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The Relationship Between Equine-Assisted Psychotherapy and Client-Therapist Attachment on Symptom Reduction

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Walden University
2019

Abstract

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MA, Walden University, 2017

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

For centuries, scholars and individuals have recognized the psychophysiological impact of the horse-human connection. The felt impact helped launch the creation of equine-assisted psychotherapy (EAP), an alternative form of treatment for individuals who struggle to connect to traditional forms of therapy. The limited amount of research on the objective benefit of EAP as an alternative to traditional psychotherapy has limited the number of individuals who are referred for such treatment. Grounded in Bowlby's theory of attachment, the purpose of this quantitative quasi-experimental study was to determine if attachment to a therapist differs between the method of treatment, traditional psychotherapy or EAP, and if the attachment has an impact on levels of anxiety and levels of depression in participants. Participants who received TP or EAP provided the archival data (pretest/posttest) through the Client Attachment to Therapist Scale, the Beck Anxiety Inventory, and the Beck Depression Inventory-II. The research questions were analyzed using a mixed design ANOVA to assess for an interaction between the studies two independent variables on the dependent variables. The results identified engaging in therapy provided symptom reduction, yet the effect of adding an equine to the delivery of service provided greater symptom reduction over time. This study contributes to social change by providing managed healthcare systems, providers, and potential clients with objective data on the benefits of EAP.

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Dedication

This dissertation is dedicated to my husband Josh who never gave up, and picked me up every time I broke down. To my mother Diane and mother-in-law Betsy who provided additional support and watched the boys so I could work. To my father-in-law Mike who created a quiet work space for me to find the strength to finish. Lastly, to my father Bill who could not be here to see me accomplish this educational milestone, but who always told me I could have anything I wanted as long as I worked for it.

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Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Alternative forms to traditional psychotherapy (TP) have existed for thousands of years (Waller, Stringer, Meyer, 2012). On average, 243 million people a year find relief from symptoms through holistic and functional sciences such as dietary supplements, meditation, chiropractic, aromatherapy, massage therapy, yoga, progressive muscle relaxation, spirituality, movement therapy, acupuncture, Reiki, biofeedback, and hypnosis, as well as music therapy (Barnett & Shale, 2013). These forms of treatment create alternative ways to engage with clients, and allow treatment providers varying methods to address a client's underlying issues and symptoms (Barnett & Shale, 2013).

Some individuals who engage in alternative forms of treatment find the traditional collaborative relationship between therapist and client to be overwhelming (Bachi, 2012). Consequently, establishing the relationship itself is a vital component in the therapeutic process and a substantial variable in the overall success a client experiences (American Psychological Association, 2018).

For those who find it difficult to establish and maintain the therapeutic relationship with a TP approach, an alternative form of psychotherapy may be beneficial. For the past 3 decades, equine-assisted psychotherapy (EAP) has slowly become a popular alternative form to TP (Bachi, 2012). While EAP providers stress the positive therapeutic impact of EAP, research supporting their claims and the efficacy of the horse are limited (Chatwin Stapleton, Porter, Devine, & Sheldon, 2016; Earles, Vernon, & Yetz, 2015; Kern-Goldal, Arnevik, Walderhaug, & Ravndal, 2015). Therefore, the

current study contributes to the existing body of literature on EAP in three ways. The study addressed the impact on symptom reduction in relation to the horse-client attachment, the impact of symptom reduction in relation to the EAP therapist-client attachment, and the impact of symptom reduction in relation to the traditional psychotherapist-client attachment.

Chapter 2 introduces a review of existing literature from quantitative and qualitative research that pertains to this study, as well as the theoretical underpinning to support the research question presented in Chapter 3. Chapter 3 also includes the research design, sample population, methodology, and instrumentation of the present quantitative study.

Background

TP has offered numerous approaches to improving the overall wellness and functioning of its clients (Chatwin et al., 2016; Honyashiki et al., 2014; Watts, Turnell, Kladnitski, Newby, & Andrews, 2015). Many providers have offered relief to their client's distress and symptoms, where others have struggled to help their clients gain a higher level of functioning (Waller et al., 2012). Clients who have experienced less then optimal results from TP often face early termination and a resurfacing of symptoms and/or feelings of abandonment, anger, or distress towards the mental health provider (Bachi, 2012). Therefore, when TP approaches have failed to address the client's needs, alternative approaches such as EAP should be presented for consideration (Bachi, 2012).

Founded in the early 1990s, Kersten's EAP was originally designed as an alternative to TP methods for at-risk youth who were incarcerated or in treatment.

Kersten's methods and philosophy were influenced by early experiences in Nebraska's quarter horse and rodeo community, as well as decades of engagement with clients and providers. Kersten's diverse experiences have developed a unique and promising alternative for clients who find the benefit in the philosophy of the horse-human connection.

EAP is based on the belief that the relationship between the horse and the client is less threatening to the client compared to the relationship between the therapist and client alone. A human's ability to attach to an animal has been observed and used for comfort and growth for thousands of years (Bachi, 2013). Bachi (2012) argued that the emotional bond created with an animal is the foundation of animal-assisted activities and therapies. According to Bachi (2012) , studies supporting the use of EAP found that a client's attachment style with a horse correlated with their attachment in their human-human relationships. Lastly, Bachi (2013) suggested that EAP offers a client the opportunity to process, practice, and develop self-awareness through an exchange with the horse.

Similar to Bachi, Kersten (2014a) attributed the horse's natural characteristics as the factors that promote a client's initial success in treatment. Kersten argued the horse's peripheral awareness allows them to relate to a person's physical and emotional messages. Kersten suggested that unlike the psychotherapist, who must reserve physical and emotional reaction towards the client's projected state, a horse will continuously react to a client's emotional state in the same way. Therefore, Kersten suggested the horse provided consistent, nonjudgmental, and bias-free feedback every time. Lastly,

Kersten (2014a) promoted EAP as an experiential approach that places the client and horse in the primary relationship position, with the therapist taking a less active role.

In recent studies, Alfonso, Alfonso, Llabre, and Fernandez (2015) identified the benefits of EAP with participants who were experiencing signs and symptoms of social anxiety. Results indicated a significant reduction of anxiety following a six-session intervention of equine-assisted therapy and cognitive-behavioral health strategies. Klontz, Bivens, Leinart, and Klontz (2007) provided similar results with 31 participants in an equine-assisted, experiential therapy program. Results from the participants Brief Symptom Inventory and Personal Orientation Inventory indicated the capacity of EAP to provide a significant reduction in psychological distress and improved psychological well-being, as well as sustaining the benefits during a follow-up.

Lutter and Smith-Osborne (2011) conducted a mixed-methods approach to examine existing EAP data from an inpatient residential treatment facility for adult and adolescent females with eating disorders. A review of the data determined equine activities were associated with a reduction of mood issues, ineffective behaviors, and relationship issues. Burgon (2011) documented the experiences of at-risk youth who participated in a therapeutic horsemanship program. The findings coincided with factors related to symptom reduction and how participants found improvement in many aspects of their lives. Kern-Godal et al. (2016) provided evidence to support the efficacy of EAPs in treating substance abuse disorders. The researchers found the benefits of EAP were associated with the participants' perceived relationship with the horse, emotional effect,

and mastery (a feeling of control). They also drew upon Bowlby's attachment theory to help expand on the horse-human connection.

An additional review by Anestis, Anestis, Zawilinski, Hopkins, and Lilienfeld, 2014) examined fourteen studies that addressed the efficacy of EAP. Their investigation found promise related to EAP efficacy as well as multiple threats to validity. Regarding the threats to validity, studies that found improvement from pre- to posttreatment often lacked control groups. The studies that utilized control groups reportedly did not use random assignment nor did they report on pretreatment between-group differences. They also noted several studies lacked manualized EAP interventions. Upon reviewing the studies above, none provided empirical support for the contribution of EAPs towards improving overall wellness. The preexisting literature also failed to provide evidence to support EAP as a clear alternative to TP.

Problem Statement

The client-therapist relationship has been well documented as being a significant factor in treatment outcome (Selby & Smith-Osborne, 2013). The brunt of EAP research has focused on this relationship, yet many studies neglect a theoretical underpinning or the use of randomized clinical trials and control groups (Bachi, 2013). According to Bachi (2012), over half of all documented EAP studies utilized subjective data to explain the benefit of the horse-human connection. These discrepancies have provided an access to focus future research on the objective outcomes of EAP.

In order to better understand the effects of the horse-human connection and how EAP positively influences mental health outcomes, attempts are being made to include

research into the attachment processes between the horse and client. Identifying how attachment might influence depression and anxiety in clients who find human attachment difficult is relevant toward a better understanding of EAP outcome. EAP is being challenged to add to the scientific literature a quantitative understanding of factors that reduce anxiety and depression and affect depression and anxiety in positive ways.

This study adds to the psychological research that exist on the influence of the horse-human connection on adults with depression and anxiety. This study was rooted in Bowlby's (1951) attachment theory which uses the child-parent bond as a means to express the client-therapist bond. This approach allowed for exploration of how dysfunctional human-human attachments can negatively modify the therapeutic relationship. In this study I sought to better understand how the horse-human connection provides a secure base for clients to process issues connected to their anxiety and depression. In addition, due to the lack of EAP studies that do not include control groups, this study explored mean differences in levels of anxiety and levels of depression that may exist between treatment types, assessing for differences in type of attachment (secure, avoidant, or preoccupied).

Purpose of the Study

The purpose of this study was to quantitatively examine whether symptom reduction through the use of EAP is associated with the type of client-therapist attachment. It was also the purpose of this study to determine whether differences in symptom reduction between EAP and TP is associated with the type of client-therapist attachment as measured by levels of depression and levels of anxiety. The overarching

purpose was to analyze the extent that the horse-human connection affects the type of attachment to the therapist and if there is a correlation to the reduction in levels of anxiety and levels of depression.

Research Question and Hypotheses

The following research question and hypotheses were derived from the review of existing literature pertaining to type of attachment and levels of anxiety and levels of depression. There will be a more detailed discussion of the nature of the study in Chapter 3. With the research question, I sought to determine the nature of the relationship between treatment type (EAP vs. TP) and type of attachment to therapist as measured by levels of anxiety and levels of depression.

RQ: Does attachment type and level of anxiety and level of depression differ by treatment type (EAP vs. TP)?

H_0: The type of attachment type and level of anxiety and level of depression do not differ by treatment type (EAP vs. TP).

H_a: The type of attachment and level of anxiety and depression do differ by treatment type (EAP vs. TP).

Theoretical Framework

The theoretical base for this study is Bowlby's (1982) theory of attachment. Bowlby's theory has been used to describe the theoretical bond between parent and child and how that mirrors the bond between a therapist and client (Bachi, 2013). A therapist utilizing attachment theory approaches sessions with the desire to provide a secure base similar to the base provided in the parent-child relationship for their client to process

aspects of their life that may be too painful to process without the support of a safe person (Sable, 2004).

Bowlby (1973) viewed anxiety and depression as manifested from dysfunctions of the attachment behavior system. He argued that ongoing emotional distress is connected to a person's inability to move passed previously distorted attachments and create new safe and nurturing relationships. Therefore, the therapist's role is to fulfill the role of an attachment figure and allow for transference to occur (Sable, 2004). The key element in applying attachment theory to treatment is the client's ability to see the therapist as a trusting and secure attachment figure (Bachi, 2013). For some, embracing this ideology can be difficult and may trigger fear, anxiety, depression, and anger (Sable, 2004). Clients who experience these emotions often view their therapist as judgmental, biased, or untrustworthy (Bachi, 2013). Sable (2004) contended that clients who show resistance to forming an attachment to their therapist often have relationships outside of therapy that are plagued by insecurity. To circumnavigate a client's reluctance to embrace the therapeutic relationship, EAP places a horse in the position of attachment figure (Bachi, 2013).

Horses are able to project an unbiased demeanor that clients can view as safe, nonthreatening, and trusting (DeAraugo et al., 2014). The horse's unbiased presence provides the client with a safe environment to reassess areas of an attachment relationship they are troubled by (Sable, 2004). Bowlby (1973) suggested that the first secure attachment was between the infant and mother, where the mother provided a secure base for the infant to explore their world. When a client works with the horse, the horse's

ability to hold the client upon it's back (or metaphorically in its presence), represents the horse's ability to provide a safe and trusting environment for the client to explore their world and world views (Bachi, 2013). Consequently, the physical holding or attachment provided by the horse is not possible within a TP setting. Thus the horse offers an emotional availability, comfort, and consistent feedback, all of which increase the likelihood for attachment to develop (Bachi, 2013; Sable, 2004).

Bowlby's use of attachment theory defined the relationship (or lack thereof) between two people, where EAP used attachment theory to define the relationship or attachment between horse and human. Attachment theory deciphers how we rationalize interpersonal interactions and how we respond to them (Bachi, 2013). Just as with the human-to-human attachment, individuals can develop relationships with the horse similar to relationships with people. Therefore, people who have not developed (or struggle to develop) relationships and/or attachments with others may do so more readily with a horse. Through the use of EAP, the horse becomes the transitional object (attachment figure) for the client to attach to as they begin to form a therapeutic relationship with the therapist (Bachi, 2013).

Nature of the Study

I used a quasi-experimental, retrospective research design in this study. The archival data were collected from male and female adults involved in EAP over an eight-month period and a comparison group of adults who remained in TP. Data were gathered using three questionnaires requiring the participants approximately 10 minutes to

complete. The data was not analyzed prior to the present study, and no information regarding the program has been published to date.

I selected a quantitative quasi-experimental design to allow the research question to be analyzed using a 2 x 2 mixed design ANOVA to assess if an interaction between the studies within-subjects factor and between-subjects factor on the dependent variables existed (see Field, 2013). A mixed ANOVA allowed me to assess whether one of two different treatment conditions is more effective at reducing levels of depression and levels of anxiety, as well as assess whether treatment condition impacts the type of client attachment to therapist. Therefore, the dependent variables were levels of the BDI-II and BAI (depression and anxiety levels) and CATS type (client attachment to therapist levels) before and after (pretest and posttest) treatment. Therefore, the within-subject factors were time (pretest and posttest), while the between-subjects factor were treatment conditions (TP or EAP). Due to the study utilizing three outcome measures, the Beck Depression Inventory-II (BDI-II), Beck Anxiety Inventory (BAI), and Client Attachment to Therapist Scale (CATS), I conducted separate 2 x 2 mixed design ANOVAs for each dependent variable. Thus, the purpose of selecting a mixed ANOVA was to determine if there is a relationship between the within-subjects factor and between-subjects factor on the dependent variables during pretest and posttest (Field, 2013).

Definitions

Anxiety: The diagnostic criterion for anxiety is characterized by (a) excessive worry that appears on most days for a period of 6 months or more; (b) difficulty controlling the worry; (c) presence of three or more of the symptoms restlessness, fatigue,

difficulty concentrating, irritability, muscle tension, and/or sleep disturbance; (d) symptoms are causing impairment in daily functioning; and (e) symptoms are not better explained by a substance or medical issue (American Psychiatric Association, 2013).

Attachment theory: Originally developed by Bowlby (1969) attachment theory explains how a child's behavioral and emotional reactions towards their caregiver encourages a physical connectedness. Ainsworth expanded the theory to include an individual's responses to separation and loss and future emotional attachments after infancy (Mallinckrodt, Grantt, & Coble, 1995).

Depression: The diagnostic criteria for depression according to the American Psychiatric Association (2013) is characterized by (a) feelings of sadness or having depressed mood; (b) a loss of interest in once enjoyed activities; (c) a change in appetite, potentially associated with weight loss or gain; (d) difficulty with sleep; (e) a sluggish appearance and/or increase in stereotypical movements (pacing, hand-wringing, etc.); (f) feelings of guilt or decrease in self-worth; (g) difficulty in concentration, focus, or decision making; and (h) thoughts of self-harm, death, or suicide.

Equine-assisted psychotherapy: The integration of a licensed mental health professional, a client, and the natural horse and herd behavior as a model for clients to explore their mental and emotional health (Kersten, 2014a).

