10.1080/2331186X.2017.1334430>
- Hoagwood, K., Acri, M., Morrissey, M., & Peth-Pierce, R. (2017). Animal-assisted therapies for youth with or at risk for mental health problems: A systematic review. *Applied Developmental Science*, 21(1), 1–13. <https://doi.org/10.1080/10888691.2015.1134267>

- Humble, Á. (2015). Guidance in the world of computer-assisted qualitative data analysis software (CAQDAS) programs. *Forum: Qualitative Social Research*, 16(2), 131–141.
www.qualitative-research.net/index.php/fqs/article/download/2337/3797
- Ikart, E. M. (2018). Questionnaire pretesting methods: A comparison of cognitive interviewing and respondent debriefing vis-à-vis the study of the adoption of decision support systems by knowledge workers. *International Journal of Business & Information*, 13(2), 119–154.
[https://doi.org/10.6702/ijbi.201806_13\(2\).0001](https://doi.org/10.6702/ijbi.201806_13(2).0001)
- Jang, B., Song, J., Kim, J., Kim, S., Lee, J., Shin, H.-Y., Kwon, J., Kim, Y., & Joung, Y.-S. (2015). Equine-assisted activities and therapy for treating children with attention-deficit/hyperactivity disorder. *The Journal of Alternative and Complementary Medicine*, 21(9), 546–553.
<https://doi.org/10.1089/acm.2015.0067>
- Johansen, S. G., Arfwedson Wang, C. E., & Binder, P. E. (2016). Facilitating change in a client's dysfunctional behavioural pattern with horse-aided psychotherapy. A case study. *Counselling and Psychotherapy Research*, 16(3), 222–231.
<https://doi.org/10.1002/capr.12078>
- Johnson, R., Albright, D., Marzolf, J., Bibbo, J., Yaglom, H., Crowder, S., Carlisle, G., Willard, A., Russell, C., Grindler, K., Osterlind, S., Wassman, M., & Harms, N. (2018). Effects of therapeutic horseback riding on post-traumatic stress disorder in military veterans. *Military Medical Research*, (1), 1. <https://doi.org/10.1186/s40779-018-0149-6>
- Kellert, S., & Calabrese, E. (2015). The practice of biophilic design. www.biophilic-design.com
- Kendall, E., Maujean, A., Pepping, C. A., Lakhani, A., Macfarlane, K., Downes, M., & Byrne, J. (2015). A systematic review of the efficacy of equine-assisted interventions on

- psychological outcomes. *European Journal of Psychotherapy & Counselling*, 17(1), 57.
<https://doi.org/10.1080/13642537.2014.996169>
- Koç, S. E. (2019). The relationship between emotional intelligence, self-directed learning readiness, and achievement. *International Online Journal of Education and Teaching (IOJET)*, 6(3), 678-694. <http://iojet.org/index.php/IOJET/article/view/568>
- Lake, J., & Turner, M. (2017). Urgent need for improved mental health care and a more collaborative model of care. *The Permanente Journal*. <https://doi.org/10.7812/tpp/17-024>
- Lanning, B. (2018). Combat veterans with PTSD report better mental health after therapeutic horseback riding intervention. *Baylor University*.
<https://www.newswise.com/articles/combat-veterans-with-ptsd-report-better-mental-health-after-therapeutic-horseback-riding-intervention>
- Lee, P. T., & Makela, C. (2018). Mental health practitioners' strategies in equine-assisted psychotherapy: implications for social work. *Social Work Education*, 37(1), 119–135.
<https://doi.org/10.1080/02615479.2017.1378318>
- Leiner, M., De la Vega, I., & Johansson, B. (2018). Deadly mass shootings, mental health, and policies and regulations: What we are obligated to do! *Frontiers in Pediatrics*.
<https://doi.org/10.3389/fped.2018.00099>
- Lentini, J. A., & Knox, M. S. (2015). Equine-facilitated psychotherapy with children and adolescents: An update and literature review. *Journal of Creativity in Mental Health*, 10(3), 278–305. <https://doi.org/10.1080/15401383.2015.1023916>
- Leung, L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of family medicine and primary care*, 4(3), 324–327. <https://doi.org/10.4103/2249-4863.161306>

- Lin, P. I., Fei, L., Barzman, D., & Hossain, M. (2018). What have we learned from the time trend of mass shootings in the U.S.? *PLoS ONE*, *13*(10), 1–13.
<https://doi.org/10.1371/journal.pone.0204722>
- 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 & Education*, *61*(1), 67–79.
<https://doi.org/10.1080/1034912X.2014.878543>
- Luo, S. X., & Levin, F. R. (2017). Towards precision addiction treatment: New findings in co-morbid substance use and attention-deficit hyperactivity disorders. *Current Psychiatry Reports*, *19*(3), 14. <https://doi.org/10.1007/s11920-017-0769-7>
- Malik, M., Siddique, F., & Hussain, S. (2018). Exploring the development of social intelligence of students during university years. *Pakistan Journal of Education*, *35*(1), 43–58.
<https://doi.org/10.30971/pje.v35i1.563>
- Mattick, K., Johnston, J., & de la Croix, A. (2018). How to...write a good research question. *Clinical Teacher*, *15*(2), 104–108. <https://doi.org/10.1111/tct.12776>
- Mayo Clinic. (2019). Mental illness. <https://www.mayoclinic.org/diseases-conditions/mental-illness/symptoms-causes/syc-20374968>.
- McArdle, K., Ehlen, K., & Ralph, J. (2018). Equine-assisted Therapy: an evaluation of the therapeutic, reciprocal relationship between horse and rider. *Good Autism Practice*, *19*(2), 52–58.
<https://www.ingentaconnect.com/search/article?option1=tka&value1=Equine+Assisted+Therapy.+an+evaluation+of+the+therapeutic.+reciprocal+relationship+between+horse+and+rider&pageSize=10&index=1>

- McDaniel Peters, B., & Wood, W. (2017). Autism and equine-assisted interventions: A systematic mapping review. *Journal of Autism & Developmental Disorders*, 47(10), 3220–3242. <https://doi.org/10.1007/s10803-017-3219-9>
- McIntosh, P. (2014). Horses- Haulers, racers, and healers. *English Teaching Forum*, 52(2), 36–46. <https://americanenglish.state.gov/forum/>
- McNamara, J. (2017). Equine facilitated therapy for children and adolescents: A qualitative pilot study. *Journal of Creativity in Mental Health*. 12. 1-16.
<https://doi.org/10.1080/15401383.2017.1340215>.
- Mendonça, T., Bienboire-Frosini, C., Menuge, F., Leclercq, J., Lafont-Lecuelle, C., Arroub, S., & Pageat, P. (2019). The influence of equine-assisted therapy on equine behavioral and physiological responses. *Animals*, (7), 409. <https://doi.org/10.3390/ani9070409>
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.
- Mickelsson, R. (2019). Harnessing horses in social pedagogy: Equine-assisted social education in a school context. *International Journal of Social Pedagogy*, 8(1): 4.
<https://doi.org/10.14324/111.444.ijsp.2019.v8.x.003>.
- Mitchell, D. B., & Mueller, M. P. (2011). A philosophical analysis of David Orr’s theory of ecological literacy: biophilia, ecojustice, and moral education in school learning communities. *Cultural Studies of Science Education*, (1), 193.
<https://doi.org/10.1007/s11422-010-9274-6>
- Moore, K., Lippman, L., & Ryberg, R. (2015). Improving outcome measures other than achievement. *AERA Open*. <https://doi.org/10.1177/2332858415579676>

- Mueller, M., & McCullough, L. (2017). Effects of equine-facilitated psychotherapy on post-traumatic stress symptoms in youth. *Journal of Child & Family Studies*, 26(4), 1164–1172. <https://doi.org/10.1007/s10826-016-0648-6>
- Murairwa, S. (2015). Voluntary sampling design. *International Journal of Advanced Research in Management and Social Sciences*, 4(2), 186-200.
<http://garph.co.uk/IJARMSS/Feb2015/18.pdf>
- Murphy, L., Wilson, J., & Greenberg, S. (2017). Equine-assisted experiential learning in occupational therapy education. *Journal of Experiential Education*, 40(4), 366-376.
<https://doi.org/10.1177/1053825917712732>
- National Alliance on Mental Illness. (2019). Mental health by the numbers.
<https://www.nami.org/learn-more/mental-health-by-the-numbers>.
- National Institute of Mental Health. (2019). Mental illness.
<https://www.nimh.nih.gov/health/statistics/mental-illness.shtml>.
- National Institutes of Health. (2011). Protecting human research participants | *PHRP Training*.
<http://phrp.nihtraining.com/>
- Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence Based Nursing*, (2), 34. <https://doi.org/10.1136/eb-2015-102054>
- Notgrass, C. G., & Pettinelli, J. D. (2015). Equine-assisted psychotherapy: The equine-assisted growth and learning association's model overview of equine-based modalities. *Journal of Experiential Education*, 38(2), 162–174. <https://doi.org/10.1177/1053825914528472>
- Oh, Y., Joung, Y.-S., Jang, B., Yoo, J. H., Song, J., Kim, J., Kim, K., Kim, S., Lee, J., Shin, H., Kwon, J., Kim, Y., & Jeong, B. (2018). Efficacy of hippotherapy versus pharmacotherapy in attention-deficit/hyperactivity disorder: A randomized clinical trial.

Journal of Alternative & Complementary Medicine, 24(5), 463–471.