Traditional psychotherapy: Known as "talk therapy," TP is a form of treatment delivered by a licensed mental health professional. The individual engages in a reciprocal communicative relationship with the mental health professional to address distressing thoughts and/or symptoms (American Psychological Association, 2018).

Assumptions

The assumptions of the quantitative study were that every client treated with TP or EAP experience mental health symptoms related to stress. Another assumption made with this study was that each client experiences depressive or anxiety-based symptoms at some level. This assumption was made due to not having complete access to the client's full medical records.

I assumed the CATS, the BAI, and the BDI-II were appropriate means to measure the designated variables. The completion of the BDI-II, BAI, and CATS is an assumption that the client understands the questions, is competent, and is truthful when completing the surveys. The ability to retrieve truthful quantitative data is significant for this study, as the existing research on the efficacy of EAP is saturated in subjective data, and the field is currently in need of more objective data. I also assumed that the therapist assigned to administer the BDI-II and BAI was licensed in the state as a psychologist or mental health professional and had received training in properly assessing a client using the BDI-II and BAI. Lastly, I assumed the EAP therapist and horse handler were trained and used exercises taught and approved by The O.K. Corral Series.

Other assumptions were related to ANOVA. I assumed the dependent variables to be continuous/interval and normally distributed (see Laerd Statistics, 2013). According to Field (2013), the within-in subjects factor (time or pretest/posttest) should include at least two categorical, related groups or matched pairs. Field also identified the between-subjects factor (treatment conditions, in this study, TP/EAP) should include at least two categorical or independent groups. Field continued by noting how no significant outliers

in the related groups should exist. The distribution of the dependent variable in the two groups is assumed to be normally distributed, and homogeneity of variances for each combination of the groups of the two factors must exist (Laerd Statistics, 2013). Lastly, Field argued for the variances of the differences between all combinations of related groups (specificity) is assumed to be equal.

Scope and Delimitations

The scope of this current study was spanned four locations and two settings (traditional therapy offices and a therapeutic farm) located in Saratoga Springs, New York. Due to the nature of this study, I utilized an equine facility where the equine-assisted psychotherapists are trained and certified by Kersten's The O.K. Corral Series; therefore, they all utilized the same EAP approach and manual. The generalizability of this study may be limited beyond similar populations (able bodied adults between the ages of 18 and 70 without active psychosis) of individuals seeking EAP specifically to address levels of anxiety and depression.

A delimitation of this study was the operational definition of EAP. For this study, EAP included equine-facilitated psychotherapy (EFP) as defined by PATH International. Another delimitation was the EAP and TP providers understanding of levels of anxiety and depression and correctly administering the surveys.

Limitations

In a quantitative design, threats to internal validity consist of, but are not limited to, ambiguous temporal precedence, selection, history, maturation, and testing (Shadish, Cook, & Campbell, 2002). External validity threats may also occur, such as

representatives of the sample and reactive arrangements (Frankfort-Nachmias & Nachmias, 2008). Therefore, there were several limitations identified with the current study.

First, due to the geographical limitations and scope of this study, the data may not be generalizable to children, adolescents, and individuals with mental health diagnosis involving active psychosis. Secondly, the participants' responses to the instrument questions may be influenced by factors unknown to the researcher, for example, stressors that may arise between pretest and posttest.

Lastly, researcher bias is a potential limitation due to my personal interest in EAP and being an active psychotherapist and EAP provider the site utilized for this study. By selecting a quantitative methodology and removing myself from all engagement with the participants, I reduced such bias. Other strategies used to increase internal validity included employing valid data, using reliable instruments, and selecting a quasi-experimental design (Creswell, 2014).

Significance

This study contributes to EAP literature and research, specifically in the area of EAP efficacy for improving the client-therapist attachment through the horse-human connection. Understanding how the horse-human connection assists in forming a therapeutic relationship between the client and therapist may help to identify EAP as an effective alternative form of treatment. With managed care systems requiring evidence-based data to approve treatments and provide reimbursement to providers, this study

promotes positive social change by providing evidence for the use of EAP as an effective form of treatment.

Therefore, this topic is unique because it addresses an area of psychotherapy that lacks empirically based research (Anestis et al., 2014). The lack of objective data identifying the effectiveness of EAP as an alternative form to TP causes many to shy away from referring clients to equine therapy (Anestis et al., 2014) causing some clients to terminate treatment prematurely and view therapy as an ineffective tool for reducing depression and anxiety (Bachi, 2012).

Summary

When individuals seek outside intervention and support to address their current overall functioning, some may come to find TP does not fully address their needs. For those who continue to falter with TP, alternative approaches should be introduced. EAP's alternative approach offers the ability to provide a higher level of functioning to individuals who struggle with traditional client-therapist settings. Unfortunately, the lack of objective data to support EAP efficacy has hindered its ability to grow.

Through the collection and interpretation of the participants' data, this quantitative, quasi-experimental study helps to better understand the efficacy of EAP on the type of attachment with a therapist and to improve levels of anxiety and levels of depression. This study also adds to the established literature and research on alternative therapies as well as provides evidence on EAP's evolving approach to treatment providers, the general population, and outside agencies exploring alternatives to traditional treatment modalities.

Chapter 2 addresses a review of the existing literature on EAP and how new research is supporting the horse-human connection as an effective therapy tool. The chapter begins with a discussion on attachment theory and the relation of the theoretical framework to the horse-human connection, as well as its application to EAP. I also discuss the impact of EAPs on levels of anxiety and levels of depression and how it applies to the outcome measures. Chapter 2 also includes a discussion on TP, the therapeutic value of horses, and the history and principles of EAP. The chapter concludes with examples of EAP exercises and interventions used during typical sessions.

Chapter 2: Literature Review

Introduction

Psychotherapy has been shown to be an effective form of treatment for numerous mental health conditions (Chatwin et al., 2016; Honyashiki et al., 2014; Watts et al., 2015). Mental health providers have found benefits in delivering psychotherapy with the aid of treatment manuals and interventions depicting empirically supported treatments for numerous diagnoses and presentations (Honyashiki et al., 2015).

Studies suggest many providers seek out alternative therapies and tend to incorporate their clinical experience and judgment when traditional methods are producing less than anticipated results (Waller et al., 2012). Therefore, many providers personalize the treatment and interventions to benefit each patient on a case-by-case basis (Waller et al., 2012). The conclusion that only traditional evidenced-based therapies delivered from a treatment manual are the best practice and provide the highest rate of patient satisfaction was not supported in the literature (Waller et al., 2012). Such a conclusion leaves alternative treatment options such as EAP by the wayside (Bachi, 2012). Ignoring alternative forms of therapy creates a potential problem for people who find minimal benefit from traditional forms of therapy. Therefore, the purpose of this study was to determine if the type of attachment to a therapist differs between the type of treatment (TP vs. EAP) and if the type of attachment has an impact on levels of anxiety and levels of depression in participants.

The current literature identifies the problem with EAP research, as failing to focus on the horse-human connection and how the relationship impacts the client-therapist

attachment. The integration of EAP into TP has been well documented as a form of therapeutic intervention for numerous mental health disorders (Bachi, 2013). Consequently, what is lacking in the field of EAP is the evidence-based research supporting the proposition that EAP reduces levels of anxiety and levels of depression through the horse-human connection.

Studies of EAP to date have lacked control groups, utilized small sample sizes, and had difficulties determining if variables outside of the horses themselves were the cause of the effect (Chatwin et al., 2016; Earles et al., 2015; Kern-Godal et al., 2015). The scientific community is calling for EAP research to focus on the use of objective evidence to support the benefits of EAP (Bachi, 2012).

Major sections of this chapter include an introduction to the purpose and problem in relation to the study of the horse-human connection, the literature search strategy used, the theoretical foundation, the conceptual framework, and a literature review related to the major themes, along with a summary and conclusions based on the research discussed.

Literature Search Strategy

I executed a search of the available literature using digital databases such as EBSCOhost, ProQuest, Google Scholar, PsychARTICLES, PsychTEST, and PsychINFO. The identified keywords or descriptors specific to the topic that aided in creating the library search query included *equine-assisted psychotherapy*, *equine-facilitated psychotherapy*, *equine-assisted learning*, *psychotherapy, attachment theory, therapeutic relationship, stress, human-horse relations*, *animal-assisted therapy*, *anxiety,* and

depression. The library databases and search engines selected were also limited in their searching capacity by identifying peer-reviewed articles, previous dissertations, and accredited websites published and updated between 2007 and 2018. To capture the extensive history regarding the current study's theoretical orientation as well as its test and measures, the literature utilized (books and articles) extended to 1940.

Theoretical Foundation

Attachment Theory

Theory description and origin. The theory of attachment was the product of J. Bowlby's years of observing the behaviors of children (Bretherton, 1992; Schwartz, 2015). Bowlby argued an individual's maladaptive behaviors in personality development were a result of the person's early family relationships (Bretherton, 1992). While working at the school, Bowlby received training in psychoanalysis, more specifically object-relations, from M. Klein and J. Riviere (Bretherton, 1992; Schwartz, 2015).

Working alongside Klien and Riviere, Bowlby focused on the Kleinian theoretical notion that internal conflict between aggression and libidinal drives was associated with maladaptive behaviors (Bretherton, 1992). Bowlby questioned this ideology as it omitted the view on how environmental variables (attachment to the primary caregiver) impacted the equation (Bowlby, 1940). Such a thought perplexed Bowlby as he embraced the notion how early family interactions were at the core of later emotional distress (Bretherton, 1992).

Major theoretical propositions. Per Bretherton (1992), from the late 1940s to 1950s, Bowlby worked with numerous individuals (J. Roberston, M. Ainsworth, M.

Boston, D. Rosenbluth, R. Schaffer, and C. Heinicke) to investigate the effects of maternal separation and emotional distress of children. He also added how Bowlby and his associates were providing evidence to support their theory, even though the paradigm was still strongly rooted in traditional psychoanalysis. With psychoanalysis guiding the current view of psychology, Bowlby's opposing framework supported how a child's growth and development was based on the mother's (or primary caregivers) ability to foster the child's ego and superego (Bretherton, 1992; Schwartz, 2015).

From Bowlby's observations and empirically driven data, he provided evidence to support how children who develop into mentally healthy adults experienced warm, intimate, and continuous relationship with their mother (or permanent mother substitute) in which both found satisfaction and enjoyment (Bowlby, 1951).

By the late 1950s and early 1960s Bowlby formally introduced the world to attachment theory (Bretherton, 1992). Bowlby's first three published works, *The Nature of the Child's Tie to His Mother* (Bowlby, 1958), *Separation Anxiety* (Bowlby, 1959), and *Grief and Mourning in Infancy and Early Childhood* (Bowlby, 1960), spoke of years devoted to observing the child-mother relationship. In Bowlby's first work (*The Nature of the Child's Tie to His Mother*), Bowlby acknowledged the Freudian ideology of sucking and crying and its significance to attachment. However, Bowlby argued that clinging to and following the mother (or caregiver figure) was more important for developing healthy attachment (Bretherton, 1992). Bowlby emphasized how social learning theory and dependency theory failed to capture attachment theory's argument regarding healthy attachments and how they do not foster dependency but support a

transition into healthy adulthood (Bowlby, 1958). Bowlby's (1959) *Separation Anxiety* identified how all children possessed a degree of separation anxiety from their mother/caregiver; however, it was the healthy child (one who had developed a healthy attachment) who could mature and become independent.

Application of attachment theory to therapy. Bowlby (1958) argued our healthy existence was based on the close relationships and attachments we could secure. It was when those early attempts at relationship building were lacking or disrupted, an individual would seek out assistance to formulate balance in their life (Bachi, 2013). For those who embarked in psychotherapy, the task at hand was to provide the individual with a foundation from which they could process their environment (issues) as in relation to the mother providing such a foundation early in life (Bowlby, 1988). Through the therapeutic approach, a therapist could assist the individual in reanalyzing their early relationships (attachment figure; Schwartz, 2015). The ability to assess past dysfunctional attachments aided the individual in their ability to assess the functionality of current or future relationships (attachments; Bowlby, 1988).

Under Bowlby's (1988) ideologies of attachment theory-based psychotherapy, a therapist is influenced by a set of five parameters. Thus, the therapist begins by providing a safe place in which the individual could address and process uncomfortable memories associated with past and present attachments (relationships). During this time, the therapist would portray the role of mother or initial caregiver by providing support and empathy to the individual (Bachi, 2013; Bowlby, 1988). Second, the therapist provides direction for the individual to reflect on the ability of current attachments or relationships

to influence their emotions, feelings, and actions (Bachi, 2013; Bowlby, 1988). Next, the therapist aids in analyzing the therapeutic relationship and how the individual's current views on early attachments influenced the therapeutic relationship (Bachi, 2013; Bowlby, 1988). The fourth step is to assist the client with exploring how their memories regarding interactions or conversations with their early attachment figure(s) continued to affect their current thoughts and actions (Bachi, 2013; Bowlby, 1988). Lastly, the therapist would encourage the individual to assess how the maladaptive views they harbored were linked to hurtful or traumatic memories between they and their parent(s) or early caregiver or caregivers (Bachi, 2013; Bowlby, 1988).

The foundation for attachment theory-based psychotherapy was formatted on the proposition of the therapist transforming into the attachment figure through their ability to provided what Ainsworth described in a 1963 study as the mother who was attentive and provided sensitivity to the infant's signals (Ainsworth, 1963). Therefore, attachment theory was based on the notion that relationships built upon healthy attachments were the vessels of development (Bowlby, 1982).

Application of equine-assisted psychotherapy to attachment theory. The application of attachment theory to EAP began during the initial assessment or session (Bachi, 2013). During this time the therapist would observe how the individual interacted with the horse, the setting (barn, arena, etc.), as well as the therapist (Bachi, 2013). In contrast to other forms of therapy, the horse played an integral role in treatment, unlike the couch in the traditional therapy settings (DeAraugo et al., 2014). Observing the client with the horse during the first session allowed the therapist to view the client's history of

attachment (secure, avoidant, preoccupied) (Bachi, 2013; DeAraugo et al., 2014; Karol, 2007). The client would most likely process the setting (horse) and display their natural defensive reactions (Bachi, 2013). Interestingly, a client would also display different defenses or attachments to different horses, which would be utilized for discussion with the therapist (Bachi, 2013). Similar to therapists, horses too possessed their own personalities which can be displayed during sessions (Bachi, 2013). Therapists often worked with more than one horse during a session, which provided the client with opportunities to identify early attachment figures with horses in the setting (Bachi, 2013).

Rationale for attachment theory. The rationale for utilizing attachment theory was based upon Bowlby's (1988) five therapeutic tasks. His five tasks involved utlizing therapists to generate or initiate therapeutic change. Therefore, Bowlby's five tasks aligned with EAP by: (1) providing a secure base; (2) a holding environment (assess the functioning of current relationships); (3) assess the functioning of past relationships; (4) assess how the past influenced the present (affect mirroring); and (5) revised and updated internal working models.

Bowlby's five point model for psychotherapy. Bowlby (1988) identified five key elements for successful psychotherapy: (1) establishing a secure base, or providing a trusting environment for allows clients to feel safe to process topics and confront distressing emotions; (2) a holding environment to explore the therapeutic relationship and how it is associated with to relationships outside of therapy; (3) assess the functioning of past relationships, and reflect on how they felt and behaved with those attachments; (4) assess how the past influenced the present (affect mirroring) by helping

clients gain awareness of how current relationship may be a reflection of past ones; and (5) revised and updated internal working models, allows clients to change how they view, process and act that is different from how they did in past relationships. Even though Bowlby's original five-point model for psychotherapy was based upon the attachment between therapist and client (human-to-human), the same model can be utilized for forming attachments and success through EAP (Bachi, 2013).

Provide a secure base. Bachi (2013) argued horses provided the secure base clients required to explore their emotions, fears, and thoughts. In EAP the horses back (if engaging in mounted exercises) or the setting of the barn/arena (if doing grounded work), held the client, and provided security to the client, similarly to the early attachment with the mother figure (Bachi, 2013; DeAraugo et al., 2014; Karol, 2007). She also argued how providing such a physical and metaphorical base was identifiable only to EAP, and unlike other forms of TP.

Holding environment. The second component related to a holding environment, or what Bachi (2013) referred to as the equine setting (barn, paddock, arena) (Bachi, 2013). She argued the setting allowed the client to feel a sense of security, and enhanced the possibility of establishing a therapeutic relationship quicker, as compared to TP (DeAraugo et al., 2014; Karol, 2007).

Assessment of past relationships. Bowlby's third provision of attachment theory was the horse's ability to project acceptance and non-judgment (Bachi, 2013). Many individuals enter therapy holding onto unwanted and unflattering self-views, often provided to them through dysfunctional past (and current) relationships (Sable, 2004).

These views were often associated with failed attachments and could prohibit clients from divulging their true emotions, in turn prohibiting therapeutic progress (Sable, 2004). The horse in the therapeutic relationship was the nonbiased, non-opinionated figure, and helped to provide the client with the unconditional love and support that was to be provided by their early attachment figure (Bachi, 2013).

Assessment of past relationships impact on future relationships. The fourth component, also referred as affect mirroring, was how Bowlby (1988) explained an infant's ability to process emotions and feelings. He identified that the process was associated with the mother's ability to reflect appropriate mirrored facial expressions in response to the infant. Mothers who could provide their infants with loving and empathetic expressions, fostered a child's positive emotional growth and security in their environment (Ainsworth, 1963; Bowlby, 1988). Therefore, in EAP a horse possessed the ability to mirror the affect of the client, which provided self-reflection for the client as well as opportunities for the therapist to process such information with the client (Bachi, 2013). It should be clarified the horse was not directly "mirroring" the client's emotions (Kersten, 2014a). The horses nonjudgmental response to the client's emotions, offered the client an opportunity to reflect upon their experience (Kersten, 2014a). The horses natural prey characteristics and monocular vision (eyes located on the sides of their head), provided horses will highly sensitive peripheral knowledge (Bachi, 2013; Kersten, 2014a; Kersten, 2014b). With such a view, and natural prey tendencies, horses read a client's affect and "mirror" the client's unspoken emotions (Bachi, 2013).

An example of affect mirroring was expressed through Greg Kersten's (2014a; 2014b) (founder of EAP) pressure-pain principle. Kersten (2014a; 2014b) argued both humans and horses processed their environments through their reactions to emotional (and physical) pressure and pain. He illustrated when a horse's ear is twisted (for example, to provide medication) or even touched, they will move their head away, as the horse is feeling pressure (Kersten, 2014a; Kersten, 2014b). When the horse became controlled, the horse then moved into the pain (and the medication was administered) (Kersten, 2014a; Kersten, 2014b). Therefore, moving into the pain the horse received comfort and the pain diminished (Kersten, 2014a; Kersten, 2014b).

Kersten (2014a) argued both well-adjusted horses and humans would move toward pain and away from pressure. He provided a example of a client who routinely entered the arena angry and demanded the horse perform for him. Expressing such outward displays of anger (pressure) the horse would walk away from the client, which in turn infuriated the client (G. Kersten, personal communication, April 27, 2017). Over the next several sessions the client would enter the arena and proceed to sit on the floor, refusing to engage with the therapist or the horse (G. Kersten, personal communication, April 27, 2017). As the clients outward display of aggression (pressure) towards the horse changed to an inward display of anger and emotional pain, the horse began to approach the client, or go into the pain (G. Kersten, personal communication, April 27, 2017). Kersten processed the pressure-pain principle with the client, and in turn the emotionally distressed client reflected on how the arena provided a safe base and environment for the non-judgmental horse to mirror the affect of the client. He reflected on how the client

expressed the attachments/relationships around him as being abusive and demanding, and those experiences were what he projected at the horse (G. Kersten, personal communication, April 27, 2017).

Bachi (2013) confirmed Kersten's experience in terms of the horses innate ability to observe a client's emotions through their body language (mirror affect). She also identified horses, unlike therapists, react to a client's emotions/behaviors, without the client becoming offended or judged. She continued by addressing how a horse's prey nature and survival techniques (avoid pressure, go into pain), responded to a client's emotions/behaviors consistently. This consistence provided the client with reliable and direct honest feedback. Therefore, she referred to the horse as a giant mirror the client can see themselves in. Lastly, the therapist played a key role in this interaction as the interpreter (metaphorical analyst) for the horse.

Revised and updated internal working models. The last of Bowlby's (1988) components of attachment theory related to mentalizing and reflective functioning, and non-verbal communication and body experience. Bachi (2013) related mentalization as a clients ability to recognize the mental states of others, in reference to observed behaviors. Therefore, she argued the clients attachment to the horse (and later to the therapist) provided an opportunity for the client to recognize their own mental states. Her focus on reflective functioning allowed the client to further process mental states. As well as engage in insight oriented work directed at identifying how they affected others, and how others effected them. She suggested EAP enhanced a client's ability to mentalize and reflect, through the therapist's ability to provide the setting for the client to practice new

behaviors and mental states. She continued by highlighting how providing horses with care through grooming, allowed a therapist the opportunity to discuss with clients what the horse experienced. Lastly, she identified how caring was reflective of the original attachment or how relationships provided care and support, as well as what caring (grooming) felt like.

Within Bowlby's (1988) fifth point of his model, he addressed how non-verbal communication and body experience was a major component of attachment-based work. Bachi (2013) explored the fifth point based on the ideology that emotions were felt by the client within their body. She furthered her argument by expressing how a therapist utilized what is observed and felt during an EAP session into spoken words, which in turn provided access to establish an attachment between the therapist and client. Such an attachment she suggested, provided insight to the client on how the therapist was a trustworthy, nonjudgmental and secure platform to express their inner emotions and conflicts. This component of EAP she argued, could be explored both through mounted and non-mounted work.

Kersten (G. Kersten, personal communication, April 27, 2017) provided an example of non-verbal communication and body experience when he discussed a horse's ability to push and pull. EAP utilized metaphors to process the in-session experiences between horse and client (Bachi, 2013). Kersten (2014a) argued when observing interactions between the horse and client, therapists asked questions such as "when did we push, when did we pull, how did our pushing and pulling behaviors affect others (p. 43)? By processing non-verbal communication, a therapist and client reflected on how

their attachment figures may have pulled (enticed, lured, manipulated the client), or pushed them (encouraged), and how those pushes and pulls effected their current relationships.

Kersten (2014a) also discussed other aspects of EAP which reflected on attachment theories non-verbal communication. He identified three nonverbal zones of communication that were indicative to both humans and horses: the stop zone; the relationship zone; and the motivation zone. He suggested humans often experienced relationship issues due to "what our mouths said was not in alignment with what our bodies said" (p. 45). Kersten continued by addressing how individuals when approaching a horse naturally walk straight up to them and pet their face. Such an approach he argued relayed a message to the horse to stop, which was also what horses do to each, as well as humans when we want another person to stop and acknowledge us. Interestingly, he added how most clients (or horses) when asked to move a horse without touching it, stood in front of the horse. He further explained that the relationship zone was the side-by-side positioning of horses or humans when standing next to each. This zone he added, was observed when horses were feeding or when humans were gathered together. Kersten expressed how the hind end of a horse was referred to as the motivation zone. He continued by reflecting on a horses ability to move was due to their powerful legs, and when a horse approached another horse from behind (they felt pressure), it signified to the lead horse to move. Lastly, he urged the importance of allowing EAP and the use of non-verbal body language (placement), to address clients understanding of how others

perceived their placement. With the therapist aiding in processing how their placement was informing others to stop, go, or if they were comfortable and attached to them.

Attachment theory's application to previous studies. The use of attachment theory to describe the operational aspects of EAP was witnessed in the countless examples of how horses have benefited humans over the years (Karol, 2007). Clients will often enter therapy in a state of distress, with the emotional weight of their burdens making it difficult to find the energy to attend sessions (Karol, 2007). The horses welcoming, graceful, majestic, and companionate nature often provided the energy to the client to embark on what was a painful therapeutic process (Karol, 2007). One study found the emotional connection or attachment clients found with the horse they were working with, provided the foundation to develop relationships or attachments outside of sessions (Karol, 2007). Other studies have highlighted and supported how individuals attachment or relationship to an animal can have positive effects on their overall mental health (Barlow, Cromer, Caron & Freyd, 2012). Bachi and colleges found EAP increased the self-image, self-control, empathy, and overall mental health of at-risk teens in group homes, who identified their early attachments to be dysfunctional, insecure and inconsistent.

In Norway, a team of researchers investigated the effect of horse-assisted therapy (HAT) on the therapeutic alliance, as they viewed therapeutic alliance and attachment as key components to treatment outcome (Kern-Godal et al., 2016). This mixed-methods study determined the use of metaphors, as well as the horses non-judgmental nature, elicited motivation, elevated self-esteem, confidence, and mastery, all of which promoted

the creation of trust and attachment with both the horse and therapist (Kern-Godal et al., 2016). The findings also suggested that the participants identified the relationship that was formed with the horse as the most important variable of the treatment. The study acknowledged the participants reports regarding a felt connection to, or a draw to the horse they worked with. Again, this study supported the therapeutic benefit of EAP was linked to the attachment to the horse, based upon a felt security, affect mirroring, mentalization or reflective functioning, as well as non-verbal communication, and body experience (Bachi, 2013; Kern-Godal et al., 2016). The also expressed how the participants descried attachment as feeling understood, secure, and calm. Lastly, in terms of mentalization or reflective functioning they reported on the participants identifying how their behaviors or reactions effected the horses (affect mirroring).

Attachment theory's relation to current study's research question. The current study's research question build upon attachment theory by examining how attachment to a therapist differs between the method of treatment (TP or EAP), and if the attachment had an impact on levels of anxiety and levels of depression in participants. The research question was associated with the independent variables (measured at two levels), which were defined as treatment condition (-TP or -EAP) and time (pretest and posttest). The dependent variables were defined as levels of the BDI-II, BAI, and CATS type before and after treatment.

The use of the CATS, and the BAI, as well as the BDI-II, provided the data to support the studies investigation regarding how the horse-human connection effected the type of attachment to the therapist, and whether a correlation existed in measuring levels

of anxiety and depression. Utilizing these inventories provided a connection between the research question and Bowlby's five factors of attachment, due to the scales assessed in the inventory. The CATS assessed for secure attachments, avoidant/fearful attachments, and preoccupied/merger attachments (Mallinckrodt et al., 1995). The following section provides a detailed discussion related to the factors of attachment.

Literature Review Related to Key Variables and Concepts

Impact of the Psychotherapy Relationship

The therapeutic relationship between a client and their therapist has been viewed as the most impactful variable related to psychotherapy outcome (Taylor, Rietzschel, Danquah, & Berry, 2015). Taylor and colleagues argued regardless of the therapeutic approach, the client-therapist relationship is based on three elements: (1) mutual trust and acceptance between both parties; (2) shared goals and outcomes of therapy; and (3) an agreement as to the effort and willingness to engage in therapy to achieve the predetermined goals.

While establishing the therapeutic relationship, an attachment was being formed between the client and therapist (Taylor et al., 2015). Attachment styles are broken into two categories: attachment anxiety and attachment avoidance (Kivlighan & Marmarosh, 2016). Individuals who experienced anxiety during therapy were viewed as having a fear of rejection and abandonment in the relationship (Taylor et al., 2015). Taylor and colleagues expressed how individuals who displayed discomfort with close relationships and an uneasiness regarding the potential for depending on others, was viewed as avoidant. Therefore, they found low levels of attachment anxiety and avoidance were

representative of individuals who had secured attachments. Those who had high levels of anxiety and avoidance were seen as possessing insecure attachment.

Factors of attachment. While observing children playing in close proximity to their mother, Ainsworth (1978) identified three factors related to attachment patterns.

Secure. She described children who freely explored their environment while near their mothers, and displayed some level of anxiety when separated, but were calmed quickly when reunited, as having a secure attachment. She also suggested secure attachments were achieved through mothers who were responsive towards their children's needs.

Anxious-ambivalent. The children she identified as having an anxious-ambivalent or fearful attachment, displayed anxiety, anger, and were clingy with their mother. These children she reported also found it difficult to separate and explore their environment, and were often difficult to comfort when reunited with their mother. She argued those mothers formed ambivalent attachments by inconsistently responding to their children.

Anxious-avoidant. Her final factor described children who showed little interest in their mother, as well as minimal emotional reaction to the exiting or reentering of the mother. Such mothers she added, responded in a consistently unresponsive and unemotional manner.

Effects of attachment. Both Ainsworth and Bowlby (1977) acknowledged a child's early experiences with attachment figures was internalized. They suggested the internalizing would later effect how the child (and adult) viewed themselves and the expectations of others. Children who internalized mixed messages from attachment

figures, as well as negative self-worth views, consequently grew into adults who had higher levels of anxiety and depression (Bowlby, 1977). They also stressed children were resilient, and with early intervention and the introduction of healthy attachments, could overcome the effects of dysfunctional attachments. However, they suggested for those who did not obtain such intervention, the views of themselves and others became stagnant. Later when introduced to healthy attachments, they argued these individuals would become defensive and avoid the relationship. This avoidance they reasoned, was connected to their inability to process the genuineness of the new relationship, finding it to be confusing and fearful.

Mallinckrodt and colleagues (1995) research strengthened Ainsworth and Bowlby's argument, suggesting the type of attachment formed in childhood directly impacted adult social relationships in the future. Their argument suggested adults involved in affectionate, loving, and secure relationships (friendships, kinships, romantic partners, and therapeutic alliances) did not experience avoidant or ambivalent relationships as children.

Effects of attachment on the therapeutic alliance. Bowlby (1988) highlighted how the therapeutic relationship between client and therapist were similar to relationships between the child and mother. He continued by acknowledging how like the mother, the therapist was to be remain emotionally available, comforting, a reflector of emotion and affect, as well as the provider of a secure base to explore their discomforts and sorrows. Therefore, the individuals who entered therapy with early dysfunctional attachments, and

skewed views on trust and security, were most likely to be avoidant or resistant to the psychotherapy process (Mallinckrodt et al., 1995).

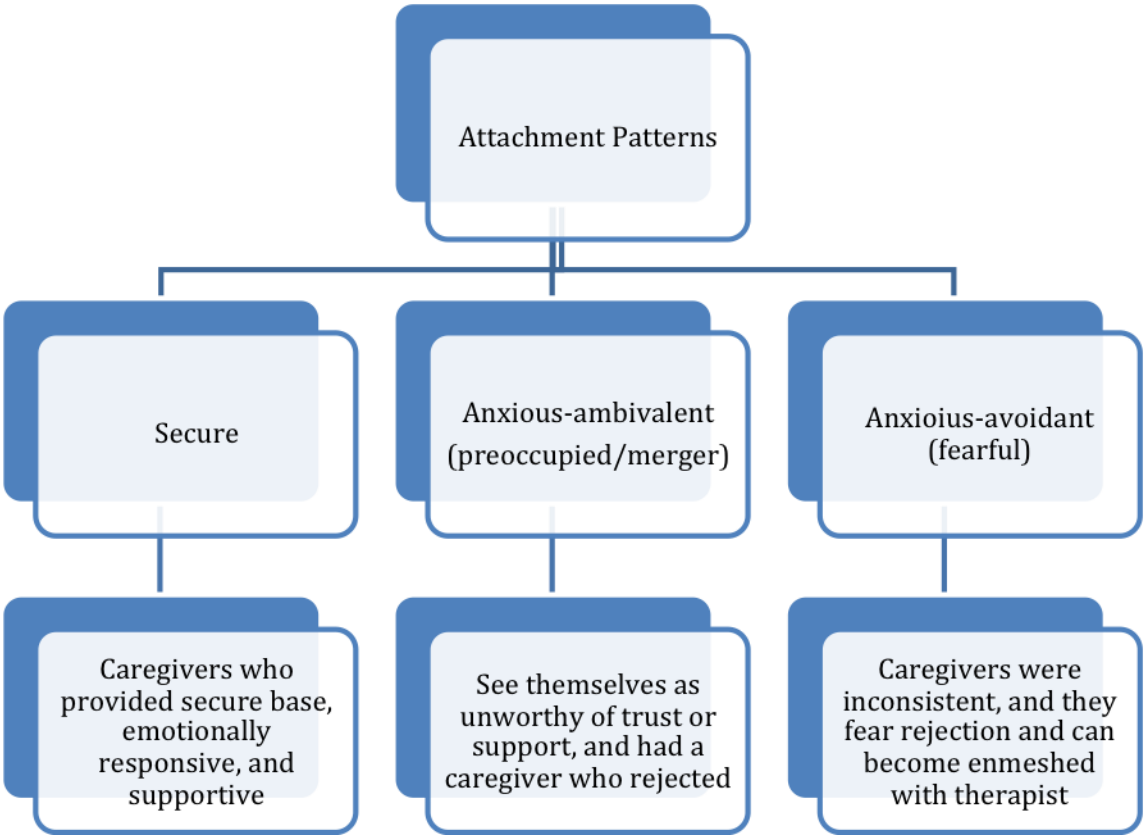

Figure 1. Patterns of attachment

Traditional psychotherapy. Regardless of the theoretical orientation of the therapist, TP established change based upon providing a secure foundation to the client, through the therapeutic relationship (Fonagy & Allison, 2014). Mallinckrodt and colleagues (1995) argued that during psychotherapy, the clients early attachments resurfaced, and became part of the therapeutic alliance. As the clients past relationships surfaced, they suggested the role of the therapist was to acknowledge those relationships and determine how they influenced the clients current relationships, as well as how they

impacted the therapeutic relationship. They also highlighted how the therapists ability to engage the client in conversation regarding the therapeutic relationship, allowed the client to become aware of the impact their early attachments continued to effect current relationships. Lastly, they argued the therapists ability to act as the attentive and nurturing mother, provided the client with the security to process through their anxieties and levels of depression which suffered during these times of insight, and evoked change.