<https://doi.org/10.1089/acm.2017.0358>

Parisi, A., Cerulli, C., De Santis, C., & Minganti, C. (2016). Equine-assisted therapy for breast cancer survivors. *Alternative and Complementary Therapies*, 22(3), 147–148.

<https://doi.org/10.1089/act.2016.29060.cru>

Patino, C. M., & Ferreira, J. C. (2018). Inclusion and exclusion criteria in research studies: definitions and why they matter. *Jornal Brasileiro De Pneumologia: Publicacao Oficial Da Sociedade Brasileira De Pneumologia E Tisiologia*, 44(2), 84.

<https://doi.org/10.1590/s1806-37562018000000088>

Patton, M. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications. <https://doi.org/10.1177/1035719X0300300213>

Pendry, P., Carr, A. M., Smith, A. N., & Roeter, S. M. (2014). Improving adolescent social competence and behavior: a randomized trial of an 11-week equine facilitated learning prevention program. *The Journal of Primary Prevention*, 35(4), 281–293.

<https://doi.org/10.1007/s10935-014-0350-7>

Poduthase, H. (2015). Rigor in qualitative research: Promoting quality in social science research. *Research Journal of Recent Sciences*, 4, 25-28.

<http://www.isca.in/rjrs/archive/v4/iIVC-2015/6.ISCA-IVC-2015-20SHS-11.pdf>

Popp, M., & Hadwich, K. (2018). Examining the effects of employees' behaviour by transferring a leadership contingency theory to the service context. *Journal of Service Management Research (SMR)*, 2(3), 44–59. <http://doi.org/10.15358/2511-8676-2018-3-44>

Professional Association of Therapeutic Horsemanship International. (2017). *EAAT Definitions*.

<http://www.pathintl.org/resources-education/resources/eaat/27-resources/general/193-eaat-definitions>.

Raza, S., & Sikandar, A. (2018). Influence of leadership style of teacher on the performance of students: An application of Hersey and Blanchard situational model. *Bulletin of*

Education & Research, 40(3), 73–94. <http://www.pu.edu.pk/>

Reicher, H., & Matischek-Jauk, M. (2017). Preventing depression in adolescence through social and emotional learning. *International Journal of Emotional Education*, 9(2), 110–115.

https://www.um.edu.mt/__data/assets/pdf_file/0015/335040/v9i2rr9.pdf

Romaniuk, M., Evans, J., & Kidd, C. (2018). Evaluation of an equine-assisted therapy program for veterans who identify as “wounded, injured or ill” and their partners. *Plos One*, 13(9),

e0203943. <https://doi.org/10.1371/journal.pone.0203943>

Rosley, M. S. F., Rahman, S. R. A., & Lamit, H. (2014). biophilia theory revisited: Experts and non-experts perception on aesthetic quality of ecological landscape. *Procedia - Social*

and Behavioral Sciences, 153, 349–362. <https://doi.org/10.1016/j.sbspro.2014.10.068>

Rumayor, C. B., & Thrasher, A. M. (2017). Reflections on recent research into animal-assisted interventions in the military and beyond. *Current Psychiatry Reports*, (12), 1.

<https://doi.org/10.1007/s11920-017-0861-z>

Saggers, B., & Strachan, J. (2016). Horsing around: Using equine facilitated learning to support the development of social-emotional competence of students at risk of school failure.

Child & Youth Services, 37(3), 231-252. <https://doi.org/10.1080/0145935x.2015.1072045>

Saldaña, J. (2016). *The coding manual for qualitative researchers*. Los Angeles, CA: SAGE.

- Seçer, I., Gülbahçe, A., & Ulas, S. (2019). An investigation into the effects of anxiety sensitivity in adolescents on childhood depression and anxiety disorder. *Educational Research and Reviews*, 14(9), 293–299. <https://files.eric.ed.gov/fulltext/EJ1215833.pdf>
- Stefanini, M. C., Martino, A., Bacci, B., & Tani, F. (2016). Research paper: The effect of animal-assisted therapy on emotional and behavioral symptoms in children and adolescents hospitalized for acute mental disorders. *European Journal of Integrative Medicine*, 8(2), 81–88. <https://daneshyari.com/article/preview/2479643.pdf>
- Stein, R. E. K., Storfer-Isser, A., Kerker, B. D., Garner, A., Szilagyi, M., Hoagwood, K. E., O'Connor, K., & McCue Horwitz, S. (2016). Beyond ADHD: How well are we doing? *Academic Pediatrics*, 16(2), 115–121. <https://doi.org/10.1016/j.acap.2015.08.012>
- Stevenson, M., Dewhurst, R., Schilhab, T., & Bentsen, P. (2019). Cognitive restoration in children following exposure to nature: Evidence from the attention network task and mobile eye tracking. *Frontiers in Psychology*. <https://doi.org/10.3389/fpsyg.2019.00042>
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research, Second edition*. Thousand Oakes, CA: Sage Publications.
- Stuckey, H. (2015). The second step in data analysis: Coding qualitative research data. *Journal of Social Health and Diabetes*, 3(1). <https://doi.org/10.1055/s-00041241>
- Swanson, G. (2014). Effects of animal-assisted therapy on human health. *HIM 1990-2015*. <https://pdfs.semanticscholar.org/dfce/c8b43b062169629df8246fa430ea096878e5.pdf>
- Tavis, A. (2016). The science behind happy spaces. *People & Strategy*, 39(2), 8–11. <https://go.gale.com/ps/anonymous?id=GALE|A552253063&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=19464606&p=AONE&sw=w>