Taylor and colleagues (2015) suggested the more secure the therapeutic attachment, the greater the degree the client viewed the relationship as a shared experience and trustworthy. The client who developed an insecure attachment to the therapist, possessed a greater risk of hindering the therapeutic process. For the avoidant attachment, they argued the clients negative predisposition to overgeneralize relationships was filled with rejection and untrustworthiness. These negative projections were seen as deterrents to establishing change. Lastly, the preoccupied or ambivalent client struggled with establishing a therapeutic relationship due to fears of rejection, as well as the need to remain close to the therapist, which often created conflicts with boundaries. Therefore, Taylor et al. argued for each type of attachment, TP's goal was to provide a secure base within a respectful and positive attachment, and to evoke change and elevate symptoms of anxiety and depression.

Levels of anxiety. Bowlby (1988) argued for caregivers who developed a bond with their child and provided a secure base for them to grow, significantly reduced the level of anxiety by promoting a sense of security. The caregiver who responded with

helpful nurturance he expressed, reduced levels of anxiety, as the child (and later the adult) was less likely to view others as unresponsive and harmful.

Levels of depression. Both Bowlby and Ainsworth described how a child who developed into an adult holding on to a poor self-image, derived from poor early attachments, had a higher likelihood of viewing themselves as less deserving of care and help from others. They suggested such negative views was connected to a higher likelihood of depression.

Therapeutic Value of Horses

Recent studies have identified the positive therapeutic value horses had on overall mental health (Anestis et al., 2014; Brandt, 2013; Burgon, 2011; Earles et al., 2015; Kern-Goldal et al., 2016; Klontz et al., 2007; Lutter & Smith-Osborne, 2011**).** For example, Brandt (2013) identified EAPs effectiveness was connected to the horses ability to respond to a clients inconsistent verbal and nonverbal communication. She implied horses natural social herd mentality enhanced their ability to effectively communicate with their herd and surroundings regarding safety. Therefore, she reported that a client who presented with a disconnect between their verbal and nonverbal communication, when attempting to work with a horse, caused the horse to become confused, even irritated, causing the horse to immediately respond. The horses response to the clients inability to communicate effectively was viewed by the client as the horse being "disobedient". She continued by reflecting on the elicited transference of negative feelings from the client, provided opportunities to process their disconnect between mind and body. Lastly, during the processing of the "disobedience" and projected emotion, the

horse became the metaphor for the relationships and behaviors in the clients life that caused similar emotions.

Research suggested horses are communication mediators during therapeutic sessions (Burgon, 2011). Burgon (2011) identified horses as prey animals, who possessed a highly developed ability to read the body language of others beings, as well as the projected emotions of others. She also proposed a horses classification as a prey animal, allowed their instinct to remain in a herd for protection and support as the key to their survial. She noted that individuals who engaged in EAP often connected with the horses desire for safety, became a useful metaphorical tool for therapists to utilize when exploring such connections. In addition, individuals who expressed undesirable emotions, inevitably caused the horse to become uncooperative (Frederick, Ivey-Hatz, & Lanning, 2015). These experiences offered opportunities for individuals to observe and learn how their emotions affected others and their environment (Burgon, 2011; Frederick et al., 2015).

Another example was provided by Klontz et al. (2007) who focused on the use of equine activities to assist clients in working through “unfinished business”, psychological distress, here and now issues, and the ability to address maladaptive behaviors. The equine sessions utilized co-facilitators and equine activities (choosing a horse, grooming, mounted and grounded work, lunging, and equine games), in combination with traditional experiential therapy (role-playing, sculpting, role-reversal, mirroring, and Gestalt techniques). The methodology selected to measure treatment outcomes was based on a 4 ½ day residential program, with 28 hours of equine therapy (8 consecutive sessions),

provided in a group format (8 participants per group), over the span of 8 months. The participants completed a pretest and post-test, as well as a mailed survey 6 months following their participation. The assessments provided included the Brief Symptom Inventory and the Personal Orientation Inventory. Upon assessing the overall Global Severity Index (GSI) of each participant, the results indicated a significant decrease in the GSI scores form pretest to post-test, $F(1.28) = 22.563$, $p < .05$. In reference to the Personal Orientation Inventory results, participants psychological well-being was significantly affected from pretest to post-test, as shown by Wilkes Lambda = .536, $F(4, 114) = 10.442$, $p < 0.05$. Even though positive results were found, their hypothesis was difficult to determine as their experiment lacked a control or comparison group and the use of non-random sampling. Therefore, they suggested future research would benefit from random selection and assignment, as well as a control or comparison group. They also argued for future research to include a dismantling study to analyze the degree to which the horse actually affects treatment.

Researchers Earles et al. (2015) investigated the use of specific equine-assisted therapy techniques (Equine Partnering Naturally program-promotes mindfulness), and their effectiveness in reducing Posttraumatic Stress Disorder (PTSD), anxiety, and depression symptoms, as well as increasing mindfulness in participants. Therefore, they hypothesized working with equines would increase insight and mindfulness and provide a decrease in anxiety and PTSD symptoms. The studies participants were selected by their therapists, and all had a history of trauma. The methodology focused on measuring psychological and physical health via 13 symptom checklists. The questionnaires were

administered a few weeks before the first session, and post-test assessments were given directly after the last session. Three groups of approximately five to six participants per group participated once a week for 6 weeks, for 2-hours per session, and each session utilized non-mounted activities. The results indicated significant reductions in PTSD symptoms ($p < .001$), emotional distress ($p < .05$), anxiety ($p < .01$), depression ($p < .05$), and substance use ($p < .05$), as well as an increase in participants mindfulness ($p < .001$). Due to the study lacking a control group, the researchers argued for future studies to include a control, as well as long-term follow-up to assess for the longstanding efficacy of EAP.

The use of alternative, non-traditional forms of treatment to address unwanted symptomology has been addressed by researchers such as Kern-Godal et al. (2016). In their recent study, Kern-Godal and colleagues investigated the perceptions of substance abuse clients working with equines, and their perceived overall effectiveness. In their mixed-methods study, 8 participants (selected via purposeful sampling) partook in semi-structured interviews over the course of 10-weeks. The data suggested three themes resonated as significant indicators of perceived benefits of working with equines. The indicators included: (1) relationship with the horse; (2) emotional effect; and (3) mastery (a feeling of control). The researchers drew upon Bowlby's attachment theory to depict the participants experiences related to "relationship with the horse". The researchers suggested for future studies to include long-term data collection, as well as addressing the neuro-biological nature of the human-horse relationship.

In a study conducted by Lutter and Smith-Osborne (2011), the researchers aimed to address whether the involvement of equine therapy would show improvements in mood symptoms and psychological well-being of patients with eating disorders. The mixed-methods approach surveyed 72 participants with self-report instruments in a pretest/posttest fashion. The participants engaged in an average of 9 equine sessions over the course of 50+ days. They found statistically significant levels of body fat increased, as well as an increase in overall psychological well-being was seen. The researchers also found the clients were able to engage in physical activity without triggering emotional and psychological stress. Interestingly, the use of equines was not viewed as exercise and did not lead to eating disorder clients self-inflicting maladaptive behaviors. As with previous research in EAP and its effectiveness as an alternative form of mental health treatment, this study was limited by its lack of a control group, absence of random assignment, and the diagnostic assessment method was not specified. It also lacked a manual for conducting equine interventions, and had no follow-up to attest to long-term benefits. The researchers suggested for future studies to asses for dose effect with variations in time, intensity, and frequency of EAP.

Anestis and colleagues (2014) engaged in a systematic review of previous equine-related studies to investigate the quality of the researcher's methods and findings. Their review identified multiple threats to validity, and resulted in questions raised to the clinical significance of the data. The authors argued that previous studies often lacked control groups, therefore the reports showed improvements in mental health symptoms could not be empirically supported, as there was no indication on the effects of treatment.

They also highlighted past research ignored the use of manualized treatments which increased the threats to validity.

Even though Anestis and colleagues (2014) highlighted several areas in previous EAP research, they acknowledged the subjective benefits. They agreed with Corring, Lundberg and Rudnick's (2013) findings which suggested a clients perceived attachment (bonding relationship) induced confidence and self-esteem in clients. They also did not argue against Bachi's (2012) conclusion regarding EAPs ability to provid emotional and mental support to individuals. Nor did they contend the ideology that EAP promoted a therapeutic relationship between client and therapist (Bachi, 2012). Instead they argued for a systematic approach to using clinical interpretation of the observed dynamics in the client-horse interaction.

Equine-Assisted Psychotherapy

History. Until the 1960s, little research or literature could be found on the benefits of animals as therapeutic tools (Bachi, 2013). Bachi (2013) highlighted that prior to the introduction of equine-based therapies, Boris Levinson introduced the use and benefits of companion animals to the world of psychology. She also added how researchers have found documented evidence in the writings from Greco-Roman times depicting the use of horses to aid in the mental and physical recovery of its people. The fascination with the human-horse bond has even seen its way into the theater. The play *Equus*, depicted a psychologist who witnessed the therapeutic bond between a boy and his horse unfold (Siporin, 2012).

Most research prior to the 1990s explored the use of Animal-Assisted Therapy and Equine-Assisted Activities/Therapies (EAA/T), and how they related to improving a client's physical health (Bachi, 2012). It was in the 1990s when EFP, a subdivision of EAA/T was established, the world of psychology was introduced to the use of equines to address clients (Bachi, 2012). The Professional Association of Therapeutic Horsemanship International (PATH International.), stated that EFP was an "interactive process in which a licensed mental health professional working with or as an appropriately credentialed equine professional, partners with suitable equine(s) to address psychotherapy goals set forth by the mental health professional and the client" (PATH International, 2012, para. 4).

The term equine-assisted psychotherapy was established by Greg Kersten in the early 1990s (Kersten, 2014a). Kersten's philosophes regarding EAP stemmed from his decades of observation and working with horses and at-risk youth. Over the course of time, Kersten created a certification program, and training manuals for EAP and Equine-Assisted Learning (EAL), under the heading of The O.K. Corral Series. The O.K. Corral Series focused on utilizing the natural setting where the horse was present, in conjunction with the observed physical and emotional bond created between the horse and human ("O"bservation and "K"knowledge) (Kersten, 2014a). Kersten's (2014a) EAP was strongly rooted in the use of metaphors, to help clients recognize "patterns, strengths, and the nonverbal messages we send*"* (p. 6). Kersten's approach to EAP was experiential in nature, and required a more passive and observational approach from the therapist. He also highlighted a horses ability to act naturally in its setting with the client, provided the

therapist with observations of the clients behaviors, which would most likely be missed in a TP setting.

A herd animal. Unlike other animals (dogs, cats, etc.) utilized for therapeutic intervention, horses were considered a herd (nonpack) animal (Bachi, 2013). Herd animals are by nature less competitive, and more cooperative (Bachi, 2013). Through the process of evolution, horses had become keen observers (peripheral vision) of danger (Siporin, 2012). Their ability to process their environment, listen for acute changes in their surroundings, and utilize their strong physique to avoid harm, has allowed them to survive (Siporin, 2012).

Early writings suggested horses had been domesticated since 4500-3500 BC (Levine, n.d.). Through domestication, horses viewed humans as part of their herd, and researchers have argued the origins of the horse-human bond were created at such time (Bachi, 2013). During the domestication process, horses also viewed their human counterparts as the herd leader (Bachi, 2013). Bachi continued by emphasizing through the clients leadership role, the therapeutic process of self-control, respectful interaction, and motivation propelled the client forward. It has also been suggested EAP allowed clients to work on honesty, strength, work ethic, communication, observation skills, living in the now, and motivation for basic needs. Kersten (2014a) argued these characteristics were natural to horses in a herd.

Kersten (2014a) emphasized the herd versus pack behavior of EAP was one of its most powerful components. He identified a horses primary responsibility was safety, therefore utilizing their keen senses (monocular vision, exceptional hearing, and smell) to

process their environment kept them safe. What assisted therapists in determining a clients projection of emotion, was the horses ability to accurately process their environment and respond accordingly (run/re-circle or approach/investigate) (Kersten, 2014a.) He also suggested humans act both like a pack (seeking pecking order) and herd animal. He identified clients who presented "pack-like" tended to display aggressive and uncooperative type behaviors. Where clients who displayed "herd-like" characteristics were more likely to identify stressors in their environment and make adjustments to increase their "safety".

The O.K. Corral Series team approach. Utilizing a team approach in EAP constituted the use of two facilitators, one of which was a licensed mental health therapist, and the other was an equine specialist, and at least one horse (Siporin, 2012). Similar to the increased observational awareness provided in a horse herd, the use of two facilitators allowed for increased observations of clients, as well as increased safety for the client and horse (Kersten, 2014a.). Kersten argued that providing EAP without a co-facilitator was not unfeasible, however, having the opportunity to co-facilitate an EAP session added greater peripheral awareness, increased safety, and sharper observation.

Equine-Assisted Psychotherapy Principles

Pressure and Pain. Kersten (2014a) argued that horses move away from pressure and into pain. He identified this behavior was not only evident for horses who experienced physical pain, but also emotional pain. He highlighted a horse's strongest attribute as being their instinctual nature to respond to their emotional experiences of

pressure and pain. Therefore, he argued if a horse walked toward a client, the client was experiencing pain, and if they walked away from a client, the experience was pressure.

Kersten offered an example of the pressure-pain principle while observing a herd of horses during feeding time. When a herd of horses fed together, humans observed certain horses being moved away from the source of food by other horses. The horse(s) who moved away from the feeder as other horse(s) pushed in, were feeling pressure and moved away. He continued by illustrating that if the horse refused to move away and confronted (nipped or kicked or vocalized) toward the other horse, the original horse would move into the pain and address the conflict (instead of avoiding or ignoring it). Kersten argued this type of observation was common in EAP sessions, and often made clients able to internalize what he or she witnessed. He added that the information was then processed in a meaningful manner to represent situations or times the client avoided addressing their pain. Kersten further suggested observing a client's exchange with horses informed the therapist how the client addressed pressure and pain in their lives. Lastly, allowing the client to reflect on what they have observed and learned about their own pressure-pain principle in the arena and how it related to their life outside of sessions was a key component in EAP work.

Re-Circle. Considering again the horses natural herd mentality and survival drive, a horses natural reaction to suspected danger was what Kersten (2014a) referred to as the "Re-Circle". Kersten noted suspected danger was perceived as "pressure", therefore the horses moved away. The away movement he identified was not a scattered and disorganized retreat, instead it was described as retreating at an angle, or in an

arc/semicircle shape. He added how running in such a pattern allowed the horse to utilize its monocular vision and process environment (potential danger) from a greater vantage point. Kersten argued if the horse was to run in a straight line, the potential danger may have been lurking in their blind spot.

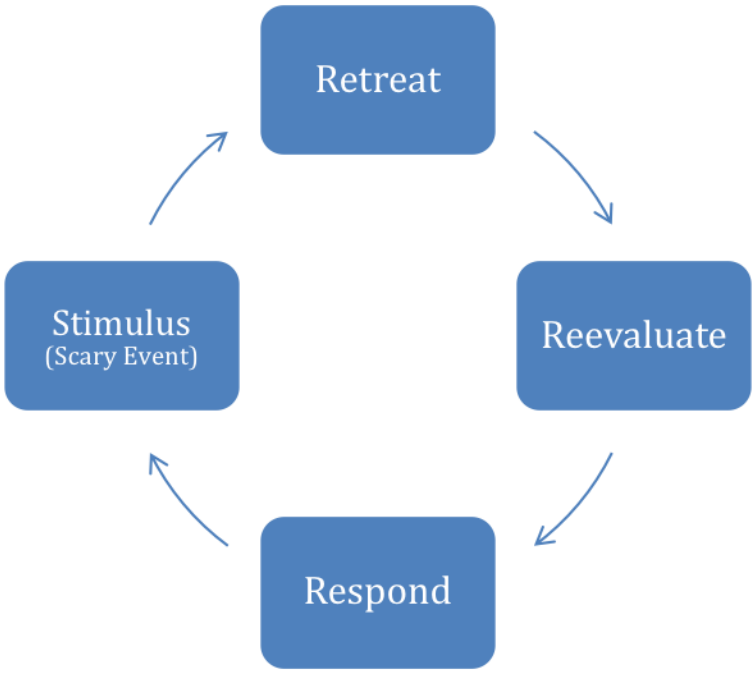

Figure 2. Re-circle

During EAP sessions, clients observed a Re-Circle as well as when horses stopped running. Following the pressure-pain principle the horse stopped running when they no longer sensed pressure and felt safe. Kersten shared how processing a Re-Circle with a client provided the client with the opportunity to express how they struggled with reacting quickly to pressure (environmental stressors, relationship stressors, etc.), which often caused them to lash out and place themselves in dangerous situations. The frustrated client mentioned prior, expressed how if they had "walked away" from the

pressure (to a safe distance or place), and assessed the danger, they could have addressed the pain with intelligence, coping skills, and a calmer affect.

Attention/At-Ease. Kersten's (2014a) principles of EAP suggested one of the "greatest gifts horses can give us was their undivided attention" (p. 39). He added when a horse was at attention they processed their environment for danger, scanned for nourishment, as well as shelter and safety. A horse at-ease, he added did not feel pressure, and may be grazing or interacting with other horses. Kersten also highlighted while at attention and moving away from pressure, horses possessed a natural ability to balance attention and ease. He also indicated many clients who entered EAP did so as they found an unbalance between attention and ease. These clients were reportedly conflicted with the amount of time spent creating opportunities to experience a sense of ease, and struggled to disconnect from distressing thoughts. Therefore, Kersten expressed observing the natural ability of the horse to transition from attention to at-ease, aided the client in becoming aware of opportunities in their own lives to be productive and healthy.

Push-Pull. Horses were often labeled as large, powerful, majestic creatures (Bachi, 2013). Their sheer presence alone evoked emotions of joy, peace, calm, and trust in people (Bachi, 2013). A horses strength was witnessed in its ability to push (Kersten, 2014a). Kersten's EAP principles were deeply rooted in metaphorical work, which offered EAP sessions the opportunities to observe and discuss times when the client pushed or pulled, and how such behaviors provided relief or angst. He identified the act of pushing was observed when clients acted, directed others, took charge, or moved a group (herd). His definition of pulling was witnessed in the enticing, luring, and

attracting that clients used to encourage a horse into motion. Kersten's EAP outlook on attention and at-ease was similar to the principles of push and pull, and a balance between the two was necessary. Lastly, he offered examples of observations made when clients pushed and pulled horses to force or bribe them, in which the results were most commonly the opposite of what the client intended. Such results were reportedly met with frustration, yet provided opportunities for client-therapist processing.

The Nonverbal Zones. Dr. Albert Mehrabian's (1981) work entitled Silent Messages, suggested individuals project 55% of their communication through nonverbal (facial expressions, gestures, posture, etc.) means. Kersten (2014a) argued that a key component to EAP was understanding the horses nonverbal zones. He identified three zones: The Stop Zone, The Relationship Zone, and The Motivation Zone. Each zone was intrinsic not only to working with a horse, but also to understanding how a client communicated with others.

When standing in front of a horse, Kersten suggested we are sending a message to the horse to stop. Or when standing in the direct path of a horse or a human, he identified we were in The Stop Zone (See Appendix K). He also acknowledged it was a rarity of observe horses standing head-to-head or nose-to-nose. Instead, he expressed how horses often eat from feeders, groom one another, and mutually addressed (swatted) flies with their tails for each other in a side-by-side positioning, which he referred to this as The Relationship Zone. The last zone was related to the hind end of the horse. Kersten referred to this as the horses most powerful attribute, as its hind legs gave protection and drove it from danger. He expressed how horses move each other by coming up to another

horse from behind (pushing), which signified they desired the horse to move. This area was recognized as The Motivation Zone (See Appendix L).

Kersten (2014a) applied his Nonverbal Zones to human relationships, and how observing clients interacting with horses, offered insight into how the client addressed individuals in their own lives. He noted when individuals intended to "stop" someone, they stood in front of them. He continued by expressing how we reserved the relationship zone for individuals we trusted or felt comfortable with. When we stand behind someone (placed a hand on their shoulder or back), he identified we were motivating them to go forward, or perhaps telling them what to do. Lastly, he noted some individuals may be uncomfortable or threatened when someone is in their Stop Zone or Motivation Zone. Therefore, he suggested the Relationship Zone (See Appendix M) (for example, when side-by-side on horseback) often produced deeper conversations and opportunities for growth.

Kersten's (2014a) use of the Nonverbal Zones, offered many opportunities for metaphorical work during EAP sessions. As he suggested individuals often observed the herd, or themselves maneuvering within the three zones. Such observations lead to discussions of when the client experienced individuals who utilized the zones effectively to encourage them (motivate) to succeed, or when others abused the zones to selfishly fulfill their own needs and wants. His overall implication of the Nonverbal Zones was to assist clients in utilizing more effective forms of communication, and to align their verbal and nonverbal messages.

Equine-Assisted Psychotherapy Sessions

A typical EAP session included the initial intake session in the therapist's office, where an evaluation to determine appropriateness for equine work occurred. Followed by an establishment of treatment plan and goals, and addressing the direction of upcoming sessions (Brandt, 2013). A conversation regarding safety while working with the horses was also explored (Brandt, 2013). The EAP approach to safety was provided in a non-fear provoking manner (Kersten, 2014a). Kersten stressed the O.K. Corral philosophy highlighted that humans as well as horses, subscribed to fear via the pressure-pain principle. He asserted that clients who were provided a safety lecture often evoked a fear of working with horses, inexplicably producing an environment where learning and growth were nearly unattainable. Instead he suggested the promotion of teaching peripheral awareness, Re-circle, and processing the reality of the clients perceived fears, was more appropriate.

The first session outside of the therapist's office included the client meeting the horses, becoming familiar with the stable/arena setting, observing herd dynamics, grooming and stable chores, as well as groundwork (Brandt, 2013). As the sessions progressed, clients were introduced to a variety of equine activities (mounted and groundwork) (Kersten, 2014a). EAP sessions also included check-ins prior to each session, and full TP sessions as needed; based on the emotional need of the client (Brandt, 2013). During these sessions, EAP therapists utilized evidence-based practices such as: cognitive behavioral therapy (CBT); Gestalt therapy; person-centered techniques; and play therapy, to process the experiences of the client (Brandt, 2013).

Lastly, final sessions mirrored those of TP, with discussions addressing the termination of the therapeutic relationship between client and therapist, as well as between client and horse (Brandt, 2013).

Grounded work. The majority (90%) of EAP sessions were conducted via grounded work (Kersten, 2014a). All EAP exercises were created by Greg Kersten and The O.K. Corral Series, and provided via the O.K. Corral Series Manual.

Herd observation and choosing a horse. Horses and humans share many similar characteristics such as: motivation to secure basic needs; reacting to the present setting; observations skills; communication; strength; and trust (Kersten, 2014a). Bachi (2012) suggested EAP therapists extracted meaning from a clients observation of herd dynamics. She also argued clients often selected horses they felt represented them at the current moment. She posited that therapists expanded on their clients horse selection throughout the session, which lead to insight oriented connections for the client.

Grooming. Bachi (2013) expressed how grooming a horse created an attachment or bond. She continued by suggesting such caring and investment placed into the horse was associated with the care we placed in ourselves. She also asserted that standing next to the horse (The Relationship Zone), was beneficial for clients who found direct communication (face-to-face, The Stop Zone) in TP sessions to be intimidating. Therefore, she identified the horse as a symbolic barrier for the client to express his or her emotions freely, while simultaneously experiencing the emotions of caring for something other than themselves.

Catch and halter. Clients were asked to select a halter, lead rope and horse. The therapist observed the clients nonverbal language and approach to the horse. This exercise, with all EAP exercises, had the potential of evoking frustration in a client, especially if the horse became aloof. The reaction of the client was the main objective of the exercise.

The ground tie. A ground tie involved a halter, lead rope and horse. Once the horse had been haltered, the client was instructed to place the remaining rope on the ground, and walk around the horse (without holding onto the lead rope). Observations were made by the therapist regarding the clients reaction when the horse moved (See Appendix N).

Longeing. Kersten (April 27, 2017) argued longeing may have been the most challenging exercise for a therapist or cofacilitator, as clients often struggled with the concept of longeing a horse. Clients were provided minimal instruction, except longeing was the opposite of a ground tie (See Appendix O).

Picking up feet. This exercise was deeply rooted in metaphors associated with trust and relationships. Kersten (April 27, 2017) reasoned there were many ways to pick up a horse's front and back feet. He added the metaphors arising from this exercise were connected to the client requesting the horse to trust them. He also suggested therapists and cofacilitators remained mindful to not allow the exercise to become a "how-to" or horsemanship activity, and risk becoming lost in the technicalities of the exercise and not the metaphors.

Leading. The therapist utilized their clinical observation skills to process the clients nonverbal communication, negotiation skills, and patience (Kersten, 2013a.). Clients were asked to lead a horse from one place to another, or over small jumps/obstacles, through a gate, an obstacle course, or for a walk.

Life's little obstacles. Multiple props (buckets, lead ropes, chairs, sweet feed, hay, jumps, etc.) were placed around the working area, and clients were provided the goal of moving the horse through the obstacle course without violating the rules (Kersten, 2013a). Rule 1 – clients were not allowed to touch the horse; rule 2 – clients were not allowed to halter or lead rope the horse; rule 3 – clients could not bribe a horse; rule 4 – clients were not allowed to utilize objects from outside the work area; and lastly, rule 5- clients were not allowed to speak. Clients were also asked to prescribe a consequence for broken rules (most clients selected having to start the course over) (See Appendix P).

Mounted work. Even though the majority of EAP work is completed on the ground, there are some effective EAP exercises which require mounting a horse.

Safety dismount. While utilizing a halter and lead rope, clients were shown how to properly and safely dismount from a horse. This exercise provided an opportunity to increase the confidence in the clients ability and safety around the horse, as well as ensue discussions about the clients overall view of safety in the arena and in life (See Appendix Q).

Lie detector. Clients were asked to ride the horse around the area which was being used for the session. The co-facilitator longed the horse while the client rode the horses bareback (all mounted work was conducted bareback in EAP). During such time

the therapist discussed a selected therapeutic topic, and observed the horses behaviors in relation to the discussion (Kersten, 2014a). The exercise was used to illicit emotions from a client, and observed how the horse responded to the clients emotional reaction toward the discussion. Kersten (April 27, 2017) argued that minimizing or repressing emotions took energy and was painful. He expressed how following the pressure-pain principle (a horse moving away from pressure and into pain), elicited the clients attempt to address pain and pressure. Whether the client determined to express their pain or avoid it (pressure), the horse responded with an observable response.

Summary and Conclusion

The horse-human connection was the foundation of this chapter, as well as the driving force for selecting attachment theory, and The O.K. Corral Series philosophies. EAP provided the backdrop to describe the power behind a therapeutic tool (the horse), as being non-judgmental, a producer of immediate and consistent feedback, as well as a facilitator of behavior and relational dynamics (Bachi, 2012; Kersten, 2014a; Kersten, 2014b). The principles and philosophies of EAP aligned with attachment theory and were expressed through the exercises, metaphors and ideologies such as the pressure-pain principle.

Throughout the chapter, the benefits of EAP were addressed, as well as the limitations and the gaps between what was known and what was still shrouded in doubt. Arguments were provided regarding the need for future studies to include random assignment, control groups, manualized EAP exercises/sessions, and the utilization of theory to support the efficacy of EAP. Researchers such as Anestis et al. (2014), Brandt

(2013), Burgon (2011), Earles et al. (2015), Kern-Goldal et al. (2016), and Klontz et al. (2007), as well as Lutter & Smith-Osborne (2011), called upon future EAP studies to produce sound methodological research to support its effectiveness. I attempted to view EAPs efficacy through the lens of attachment theory, while utilizing an objective outcome measure. By analyzing the connection between EAP and its impact on attachment to a therapist and reduction of anxiety and levels of depression, I hope to help fill the gap which exists in the current EAP literature. In an attempt to provide empirical support to show the impact of EAP on therapist-client attachment and reduction of anxiety and levels of depression, the next chapter discusses the quantitative methodology, setting, sample, objective instrumentation, and analysis to provide such evidence.

Chapter 3: Research Method

Introduction

Chapter 3 presents the methods and research design for this dissertation study. It begins by restating the study's purpose as described in Chapter 1. This is followed by an overview of the selected quantitative research design, the settings in which the study was conducted, selection of participants, sampling criterion, sample size, instrumentation, and data collection procedures. An additional section includes a discussion of the codes and themes used for data analysis. The chapter continues with sections on management of the research data, specifically, validity, reliability, and limitations. This chapter concludes with a discussion on ethical considerations, which highlights the study's approach to ensuring procedures for safe and ethically sound research.

Restatement of the Purpose

The purpose of this quantitative quasi-experimental study was to determine if attachment to a therapist differed between the method of treatment (TP or EAP) and if the attachment had an impact on levels of anxiety and levels of depression in participants. The overarching purpose was to analyze the extent the horse-human connection affected the attachment to the therapist and if there was a correlation to the reduction in levels of anxiety and depression.

Research Design and Rationale

I used a quasi-experimental, retrospective research design in this study. The archival data was collected from male and female adults involved in EAP over a 2-month period and a comparison group of adults who remained in TP. Data was gathered using

three questionnaires requiring the participants approximately 10 minutes to complete. The data was not analyzed prior to the present study, and no information regarding the program has been published to date.

I selected a quantitative quasi-experimental design to allow for the research question to be analyzed using a 2 x 2 mixed design ANOVA to assess if an interaction between the studies within-subjects factor and between-subjects factor on the dependent variables existed (Field, 2013). A mixed ANOVA allowed me to assess whether one of two different treatment conditions was more effective at reducing levels of depression and levels of anxiety, as well as assess whether treatment condition impacted the level of client attachment to therapist. Therefore, the dependent variables were level of symptom reduction (levels of BDI-II and BAI) and client attachment to therapist (CATS levels) measured at pretest and posttest. The within-subject factors were time (pretest and posttest), while the between-subjects factor were treatment conditions (TP or EAP). Due to the study using three outcome measures (BDI-II, BAI, and CATS), I conducted separate 2 x 2 mixed design ANOVAs for each dependent variable. Thus, the purpose of selecting a mixed ANOVA was to determine if a relationship between the within-subjects factor and between-subjects factor on the dependent variables at pretest and posttest times existed (Field, 2013).