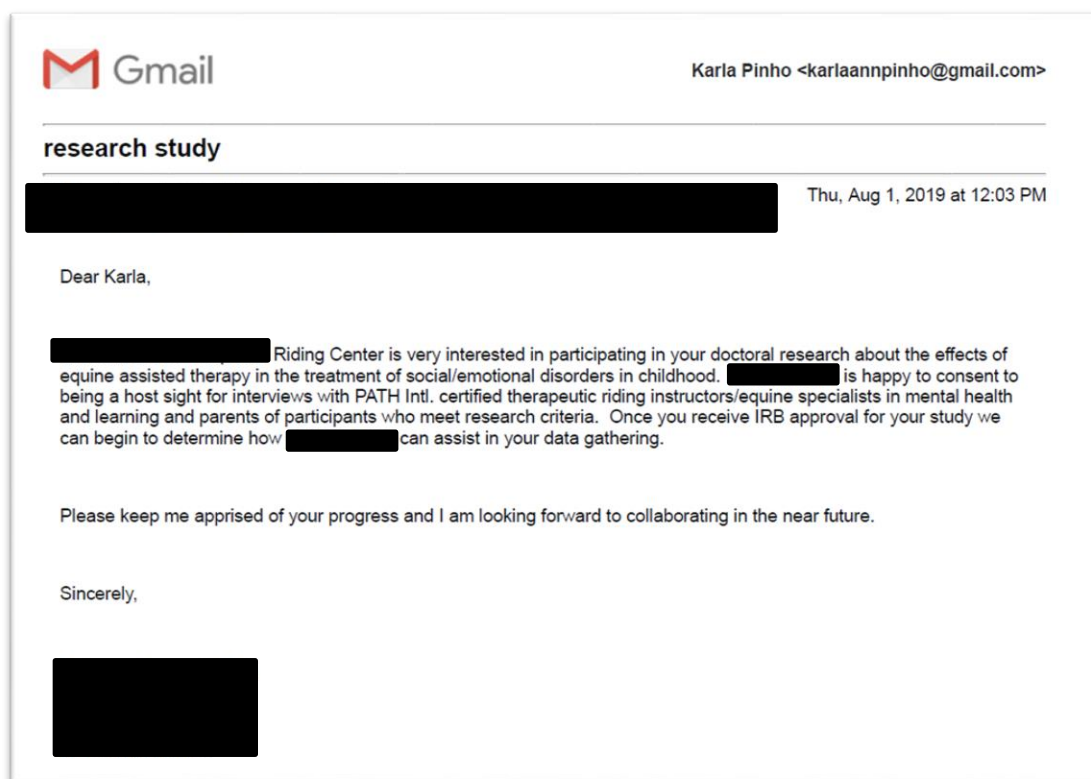
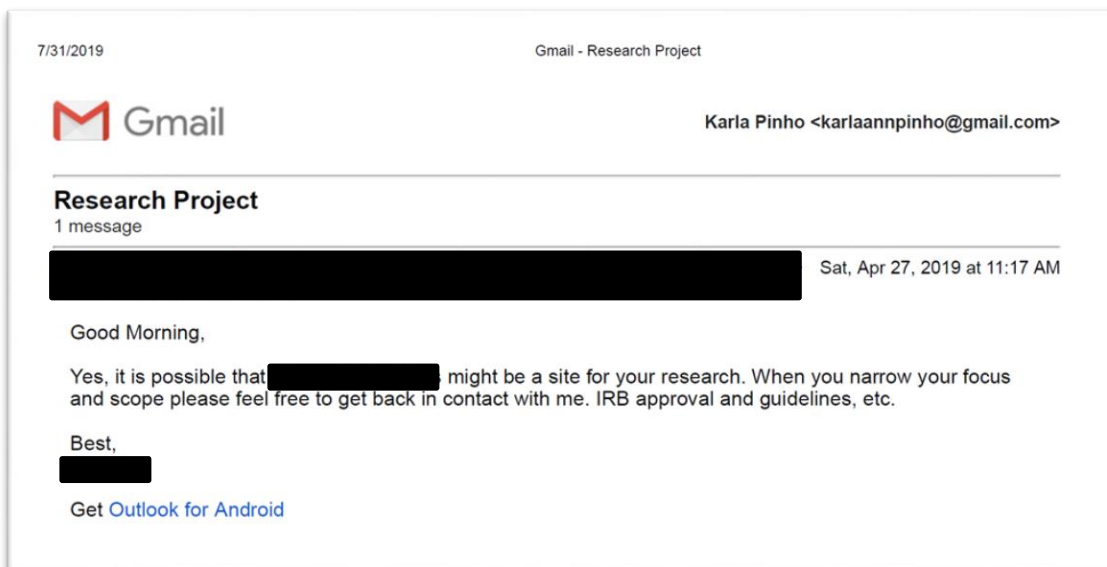
- Telles-Correia, D., Saraiva, S., & Gonçalves, J. (2018). Mental disorder—The need for an accurate definition. *Frontiers in Psychiatry*, 9. <https://doi.org/10.3389/fpsy.2018.00064>
- Theofanidis, D., & Fountouki, A. (2018). Limitations and delimitations in the research process. *Perioperative Nursing*, 7(3), 155–163. <https://doi.org/10.5281/zenodo.2552022>
- Trzmiel, T., Purandare, B., Michalak, M., Zasadzka, E., & Pawlaczyk, M. (2019). Equine-assisted activities and therapies in children with autism spectrum disorder: A systematic review and a meta-analysis. *Complementary Therapies in Medicine*, 42, 104–113. <https://doi.org/10.1016/j.ctim.2018.11.004>
- Ulrich, R. (1984). View through a window may influence recovery from surgery. *Science* (New York, N.Y.). 224. 420-1. <https://doi.org/10.1126/science.6143402>.
- Uslu, O. (2019). A general overview to leadership theories from a critical perspective. *Marketing & Management of Innovations*, (1), 161. <http://doi.org/10.21272/mmi.2019.1-13>
- Varpio, L., Ajjawi, R., Monrouxe, L. V., O'Brien, B. C., & Rees, C. E. (2017). Shedding the cobra effect: Problematising thematic emergence, triangulation, saturation, and member checking. *Medical Education*, 51(1), 40–50. <https://doi.org/10.1111/medu.13124>
- Vasher, H., Delano, M., Herlache-Pretzer, E., Meyer, K., & Stawowy, K. (2017). The influence of equine-assisted therapy on communication within familial relationships of veterans with posttraumatic stress disorder. *American Journal of Occupational Therapy*, 71, 249. <https://doi.org/10.5014/ajot.2017.71S1-PO1021>
- Waite, C., & Bourke, L. (2013). “It’s different with a horse”: horses as a tool for engagement in a horse therapy program for marginalized young people. *Youth Studies Australia*, 4, 15. <https://www.youthpolicy.org/journals/youth-studies-australia/>