I assessed Ssymptom reduction and client-attachment to therapist means and standard deviations for the two treatment conditions over the two recording periods (pretest and posttest). I conducted preliminary analyses to determine if the assumptions of equal variances and sphericity were met (see Napoli, 2017). I also conducted Leven's test

for the equality of variances between groups to detect for failures or violations of homogeneity of variance for symptom reduction and client-attachment to therapist scores at baseline, pretest, and posttest (see Napoli, 2017). Mauchly's test aided in determining if any significant violations of sphericity for symptom reduction and client-attachment to therapist occurred during pretest and posttest (see Napoli, 2017).

The results of the mixed ANOVA also allowed me to show whether a significant main effect for each treatment condition resulted in higher symptom reduction and if attachment to therapist played a role in overall symptom reduction by analyzing the effect size based on Cohen's criteria (see Napoli, 2017). Lastly, post hoc mean comparisons using Bonferroni's correction assisted in determining whether significant symptom reduction and attachment to therapist were related to measures outside of chance (Field, 2013).

Research Question and Hypotheses

As stated in Chapter 1, the purpose of this research was to determine whether treatment in the form of TP or EAP had a significant impact on therapist-client attachment and levels of anxiety and depression of participants. The following research question satisfied the purpose of this study with the approach, setting, and framework introduced in Chapter 1:

RQ: Does attachment and level of anxiety and depression differ by treatment type (EAP vs. TP)?

H_0: Attachment and level of anxiety and depression did not differ by treatment type (EAP vs. TP).

H_a: Attachment and level of anxiety and depression did differ by treatment type (EAP vs. TP).

Methodology

Population

Target population. The participants for this study were male or female, ranging in age from 18-70, and of any ethnicity or cultural background. The ages were divided into groups according to Erikson's psychosocial stages: 18-35 years old, 35-60 years old, and 60 and older (Corey, 2001). Participants who engaged in TP or EAP had sought out one of the previously mentioned treatment forms to address levels of anxiety and/or levels of depression. The estimated targeted population size was 42,064 according to PATH Intl. 2016 statistics.

Site. The site of the research was ECS Psychological Services. The organization identified as a therapeutic farm with mental health professionals who received training in EAP from G. Kersten of The O.K Corral Series. The providers of psychotherapy services held certification and licensure to practice in their state, and the EAP therapists and horse handlers were also trained in the O.K. Corral Series philosophy. The TP setting was a second ECS location away from the therapeutic farm. To assure safety of the participants, ECS qualification (O.K. Corral Series certified) was verified, and ECS carried their own liability insurance. They also used their own wavers, and the safety of the participant was the sole responsibility of the service provider.

Sampling and Sampling Procedures

Sampling strategy. The type of sampling strategy selected for this study was

convenience sampling. I selected this type of nonprobability sampling due to the participants being in specific areas (EAP settings) and using archival data.

Sampling frame. To represent the target population, the sampling frame consisted of adults ages 18 to 70 of any gender, race, ethnicity, or socioeconomic status who possessed a minimum 9th grade reading level ,as reading comprehension was required to complete the self-report assessments. The only exclusion criteria was based on age (under 18) and if the participant exhibited a psychotic state. This exclusion was based on previous studies suggesting clients who exhibited a psychotic state may pose a risk for EAP safety due to the clients' potential for unexpected behavior and the horses possible reaction (Bachi, 2013).

Power analysis for sample size. The existing studies on EAP showed the average sample sizes to be 13 (Bachi et al., 2012; Borioni et al., 2012; Burgon, 2011; Cuypers, De Ridder, & Strandheim, 2011; Earles et al., 2015; Holmes et al., 2011 Kern et al., 2011). In a study by Earles and colleagues (2015) that examined similar measures to this study, they identified their sample size to be satisfactory at 16. They showed an effect size for PTSD as $d = 1.21$ ($p < .001$), effect size for anxiety as $d = 1.01$ ($p < .01$), and effect size for depression as $d = 0.54$ ($p < .05$; Earles et al., 2015).

The current sample size was based on the use of G*Power 3.1, with Cohen's f set to a medium effect size value of .30 (see Faul, Erdfelder, Lang, & Buchner, 2007). The desired power for analysis was set to the conventional level of .80, and the significance (alpha) level was set to the conventional .05 level. The number of groups was set to 2, with the number of measurements also at 2 and the correlation among repeated measures

to be 0.5. The overall significance of the model was tested with an *F*-Ratio for R^2, with the Test Family setting in G*Power adjusted to *F*-Tests (see Faul et al., 2007). Because the analysis was conducted in advance of the actual study, the type of analysis was set to a *priori* (see Faul et al., 2007). Using these parameters and analysis settings, the estimated minimum sample size for the study was 90 cases.

Procedures for Recruitment, Participation, and Data Collection Recruiting Procedures

The data collected (via BDI-II, BAI, and CATS) was under the auspices of ECS as part of the site's standard operations. ECS shared the data with me for the purpose of secondary analysis in connection with this study. The outcome measured data was continually collected by ECS starting in July of 2018 to the date of the analysis. The clinical database was stored at ECS main location in Saratoga Springs, New York. The sample (participants who sought treatment for stress related symptoms) consisted of clients who met the criteria (male or female, ages 18-70, without active psychosis) and were being seen for TP or EAP. ECS operations called for clients to fill out the CATS in the waiting room, placed it in a sealed envelope and returned it to the office manager for data entry into their automated medical chart. The BDI-II and BAI were completed in the therapist office and entered into the medical chart by the therapist.

Informed consent. Per the American Psychological Association (2010), ethical principles of psychologists and code of conduct, informed consent may be waived when the research is determined to not cause harm, and is in the form of an anonymous questionnaire, or naturalistic observations, for which confidentiality is protected and no

risk to participants is projected.

Data collection. The procedure to gain access to the data set as well as a letter of cooperation for data sharing from ECS was collected (see Appendix XX and XX). ECS provided the data to the researcher to ensure the confidentiality of each participant's identity.

Instrumentation and Operationalization of Constructs

Client Attachment to Therapist Scale. Participants in the study received the Brent Mallinchkrodt, Diana Gantt, and Helen Coble (1995), CATS, prior to participation in the study, and after completion of study. Selecting the CATS for the current study coincided with the purpose of the research, as the CATS assessed for the level of attachment an individual has to their therapist. Levels of attachment was associated with Mallinchkrodt, Gantt, and Coble's (1995) research which was grounded in Bowlby and Ainsworth's original attachment theory.

The CATS was also selected due to ease of administration and a self-report rating scale consisting of 31 questions, broken into three styles of attachment (or factors): factor 1 – Secure (14 items); factor 2 – Avoidant/fearful (12 items); and factor 3 – Preoccupied/merger (10 items). The test format was easily understood and based on a 6-point Likert-type scale: 1 = strongly disagree; 2 = somewhat disagree; 3 = slightly disagree; 4 = slightly agree; 5 = somewhat agree; and 6 = strongly agree.

Permission to utilize the CATS was waived based on findings provided by PsycTESTS, indicating the content was able to be reproduced and used for non-

commercial research and educational purposes without seeking written permission (see Appendix F).

The CATS was constructed over a 3-year period from four counseling agencies (*N* = 138) in the Pacific Northeast (Mallinckrodt et al., 1995). The original CATS consisted of 100 items, with the researchers revision selecting less then 40 items, and easier to administer. The creators assessed which items were to remain based on items that loaded greater than .40 on a factor. They also determined the subscales developed from the three factors showed acceptable internal and retest reliability. They further determined the correlations with other measures supported construct validity in the CATS. Lastly, low correlations between CATS subscales, suggested the subscales were able to correctly measure the clients' attachment type to their therapist accurately.

Beck Anxiety Inventory

Participants in the study also received Beck and colleagues (1996) BAI prior to participation in the study, and after completion of study. Selecting the BAI for the current research coincided with the purpose of the study, as the BAI was able to differentiate between anxious and nonanxious individuals between the ages of 17 and 80 (Leyger, Ruberg, & Woodruff-Broden, 2006). The BAI was also selected due to its speed (5-10 minutes) and ease of administration, and the minimal reading level was 4th grade (Steer, Ranieri, Beck, & Clark, 1993). Steer and colleagues (1993) also identified the BAI was useful for identifying baseline anxiety levels, was effective in determining the efficacy of treatment over time, as well as a post-treatment outcome measure. The authors highlighted other advantages such as: repeatability; ability to discern between symptoms

of anxiety and depression, as well as validity amongst different languages, cultures, and age ranges.

Permission to utilize the BAI was waived based on findings provided by PsycTESTS, indicating the content was able to be reproduced and used for non-commercial research and educational purposes without seeking written permission (see Appendix G).

The BAI was a 21-item multiple-choice self-report inventory to measure common symptoms of anxiety (Leyger et al., 2006). The BAI was formatted on a 4-point Likert scale (Not at All = 0; Mildly = 1; Moderately = and; Severely = 3). The inventory was psychometrically sound, with high internal consistency (Cronbach's alpha ranging from .92 to .94) and significant test-retest reliability (.75; Steer et al., 1993). A meta-analysis review of 192 studies from 1993 to 2013 showed the BAI to possess significant internal consistency (coefficient alpha) of .91, and test-retest reliability of .65 (Bardhoshi, Duncan, & Erford, 2016).

Beck Depression Inventory

Participants in the study also received Beck, Steer, and Brown (1996) BDI-II prior to participation in the study, and after completion of study. Selecting the BDI-II for the current research coincided with the purpose of the study, as the BDI-II was a purposeful tool for assessing levels of depression in individuals 13 years and older (Bringmann, Lemmens, Huibers, Borsboom, and Turelinckx, 2015). The BDI-II was also selected due to its speed (5 minutes) and ease of administration, and the minimal reading level was 4th grade (Jackson-Koku, 2016). Bringmann and colleagues also identified the BDI-II was

the most widely used and empirically sound self-report for measuring the severity of depression. They also contended the measure assesses the symptoms of depression according to the DSM-V definition of depression. Permission to utilize the BDI-II was provided by the publisher, NCS Pearson, Inc. (see Appendix H).

The BDI-II was a 21-item multiple-choice self-report inventory to measure commonly experienced attitudes and symptoms of depressed patients (Jackson-Koku, 2016). The BDI-II was based on a 4-point Likert scale (symptom absent = 0 to severe symptoms = 3). Jackson-Koku also provided support in relation to the inventory's psychometrical soundness, showing high content validity, and mean correlation coefficients of 0.72 and 0.60 for clinical ratings on both psychiatric and non-psychiatric patients. He also highlighted the BDI-IIs high construct validity (Cronbach's alpha ranging from 0.92 for psychiatric outpatients, and 0.93 for college students). A meta-analysis assessed 51 studies consisting of 62 samples (n = 20,475) identified strong comparisons between the factors, and high reliability and validity to in detecting clinical change in depression symptoms (Huang & Chen, 2015).

Threats to Validity

Threats to validity were considered for this study, as well as ways to address (or minimize) the potential for the threats to influence the outcome. Both external (incorrectly assuming the data represents populations outside the data, setting, or future areas) and internal threats to validity (threats created by the subjects, procedures utilized, or experiments/instruments selected) were analyzed (Creswell, 2014).

In the current study, threats to external validity include the possibility of interaction of selection and treatment (Creswell, 2014). Many of the participants were of similar demographic characteristics (Caucasian, female, etc.), and were selected through convenience sampling. Therefore, the narrow characteristics of participants and sampling strategy, may have proposed a threat to generalize the findings to the outside population (Creswell, 2014). To address this issue a detailed description of the sample population was provided, and future studies should include larger populations (Frankfort-Nachmias & Nachmias, 2008). Another potential threat to external validity included the interaction of setting and treatment (Creswell, 2014). This type of threat involved the potential for the experimental setting to reflect poorly on the natural setting in which to generalize the findings (Frankfort-Nachmias & Nachmias, 2008). The current studies quasi-experimental design addressed this concern and provided the ability to increase external validity, with strong reactive arrangements (a non-laboratory setting) (Frankfort-Nachmias & Nachmias, 2008), as well as utilizing two (TP setting and farm) different settings. It should also be noted the TP group setting was not in proximity to the equine setting, thus, there was no visual influence from a horse.

Threats to internal validity in this current study pertained to history, testing, experimental mortality, instrumentation, and selection-history (Creswell, 2014; Frankfort-Nachmias & Nachmias, 2008). History referd to the factors that may influence the participant between the beginning and end of the experiment (Frankfort-Nachmias & Nachmias, 2008). For this study, the time between pretest and posttest was 8 weeks, with treatment occurring at least once a week, as a means to decrease the possibility of history

influence. Testing related to the possibility the participants become familiar with the outcome measure (Creswell, 2014). To address this issue, a longer time frame (8 weeks) was provided between the pretest and posttest. Experimental mortality, also known as dropout, can cause the experiment to lack an adequate final sample size (Frankfort-Nachmias & Nachmias, 2008). To address this issue, G*Power analysis was conducted to determine the appropriate size.

To confront potential threats from instrumentation (repeated measures), 8 weeks was allowed between pretest and posttest to minimize sensitization, and the validity and reliability of the CATS, ADI, and BDI-II was confirmed (Frankfort-Nachmias & Nachmias, 2008; Myers & Sweeney, 2005). Lastly, selection-history interaction, or the ability for the different settings between the experimental group and control group to affect the outcome measure was addressed (Frankfort-Nachmias & Nachmias, 2008). To do so the service providers possessed the same EAP training and therapy certification, as well as treatment manuals to minimize such threats.

A final threat to validity involved the potential for construct or statistical conclusion validity (Frankfort-Nachmias & Nachmias, 2008). These potential threats rested in the researchers ability to express how the measuring instrument was related to the experiments theoretical framework (Frankfort-Nachmias & Nachmias, 2008). In the current study, attachment theory was selected to identify how the horse-human relationship (EAP) produced a lower level of anxiety and lower level of depression in participants. Bowlby suggested individuals who can establish an attachment to an individual experience less mental health related complaints (Schwartz, 2015). Therefore,

construct or statistical conclusion validity was minimized due to items highlighted in the CATS measure, were also expressed through Bowlby's characteristics of secure attachment (Myers & Sweeney, 2004; Schwartz, 2015).

Ethical Procedures: Protection of Participants and Data

Approval for the use of data and assessment was not required for the CATS or the BDI. Per PsycTESTS, the content of the CATS and BDI may be reproduced for non-commercial research and educational purposes without seeking written permission (see Appendix F & G). Permission to reproduce for non-commercial research and educational purposes for the BDI-II was obtained from the publisher, Pearson (see Appendix H). Walden University provided approval number 11-02-18-0556258 as means to conduct this study (see Appendix I).

The data collected for this study was archival in nature and a secondary analysis was conducted, therefore greatly reducing the risk of harm or ethical concerns. Following IRB approval, a scheduled meeting was set with ECS and the researcher to discuss procedures and data collection. In addition, the assessments and data were shared on ECS secured lap tops and paper copies of the CATS were shredded by ECS staff. The data transferred to a computerized data file was password secured and will remain in a safe location until seven years after the study.

To address the potential for a conflict of interest or power differential, the TP participants, or EAP participants who were in association with the researchers place of internship, were not allowed to participate in the current study, if they were, or had been in treatment with the researcher.

Summary

The methodology for this quantitative study was approached from an exploratory viewpoint. Chapter 3 highlights the nature of the study, and how the researcher addressed potential errors in analysis and ethical concerns. With clinical judgement and the distribution of an appropriate assessment, a comprehensive inquiry supported the purpose of this study.

Chapter 4: Results

Introduction

The purpose of the study was to assess the relationship between symptom reduction and attachment to therapist for individuals who received TP versus EAP. The independent variable was defined as the type of therapy services the individual received, TP and EAP. The dependent variables for the study were symptom reduction as measured by the BDI and BAI and attachment to therapist as measured by the CATS. The BDI consisted of questions designed to assess for levels of depression, whereas the BAI consisted of questions designed to assess for levels of anxiety (Beck et al., 1996). The CATS was designed to measure client attachment to therapist (Mallinckrodt et al., 1995). I used a 2 x 2 mixed design ANOVA to assess for an interaction between the studies within-subjects factor (pretest and posttest) and between-subjects factor (treatment conditions, TP or EAP) on the dependent variables (symptom reduction) that existed. This chapter focuses on the data collection, analysis, and results of the study.

Research Question

RQ: Does attachment and level of anxiety and level of depression differ by treatment type (EAP vs TP)?

H_0: Attachment and level of anxiety and level of depression do not differ by treatment type (EAP vs. TP).

H_a: Attachment and level of anxiety and level of depression do differ by treatment type (EAP vs. TP).

Data Collection

The data utilized was based on secondary data from 90 cases from one outpatient treatment center in Saratoga Springs, New York. Participants who were included in the study engaged in either TP or EAP during an 8-week span. These participants completed the pretest and posttest administrations of the BDI-II, the BAI, and the CATS.

Prior to receiving the secondary data, the outpatient treatment center removed participants' personal identification from the data archive. Data from participants were collected from November of 2018 to August of 2019. A file was created in SPSS and included the participant's treatment group (TP or EAP), pre- and posttest BDI, BAI, and CATS scores, and demographic information (age and gender) for each participant.

Demographic Information

The majority of the participants were between the age range of 18 to 35, 62.2% (n = 56). Participants between the ages of 35 to 60 represented 36.7% of the sample (n = 33), whereas participants ages 60 and above made-up 1% of the sample (n = 1). The participants were asked on each of the inventories (BDI, BAI, CATS) to indicate their age and gender. Participants unanimously responded. As a result, the mean age was determined to be 34.28, with a standard deviation of 11.83. Therefore, the participant age ranges were adequately represented in the sample, as the average individual using EAP for the general population was between the ages of 18 to 50 according to PATH Intl. 2016 statistics. In terms of gender, participants were provided the choice of either male or female. Each participant involved identified their gender, with females representing the

majority of the participants with 63.3% of the population (n = 57), whereas the men represented 36.7% of the sample (n = 33).

The independent variable in the study was the type of treatment service the participant received (TP or EAP). The original design of the study received an equal number (n = 45) of participants for each service. The length of treatment was predetermined by each provider, with pre- and posttests collected 8 weeks apart. The collection of data was part of their standards of operation.

2x2 Mixed Design ANOVA Results

I conducted a 2 (EAP, TP) x 2 (pretest, posttest) ANOVA to determine if TP and EAP participants experienced different levels of symptom reduction and differing types of attachment to therapist (secure, avoidant, preoccupied) during treatment. Depression, anxiety, and attachment type served as the dependent variables and were recorded at the time of first appointment (pretest) and 8 weeks later (posttest). The sample consisted of 45 TP participants and 45 EAP participants. Participants entered either treatment based on their choosing, and surveys were administered as part of the standard procedure of operations for the facility.

Results for Depression

Depression level means and standard deviations for the two treatment groups over the two recording times are reported in Table 1. Preliminary analyses were conducted to ensure the assumptions of normality, equal variances, and covariances were met.

Z-tests for skewness and kurtosis detected slight departures from normality in posttest depression scores for EAP participants. Levene's test for the equality of variances

between groups failed to detect any violations of homogeneity of variance for depression scores at pretest (p = .942), yet violated the assumption during posttest time (p = .002)[1].

The results of the ANOVA produced a significant main effect for treatment type (F (1,88) = 7.77, p = .007) with TP participants (M = 15.84, SD = 7.01) experiencing significantly higher levels of depression than EAP participants (M = 11.57, SD = 9.65) over the two recording periods. And, based on Cohen's criteria (1988), the effect size (partial eta-square) for between group effect was moderate (η^2 = .081).

The main effect of time was significant (F (1,88) = 63.03, p < .001), with a large effect size (η^2 = .417). This result indicated the average depression level at pretest (M = 16.77, SD = 9.65) was significantly higher than the levels recorded during the posttest time (M = 10.64, SD = 7.01), p <.001).

Of greater interest, the treatment type x time interaction was significant (F (1, 88) = 5.79, p = .018, with a moderate effect size (η^2 = .062), which indicated treatment types responded differently during the pretest and posttest periods on the depression measure. Depression treatment type means for the two recording periods are presented in Figure 3 (and reported in Table 1). To test for between treatment type differences at each of the recording periods, I conducted simple effect analyses comparing the two treatment types (EAP vs. TP participants) at each of the recording periods (see Table 1).

[1] Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

The results for the simple effect of treatment for pretest indicated the average depression level at baseline for TP (M = 17.98, SD = 9.57) and EAP (M = 15.56, SD = 9.68) groups were statistically equivalent (F (1,88) = 1.43, p =.236, η^2 = .016). By contrast, during the posttest recording time, the EAP participants (M = 7.58, SD = 4.45) had a significantly lower level of depression (F (1,88) = 21.11, p <.001, η^2 = .193) than TP group participants (M = 13.71, SD = 7.77) and represented a large effect size, accounting for approximately 19% of the between group variance (see Figure 3).

The simple effects analyses of time for treatment type was an examination of the changes in depression levels within each group over time. The results for the EAP participants was statistically significant and the effect size (Eta-square) was large (F (1,88) = 53.51, p <.001, η^2 = .38). This finding, which is shown in Figure 1, indicated that for the EAP participants, the average level of depression at posttest (M = 7.58, SD = 4.45) was significantly lower than pretest baseline level (M = 15.57, SD = 9.68).

The simple effect of time for the TP participant group was also significant (F (1,88) = 15.31, p <.001, η^2 = .148). This result, which is shown in Figure 1, indicated that for TP participants, their depression level at posttest (M = 13.71, SD = 7.77) was statistically lower than pretest baseline level (M = 17.98, SD = 9.57).

Overall, both groups showed a significant reduction in depression from pretest to posttest. However, the EAP group experienced a greater decline with a seven point difference, compared to the TP group's four point difference. To a greater degree, the effect size for the EAP group (38%) was significantly larger than the TP group (14%), as depicted in Figure 3.

Table 1

Depression Levels by Treatment Type and Time

Treatment type					95% Confidence interval	
		M	*SD*	*SE*	Lower bound	Upper bound
EAP	Pretest	15.56	9.68	1.44	12.70	18.41
	Posttest	7.58	4.45	0.94	5.70	9.45
	Total	11.57	9.65	1.09	9.41	13.72
TP	Pretest	17.98	9.57	1.44	15.13	20.83
	Posttest	13.71	7.77	0.94	11.84	15.59
	Total	15.84	7.01	1.09	13.67	18.00
Pretest	Total	16.77	9.65	1.02	14.75	18.78
Posttest	Total	10.64	7.01	0.67	9.32	12.00

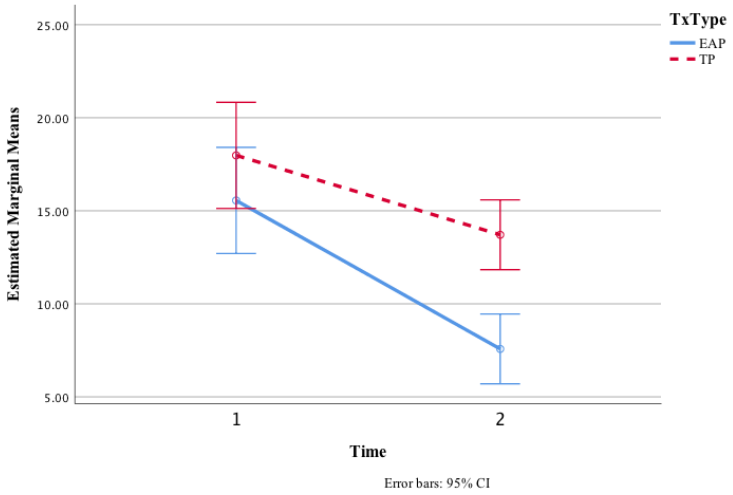

Figure 3. Mean levels of depression by treatment type and time.

Results for Anxiety

Anxiety levels means and standard deviations for the two treatment type groups over the two recording times are reported in Table 2. Preliminary analyses were conducted to ensure the assumptions of normality, equal variances, and covariances were met.

Z-tests for skewness and kurtosis detected slight departures from normality in pretest and posttest anxiety scores for EAP participants, and a moderate departure at pretest for TP participants. Levene's test for the equality of variances between groups detected violations of homogeneity of variance for anxiety scores during pretest (p = .012) and posttest ($p < .001$) times[2].

The results of the ANOVA produced a significant main effect for treatment type (F (1,88) = 18.05, $p < .001$) with TP participants (M = 18.93, SD = 9.49) experiencing significantly higher levels of anxiety than EAP participants (M = 9.99, SD = 13.89) over the two recording periods. And, based on Cohen's criteria (1988), the effect size (partial eta-square) for between group effect was large (η^2 = .170).

The main effect of time was significant (F (1,88) = 32.26, $p < .001$), with a large effect size (η^2 = .268). This result indicated the average anxiety level at pretest (M = 17.31, SD = 13.89) was significantly higher than the levels recorded during the posttest time (M = 11.61, SD = 9.49), $p < .001$).

Of greater interest, the treatment type x time interaction was not significant (F (1, 88) = 0.40, p = .530, with a small effect size (η^2 = .01), and indicated treatment types responded similarly during the pretest and posttest periods on the anxiety measure. Anxiety treatment type means for the two recording periods are presented in Figure 4 (and reported in Table 2). To test for between treatment type differences at each of the

[2] Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

recording periods, Simple Effect Analyses were conducted comparing the two treatment types (EAP versus TP participants) at each of the recording periods – see Table 2.

The results for the simple effect of treatment type for pretest indicated the average anxiety level at baseline for TP (M = 21.47, SD = 15.29) and EAP (M = 13.16, SD = 10.99) groups were not statistically equivalent (F (1,88) = 8.77, p =.004, η^2 = .091). Similar results were found during the posttest recording time, where the EAP participants (M = 6.82, SD = 5.95) had a significantly lower level of anxiety (F (1,88) = 30.56, p <.001, η^2 = .258) than TP group participants (M = 16.40, SD = 9.98), and represented a large effect size, accounting for approximately 26% of the between group variance – See Figure 4.

The simple effects analyses of time for treatment type examined the changes in anxiety levels within each group over time. The results for the EAP participants was statistically significant and the effect size (Eta-square) was large (F (1,88) = 19.91, p <.001, η^2 = .185). This finding, which is shown in Figure 4, indicated for the EAP participants, the average level of anxiety at posttest (M = 6.82, SD = 5.95) was significantly lower than pretest baseline level (M = 13.16, SD = 10.99).

The simple effect of time for the TP participant group was also significant and the effect was moderate (F (1,88) = 12.74, p <.001, $\eta 2$ = .127). This result, which is shown in Figure 4, indicated for TP participants, their anxiety level at posttest (M = 16.40, SD = 9.98) was statistically lower than pretest baseline level (M = 21.47, SD = 15.29).

Overall, both groups showed a significant reduction in anxiety from pretest to posttest. With both groups experiencing a 5-point difference between recording times.

Even though both groups experienced a large effect size, it was the EAP group who produced an 18% effect, compared to the TP groups 12%, as depicted in Figure 4.

Table 2

Anxiety Levels by Treatment Type and Time

Treatment type					95% Confidence interval	
		M	*SD*	*SE*	Lower bound	Upper bound
EAP	Pretest	13.16	10.99	1.99	9.21	17.10
	Posttest	6.82	5.95	1.23	4.39	9.26
	Total	9.99	13.89	1.49	7.03	12.95
TP	Pretest	21.47	15.29	1.99	17.52	25.41
	Posttest	16.40	9.98	1.23	13.97	18.84
	Total	18.93	9.49	1.49	15.96	21.89
Pretest	Total	17.31	13.89	1.40	14.52	20.10
Posttest	Total	11.61	9.49	0.87	9.89	13.33

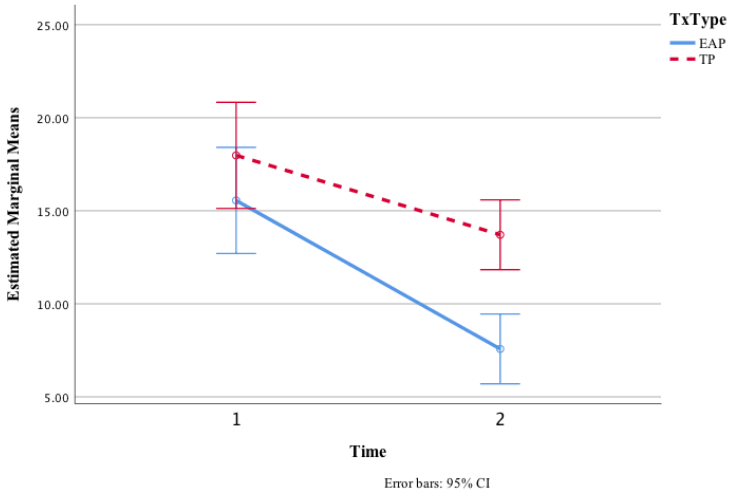

Figure 4. Mean levels of anxiety by treatment type and time.

Results for Secure Attachment to Therapist

Secure attachment to therapist means and standard deviations for the two treatment type groups over the two recording times are reported in Table 3. Preliminary

analyses were conducted to ensure the assumptions of normality, equal variances, and covariances were met.

Z-tests for skewness and kurtosis detected slight departures from normality in pretest secure attachment to therapist scores for TP participants. Levene's test for the equality of variances between groups failed to detect violations of homogeneity of variance for secure attachment to therapist scores during pretest (p = .706) and posttest (p = .369) times[3].

The results of the ANOVA produced a non-significant main effect for treatment type (F (1,88) = 0.59, p = .445) with TP participants (M = 53.93, SD = 3.97) experiencing similar levels of secure attachment to therapist, as compared to EAP participants (M = 53.19, SD = 6.34) over the two recording periods. And, based on Cohen's criteria (1988), the effect size (partial eta-square for between group effect was small (η^2 = .007).

The main effect of time was significant (F (1,88) = 35.00, p < .001), with a large effect size (η^2 = .285). This result indicated the average secure attachment to therapist level at pretest (M = 51.18, SD = 6.34) was significantly lower than the levels recorded during the posttest time (M = 55.19, SD = 3.97), p <.001).

Of greater interest, the treatment type x time interaction was not significant (F (1, 88) = 1.72, p = .193, with a small effect size ($\eta 2$ = .02), and indicated treatment types

[3] Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

responded similarly during the pretest and posttest periods on the secure attachment to therapist subscale measure. Secure attachment to therapist treatment type means for the two recording periods are presented in Figure 5 (and reported in Table 3). To test for between treatment type differences at each of the recording periods, Simple Effect Analyses were conducted comparing the two treatment types (EAP versus TP participants) at each of the recording periods (see Table 3).

The results for the simple effect of treatment type for pretest indicated the average secure attachment to therapist level at baseline for TP (M = 52.67, SD = 6.45) and EAP (M = 51.20, SD = 6.21) groups were statistically equivalent (F (1,88) = 1.21, p =.275, η^2 = .014). Similar results were found during the posttest recording time, where the EAP participants (M = 55.18, SD = 4.18) and TP group participants (M = 55.20, SD = 3.79), experienced a similar increase in secure attachment to therapist (F (1,88) = 0.01, p = .979, η^2 = .001), and represented a small effect size, accounting for approximately 0% of the between group variance (see Figure 5).

The simple effects analyses of time for treatment type examined the changes in secure attachment to therapist levels within each group over time. The results for the EAP participants was statistically significant and the effect size (Eta-square) was large (F (1,88) = 26.13, p <.001, η^2 = .229). This finding, which is shown in Figure 5, indicated for the EAP participants, the average level of secure attachment to therapist at posttest (M = 55.18, SD = 4.18) was significantly higher than pretest baseline level (M = 51.20, SD = 6.21).

The simple effect of time for the TP participant group was also significant and the effect was moderate (F (1,88) = 10.60, p = .002, η^2 = .107). This result, which is shown in Figure 5, indicated for TP participants, their secure attachment to therapist level at posttest (M = 55.20, SD = 3.79) was statistically higher than pretest baseline level (M = 52.67, SD = 6.45).