- Wang, C., Preisser, J., Chung, Y., & Li, K. (2018). Complementary and alternative medicine use among children with mental health issues: results from the National Health Interview Survey. *BMC Complementary and Alternative Medicine*, 18(1), 241. <https://doi.org/10.1186/s12906-018-2307-5>
- Whitley, J., & Gooderham, S. (2015). Mental health promotion efforts for children and youth in Canada and beyond: Evidence in research, policy, and practice. *Exceptionality Education International*, 25, 91-111. <http://ir.lib.uwo.ca/eei/vol25/iss1/5>
- 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 & Psychiatry*, 22(1), 16–33. <https://doi.org/10.1177/1359104515572379>
- Woodford, K. M., Fenton, L., & Connors, J. (2017). A change of scenery wilderness therapy treatment for inpatients in acute care. *Therapeutic Recreation Journal*, 51(4), 258–274. <https://doi.org/10.18666/TRJ-2017-V51-I4-7374>
- World Health Organization. (2019). *Mental disorders*. World health organization. <https://www.who.int/en/news-room/fact-sheets/detail/mental-disorders>.
- Xue-Ling Tan, V., & Simmonds, J. G. (2018). Parent perceptions of psychosocial outcomes of equine-assisted interventions for children with autism spectrum disorder. *Journal of Autism & Developmental Disorders*, 48(3), 459–469. <https://doi.org/10.1007/s10803-017-3399-3>
- Yaddanapudi, S., & Yaddanapudi, L. (2019). How to design a questionnaire. *Indian Journal of Anaesthesia*, 63(5), 335–337. https://doi.org/10.4103/ija.IJA_334_19

- Yanez, R. E., Fees, B. S., & Torquati, J. (2017). Preschool children's biophilia and attitudes toward nature: The effect of personal experiences. *International Journal of Early Childhood Environmental Education*, 5(1), 57–67.
<https://naaee.org/eeopro/research/library/preschool-childrens-biophilia-and>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Los Angeles: Sage.
- Zaman, N. I., & Munaf, S. (2019). Self-esteem and depressive mood of individuals with mood disorders: A correlational study. *Bahria Journal of Professional Psychology*, 18(1), 1–10.
<http://bjpp.com.pk/index.php/BJPP/article/view/116/91>
- Zamanzadeh, V., Gharamanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A. (2015). Design and implementation content validity study: Development of an instrument for measuring patient-centered communication, *Journal of Caring Sciences*, 4(2), 165–178. <https://doi.org/10.15171/jcs.2015.017>
- Zamawe, F. C. (2015). The implication of using NVivo software in qualitative data analysis: Evidence-based reflections. *Malawi Medical Journal: The Journal Of Medical Association Of Malawi*, 27(1), 13–15. <http://dx.doi.org/10.4314/mmj.v27i1.4>
- Zutlevics, T. L. (2016). Could providing financial incentives to research participants be ultimately self-defeating? *Research Ethics*, 12(3), 137–148.
<https://doi.org/10.1177/1747016115626756>

Appendix A

Permission to Conduct





Karla Pinho <karlaannpinho@gmail.com>

4:46 PM (3 minutes ago)



to [REDACTED]

Hello [REDACTED]

Thanks for chatting with me today. I enjoyed filling you in on the research I am conducting, and hope I answered your questions. If you have any more questions, please let me know. Looking forward to hearing from you regarding the study.

Thank you,
Karla Pinho



[REDACTED]

5:52 PM (0 minutes ago)



to me

Hi Karla

[REDACTED] Therapeutic Riding Inc. would be interested in participating in your research.

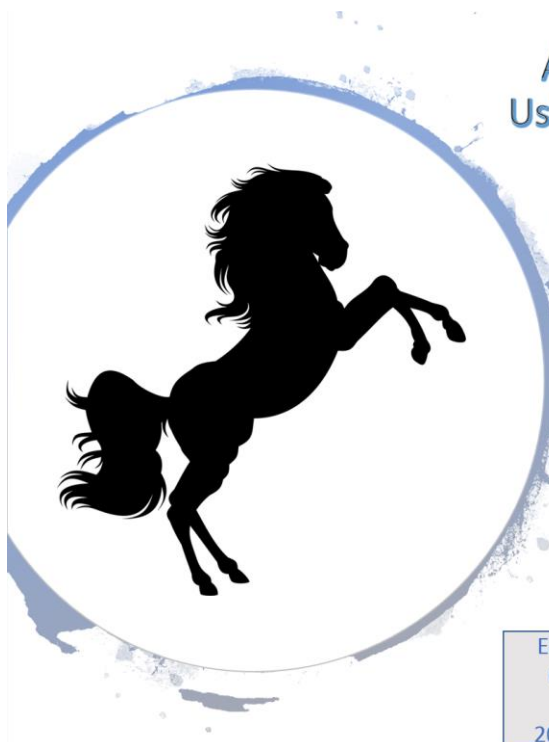
[REDACTED]

...

--

Appendix B

Flyers and Social Media Posts




Attention: Parents/Instructors of Children Using Equine Assisted Interventions for Social and Emotional Development

- **Who am I?:** A doctoral student doing research on equine assisted interventions from the perspectives of parents and instructors.
- **What am I doing?** I am looking to interview parents and instructors at the riding center. They will also be asked to complete a brief online questionnaire.
- **Who do I need?** PATH certified instructors and parents of children using equine assisted interventions to address social and emotional issues.

If you have any questions, please do not hesitate to contact me, Karla, call or text at 203.206.5627.

I hope you will consider participating in the study!

Equine Study Call or text Karla 203.206.5627	Equine Study Call or text Karla 203.206.5627	Equine Study Call or text Karla 203.206.5627	Equine Study Call or text Karla 203.206.5627
---	---	---	---



Attention: Parents/Instructors of Children Using Equine Assisted Interventions for Social and Emotional Development

Are you bored at home, practicing social distancing? Why not participate in this study from the safety of your home, over the phone!

- **Who am I?:** A doctoral student doing research on equine assisted interventions (EAls) from the perspectives of parents and instructors.
- **What am I doing?** I am looking to interview parents and instructors at the riding center. They will also be asked to complete a brief online questionnaire.
- **Who do I need?** PATH certified instructors and parents of children using equine assisted interventions to address social and emotional issues who have attended 5+ EAI sessions.

If you have any questions, please do not hesitate to contact me, Karla, call or text at 203.206.5627.

I hope you will consider participating in the study!

Equine Study
Call or text
Karla
203.206.5627

Appendix C

Informed Consent

Prospective Research Participant: Read the consent form carefully and ask as many questions as you like before you decide whether you want to participate in the research study. You are free to ask questions at any time before, during, or after you participate in the research.

Project Information

Project Title:

The Influence of Equine-assisted Interventions: A Case Study

Researcher: Karla Pinho

Organization: American College of Education

Email: karlaannpinho@gmail.com **Telephone:** 2032065627

Researcher's Faculty Member: Dr. Sarah Everts

Organization and Position: American College of Education; Dissertation Committee Chairperson

Email:

Introduction

I am Karla Pinho, and I am a doctoral candidate student at the American College of Education. I am researching under the guidance and supervision of my Chair, Dr. Sarah Everts. I will give you some information about the project and invite you to be part of the research. Before you decide, you can talk to anyone you feel comfortable with about the research. The consent form may contain words you do not understand. Please ask me to stop as we go through the information, and I will explain. If you have questions later, you can ask then.

Purpose of the Research

You are being asked to participate in a research study which will assist with understanding the influence Equine-assisted interventions have on individuals. The qualitative study will examine parent's and instructor's perception of the influence Equine-assisted interventions have on individuals with social and emotional deficits. Through the investigation, a deeper understanding of the influence Equine-assisted interventions have on clients can be developed and may provide the support needed for other agencies, organizations, and individuals to consider Equine-assisted interventions as an intervention.

Research Design and Procedures

The study will use a qualitative methodology and holistic, multiple case study research design. The study will comprise of 18 voluntary participants, who will participate in a one-hour

interview. The interview was conducted at the site most convenient for participants. After the interview, a debrief session will occur (OPTIONAL).

Participant selection

You are being invited to take part in the research because of your experience as a parent or instructor who can contribute to the topic, and meets the criteria for the study. Participant selection criteria are of children who have utilized five or more Equine-assisted Intervention sessions in response to social or emotional deficits or are PATH certified instructors.

Voluntary Participation

Your participation in the research is entirely voluntary. If you choose not to participate, there are no punitive repercussions and you do not have to participate. If you select to participate in the study, you may change your mind later and stop participating even if you agreed earlier.

Procedures

We are inviting you to participate in the research study. If you agree, you are asked to participate in an interview. The type of questions asked will range from a demographical perspective to direct inquiries about the topic of Equine-assisted interventions.

Duration

The interview portion of the research study will require approximately 60 minutes to complete. If you are selected to participate, the time expected was a maximum of 90 minutes. If you are chosen, the interview was held at a location and time convenient for the participant. A follow-up debriefing session will take 10 minutes (OPTIONAL).

Risks

I will ask you to share personal and confidential information, and you may feel uncomfortable talking about some of the topics. You do not have to answer any question or take part in the discussion if you don't wish to do so. You do not have to give any reason for not responding to any question.

Benefits

While there was no direct financial benefit to you, your participation is likely to help us find out more about the influence Equine-assisted interventions have on individuals with social and emotional deficits. The study may aid individuals in accessing services which could help develop emotional and social functioning.

Reimbursement

No reimbursement is being offered for participation in the research study.

Confidentiality

I will not share information about you or anything you say to anyone outside of the research study. During the defense of the doctoral dissertation, data collected was presented to the dissertation committee. The data collected was kept in a locked file cabinet or encrypted computer file. Any information about you was coded and will not have a direct correlation,

which directly identifies you as the participant. Only I will know what your number is, and I will secure your information.

Sharing the Results

At the end of the research study, the results will be available for each participant and may be published so other interested people may learn from the research.

Right to Refuse or Withdraw

Participation is voluntary. At any time, you wish to end your participation in the research study, you may do so without repercussions.

Questions About the Study

If you have any questions, you can ask now or later. If you wish to ask questions later, you may contact Karla Pinho. The research plan has been reviewed and approved by the Institutional Review Board of the American College of Education. There is a committee whose role is to make sure research participants are protected from harm. If you wish to ask questions of the group, email IRB@ace.edu.

Certificate of Consent

I have read the information about the study, or someone has read the information to me. I acknowledge why I have been asked to be a participant in the research study. I have been provided the opportunity to ask questions about the study, and any questions have been answered to my satisfaction. I certify I am at least 18 years of age. I consent voluntarily to be a participant in the study.

Print or Type Name of Participant: _____

Signature of Participant: _____

Date: _____

I confirm the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered to the best of my ability. I confirm the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. A copy of the Consent Form has been provided to the participant.

Print or type name of lead researcher: Karla Pinho

Signature of lead researcher: _____

I have accurately read or witnessed the accurate reading of the assent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm the individual has freely given assent.

Print or type name of lead researcher: _____

Signature of lead researcher: _____

Date: _____

Signature of faculty member: _____

Date: _____

PLEASE KEEP THE INFORMED CONSENT FORM FOR YOUR RECORDS.

Appendix D

Data Instruments

Parent Interview Questions

1. Can you tell me a bit about your child?
 - a. How old is your child?
 - b. What is your child's personality like?
 - c. Is your child diagnosed with any disabilities?
 - d. Describe some of the social/emotional issues your child has had to cope with?
2. How long has your child been enrolled in EAIs and how frequently does he/she attend?
3. What led you to try EAIs?
4. Can you describe what a typical EAI session consists of for your child?
5. Is your child willing and motivated to attend EAI sessions?
6. What was/is it like for him/her to be around the horses?
 - a. Has this changed over time?
7. What are some of your child's likes/dislikes regarding EAI?
 - a. Did your child communicate that directly, and/or did you observe these likes/dislikes?
8. How do you think your child feels about him/herself when he/she is with the horses?
What makes you think that? (observations, comments?)
 - a. How does that compare to how they typically feel?
9. Is there anything else you can tell me about observing your child with the horses?
10. Can you tell me about how your child works with the staff?
 - a. What does your child like/dislike about working with the EAI staff?
11. What effect/influence has EAI had on your child?
 - a. How many sessions did he/she attend before noticing these changes?
 - b. Has your child generalized these to other settings?
12. What does EAI mean to your child?
13. Is EAI a treatment you would recommend to others? Why or why not?
14. How could the EAI be better?

Instructor Interview Questions

1. Can you tell me a bit about yourself and how you came to be an equestrian?
2. How long have you worked professionally with horses and in what capacity(ies)?
3. How long have you instructed equine-assisted interventions at this or any riding facility?
4. What lead you to instruct equine-assisted interventions?
5. What training have you received?
6. In your professional opinion, what influence have EAIs made on your clients?
 - a. Do you use any formal or informal measurement tools to record progress?
7. In your experience, what population seems to be the most influenced by EAIs?
8. Can you describe what a typical EAI session consists of?
9. How do you prepare for a session?
10. Do EAIs influence a client's social skills?
 - a. If so, in what capacity?
 - b. How do you measure growth? (observation, informal or formal tools?)
11. Do EAIs influence a client's emotional skills?
 - a. If so, in what capacity?
 - b. How do you measure growth? (observation, informal or formal tools?)

Parent and Instructor Open-Ended Questionnaire:

1. What changes have you observed in your child since participating in Equine-assisted interventions?
2. Describe what occurs during a typical Equine-assisted Intervention session.
3. How has experiencing Equine-assisted interventions influenced other areas of your child/client's life?
4. What does a typical day look like for your child? What does a day that your child participates in EAI look like?
5. Do you feel like Equine-assisted interventions are lacking in any way as an intervention for social and emotional skill development? What else is needed for Equine-assisted interventions to positively influence clients?

Appendix E

Field Testing

Apps betty rocker Little Blue Truck | H...

PARTICIPANTS

[Home](#) [About](#) [Equine Programs](#) [Training & Education](#)

EMAIL *

karlaannpinho@gmail.com

PHONE

(203) 206-5627

COMMENTS *

My Name is Karla and I am currently working on my dissertation. I am investigating the influence of Equine Assisted Interventions on individuals with social/emotional deficits. I will be conducting research using interview questions and an open ended questionnaire. I am required to have a subject matter experts review my questions for content validity. I am hoping that I can share my questions for 4-6 of your staff members to review and offer feedback. Thank you for your time, and I look forward to your reply!

☐ I'm not a robot reCAPTCHA
Privacy - Terms

10:45 AM (10 hours ago) ☆ ↩ ⋮

to me ▾

Hi Karla,
Thank you for conducting much needed research and for reaching out to High Hopes. We will certainly be happy to review your questions for content validity. I am happy to be your contact and with your permission will forward the questions on to the appropriate staff for review.
Best,

Appendix F

How to Plan and Conduct an Interview

Step	Action Plan:
1	List the research questions your study will explore
2	Break research questions into researchable sub-questions
3	Develop possible interview topics or items for each sub-question
4	Cross-reference interview topics or items with each research question to ensure nothing is overlooked.
5	Develop interview structure (format) and protocol (Guide) for interviews.
6	Identify Minimum information to be gathered for each respondent.
7	Confirm appropriateness and adequacy of protocol and conduct interviews.

Adapted from Hancock, D. R., & Algozzine, R. (2017). *Doing case study research: A practical guide for beginning researchers* (3rd ed.). New York: Teachers College Press.

Appendix G

Participant Screener Questions

Parent:

1. How long has your child participated in Equine-assisted interventions?
2. What are you hoping to treat with Equine-assisted interventions?
3. Are you available to participate in an interview, a brief questionnaire, and a follow-up meeting to review interview data with me?

Instructor:

1. Is the equine center you work for PATH certified? Do you have any additional equine-related certifications?
2. Do you now, or have you ever, help clients who attend Equine-assisted interventions to address social or emotional issues?
3. Are you available to participate in an interview, a brief questionnaire, and a follow-up meeting to review interview data with me?