Even though both groups showed an increase in secure attachment, the EAP group depicted a 3-point difference, compared to the TP groups 2-point difference. Of greater significance, was the EAP groups effect size (22%) was significantly larger than the TP group (10%), as depicted in Figure 5.

Table 3

Secure Attachment to Therapist Levels by Treatment Type and Time

Treatment Type					95% Confidence Interval	
		M	*SD*	*SE*	Lower Bound	Upper Bound
EAP	Pretest	51.20	6.21	0.94	49.32	53.08
	Posttest	55.18	4.18	0.60	54.00	56.36
	Total	53.19	6.34	0.69	51.83	54.55
TP	Pretest	52.67	6.45	0.94	50.79	54.54
	Posttest	55.20	3.79	0.60	54.02	56.38
	Total	53.93	3.97	0.69	52.57	55.30
Pretest	Total	51.18	6.34	0.67	50.61	53.26
Posttest	Total	55.19	3.97	0.42	54.35	56.02

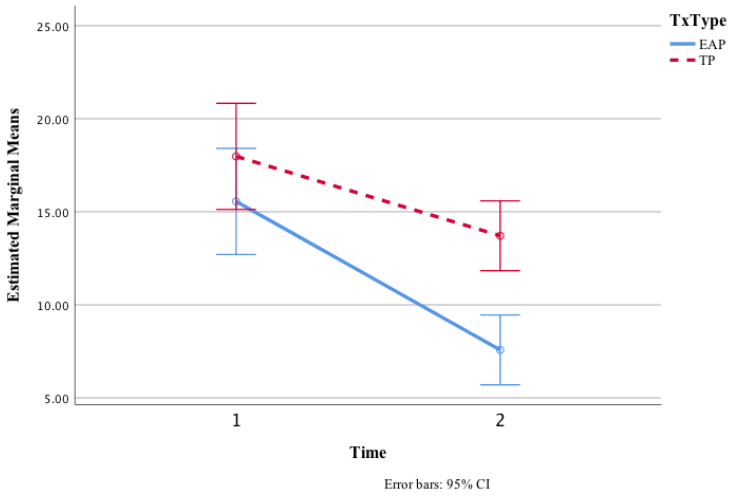

Figure 5. Mean levels of secure attachment to therapist by treatment type and time.

Results for Avoidant Attachment to Therapist

Avoidant attachment to therapist means and standard deviations for the two treatment type groups over the two recording times are reported in Table 4. Preliminary analyses were conducted to ensure the assumptions of normality, equal variances, and covariances were met.

Z-tests for skewness and kurtosis detected significant departures from normality in pretest and posttest avoidant attachment to therapist scores for both TP and EAP participants. Levene's test for the equality of variances between groups failed to detect violations of homogeneity of variance for avoidant attachment to therapist scores during pretest (p = .208), yet identified a violation posttest (p = .009) times.[4]

[4] Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal

The main effect of time was significant (F (1,88) = 104.79, p < .001), with a large effect size (η^2 = .544). This result indicated the average avoidant attachment to therapist level at pretest (M = 24.83, SD = 5.29) was significantly higher than the levels recorded during the posttest time (M = 20.63, SD = 4.47, p <.001).

Of greater interest, the treatment type x time interaction was significant (F (1, 88) = 4.69, p = .033, with a small effect size (η^2 = .05), and indicated treatment types responded differently during the pretest and posttest periods on the avoidant attachment to therapist subscale measure. Avoidant attachment to therapist treatment type means for the two recording periods are presented in Figure 6 (and reported in Table 4). To test for between treatment type differences at each of the recording periods, Simple Effect Analyses were conducted comparing the two treatment types (EAP versus TP participants) at each of the recording periods – see Table 4.

The results for the simple effect of treatment type for pretest indicated the average avoidant attachment to therapist level at baseline for TP (M = 25.09, SD = 4.20) and EAP (M = 24.58, SD = 6.24) groups were statistically equivalent (F (1,88) = 0.21, p =.650, η^2 = .002). By contrast, during the posttest recording time the EAP participants (M = 19.49, SD = 4.90) had a significantly lower level of avoidant attachment to therapist (F (1,88) = 6.24, p = .014, η^2 = .066) than TP group participants (M = 21.78, SD = 3.72), and represented a moderate effect size, accounting for approximately 7% of the between group variance (see Figure 6).

number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

The simple effects analyses of time for treatment type examined the changes in avoidant attachment to therapist levels within each group over time. The results for the EAP participants was statistically significant and the effect size (Eta-square) was large (F (1,88) = 76.92, p <.001, η^2 = .466). This finding, which is shown in Figure 6, indicated for the EAP participants, the average level of avoidant attachment to therapist at posttest (M = 19.49, SD = 4.90) was significantly lower than pretest baseline level (M = 21.78, SD = 3.72).

The simple effect of time for the TP participant group was also significant and the effect was large (F (1,88) = 32.56, p < .001, η^2 = .270). This result, which is shown in Figure 6, indicated for TP participants, their avoidant attachment to therapist level at posttest (M = 21.78, SD = 3.72) was statistically lower than pretest baseline level (M = 25.09, SD = 4.20).

Overall, both groups showed a significant reduction in avoidant attachment from pretest to posttest. However, the TP group experienced a slightly greater decline with a three point difference, compared to the EAP groups two point difference. Of greater significance, was the effect size for the EAP group (46%) was significantly larger than the TP group (27%), as depicted in Figure 6.

Table 4

Avoidant Attachment to Therapist Levels by Treatment Type and Time

Treatment type					95% Confidence interval	
		M	*SD*	*SE*	Lower bound	Upper bound
EAP	Pretest	24.58	6.24	0.79	23.00	26.15
	Posttest	19.49	4.90	0.65	18.20	20.78
	Total	22.03	5.29	0.66	20.72	23.35
TP	Pretest	25.09	4.20	0.79	23.51	26.66
	Posttest	21.78	3.72	0.65	20.49	23.07
	Total	23.43	4.47	0.66	22.12	24.75
Pretest	Total	24.83	5.29	0.56	23.72	25.95
Posttest	Total	20.63	4.47	0.46	19.72	21.54

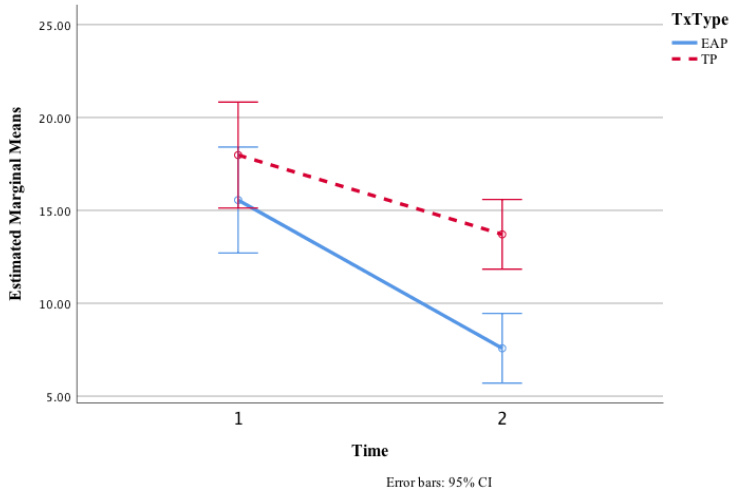

Figure 6. Mean levels of avoidant attachment to therapist by treatment type and time.

Results for Preoccupied Attachment to Therapist

Preoccupied attachment to therapist means and standard deviations for the two treatment type groups over the two recording times are reported in Table 4. Preliminary analyses were conducted to ensure the assumptions of normality, equal variances, and covariances were met.

Z-tests for skewness and kurtosis detected moderate departures from normality in posttest preoccupied attachment to therapist scores for both TP and EAP participants. Levene's test for the equality of variances between groups failed to detect violations of homogeneity of variance for avoidant attachment to therapist scores during pretest (p = .240) and posttest (p = .595) times.[5]

Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

The results of the ANOVA produced a non-significant main effect for treatment type (F (1,88) = 0.01, p = .927) with TP participants (M = 19.60, SD = 6.28) experiencing similar levels of preoccupied attachment to therapist, when compared to EAP participants

[5] Due to some of the data violating the assumptions of a mixed ANOVA, a square root transformation was performed. Overall, after transforming the data (and removing outliers), the results did not fundamentally change the conclusion. Also, based on the ideology an ANOVA is robust to the normality assumption, and the study had an equal number of participants in each treatment group, the data allows for calculating the ANOVAs with the original data.

(*M* = 19.48, *SD* = 7.25) over the two recording periods. And, based on Cohen's criteria (1988), the effect size (partial eta-square) for between group effect was small (η^2 = .001).

The main effect of time was significant (*F* (1,88) = 106.06, *p* < .001), with a large effect size (η^2 = .547). This result indicated the average preoccupied attachment to therapist level at pretest (*M* = 22.16, *SD* = 7.25) was significantly higher than the levels recorded during the posttest time (*M* = 16.92, *SD* = 6.28), *p* <.001).

Of greater interest, the treatment type x time interaction was not significant (*F* (1, 88) = 0.57, *p* = .453, with a small effect size (η^2 = .01), and indicated treatment types responded similarly during the pretest and posttest periods on the preoccupied attachment to therapist subscale measure. Preoccupied attachment to therapist treatment type means for the two recording periods are presented in Figure 7 (and reported in Table 5). To test for between treatment type differences at each of the recording periods, Simple Effect Analyses were conducted comparing the two treatment types (EAP versus TP participants) at each of the recording periods – see Table 5.

The results for the simple effect of treatment type for pretest indicated the average preoccupied attachment to therapist level at baseline for TP (*M* = 21.58, *SD* = 6.39) and EAP (*M* = 22.73, *SD* = 8.05) groups were not statistically equivalent (*F* (1,88) = 30.30, *p* =.453, η^2 = .006). Similar results were found during the posttest recording time, where the EAP participants (*M* = 16.22, *SD* = 6.38) and TP group participants (*M* = 17.62, *SD* = 6.18), experienced a similar decrease in preoccupied attachment to therapist (*F* (1,88) = 1.12, *p* = .293, η^2 = .013), and represented a small effect size, accounting for approximately 1% of the between group variance. (see Figure 7).

The simple effects analyses of time for treatment type examined the changes in preoccupied attachment to therapist levels within each group over time. The results for the EAP participants was statistically significant and the effect size (Eta-square) was large (F (1,88) = 82.09, p <.001, η^2 = .483). This finding, which is shown in Figure 7, indicated for the EAP participants, the average level of preoccupied attachment to therapist at posttest (M = 16.22, SD = 6.38) was significantly lower than pretest baseline level (M = 22.73, SD = 8.05).

The simple effect of time for the TP participant group was also significant and the effect was large (F (1,88) = 30.30, p < .001, η^2 = .256). This result, which is shown in Figure 7, indicated for TP participants, their preoccupied attachment to therapist level at posttest (M = 17.62, SD = 6.18) was statistically lower than pretest baseline level (M = 21.58, SD = 6.39).

Overall, both groups showed a significant reduction in preoccupied attachment from pretest to posttest. However, the EAP group experienced a greater decline with a six point difference, compared to the TP groups three point difference. To a greater degree, the effect size for the EAP group (48%) was significantly larger than the TP group (25%), as depicted in Figure 7.

Table 5

Preoccupied Attachment to Therapist Levels by Treatment Type and Time

Treatment type					95% Confidence interval	
		M	*SD*	*SE*	Lower bound	Upper bound
EAP	Pretest	22.73	8.05	1.08	20.58	24.89
	Posttest	16.22	6.38	0.94	14.36	18.08
	Total	19.48	7.25	0.95	17.60	21.36
TP	Pretest	21.58	6.39	1.08	19.43	23.73
	Posttest	17.62	6.18	0.94	15.76	19.48
	Total	19.60	6.28	0.95	17.72	21.48
Pretest	Total	22.16	7.25	0.77	20.63	23.68
Posttest	Total	16.92	6.28	0.66	15.61	18.24

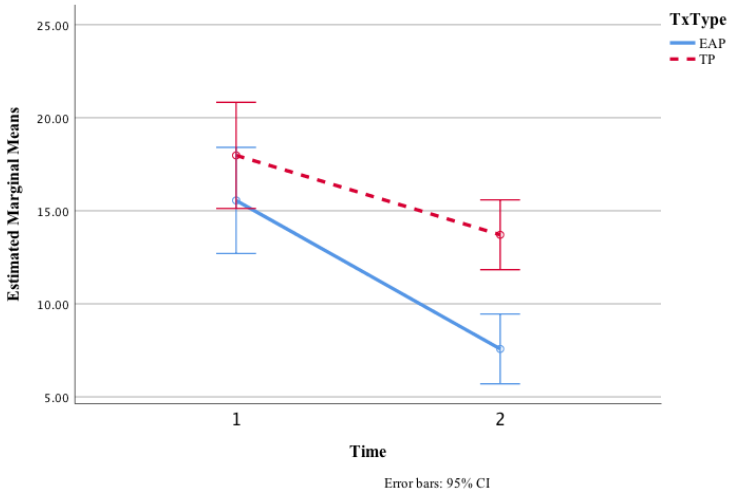

Figure 7. Mean levels of preoccupied attachment to therapist by treatment type and time.

Summary

The present study utilized archival data from 90 participants to determine the relationship between treatment type (EAP versus TP) on symptom reduction for depression, and anxiety, along with the type of attachment formed with the therapist at a private practice in Saratoga Springs, New York. The results indicated treatment time (pretest/posttest) had the greatest impact on reduction of symptoms and attachment to therapist. Overall, the EAP participants found greater reduction in both depression and anxiety when compared to the TP group. Furthermore, participants in both treatment types found increases in secure attachment and decreases in both avoidant and preoccupied attachment, with the EAP participants showing slightly higher levels of secure attachment and more significant lower levels of avoidant and preoccupied attachment when compared to the TP participants. In the final chapter, these findings are assessed alongside of the literature, where conclusions and implications are rendered, and recommendations are put forth.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to determine whether levels of anxiety and levels of depression were impacted by the use of EAP and whether the impact was related to the type of attachment to therapist. The participant's level of depression was assessed via the BDI-II, anxiety was assessed via the BAI, and the participant's perceptions of attachment to therapist were reported via the CATS. My intent for the study was to better understand the role of attachment on symptom reduction in relation to the type of treatment (EAP or TP) delivered to the participants. Overall, the findings determined length of treatment had the most significant effect on symptom reduction and type of attachment to therapist, with EAP having a greater impact on the dependent variables when compared to TP. This chapter includes interpretation of the findings, limitations of the study, and recommendations for future research.

Interpretation of the Findings

The overall results indicated that all participants, regardless of treatment type, experienced symptom reduction. However, those who engaged in EAP treatment obtained significantly lower levels of depression (19% between group variance) and lower levels of anxiety (26% between group variance) when compared to TP participants. Overall, these findings suggested engaging in therapy provides symptom reduction, yet the effect of adding an equine to the delivery of service provided greater symptom reduction over time.

For attachment to therapist, both treatment types showed a slight increase in secure attachment to therapist upon completing eight weeks of treatment. Similar to overall symptom reduction, all participants experienced a reduction in avoidant and preoccupied attachment over the course of treatment. However, EAP participants showed a greater decrease in avoidant and preoccupied attachment styles to their therapists when compared to TP participants. This suggested participants who engaged with an equine during treatment reported less avoidant and preoccupied levels of attachment with their therapist than those who did not have an equine present during treatment. Research has suggested the therapist-client attachment plays an important role in a client's overall symptom reduction (Bachi, 2013). Ultimately, clients who were able to form healthy attachments to their therapist were able to obtain greater benefits of psychotherapy treatment (Fonagy & Allison, 2014).

Studies showed individuals often experienced a difficult time formulating an attachment with their therapist (Waller et al., 2012). The lack of attachment may decrease the level of trust the client has in their provider and negatively impact symptom reduction (Waller et al., 2012). Overall, this study did not indicate a statistically significant difference between attachment to therapist and treatment type. It was able to show how time did have a statistically significant impact on the increase in secure attachment and decrease of both avoidant and preoccupied attachment for both groups. More importantly, the results did support the null hypothesis by providing statistically significant evidence that delivering therapy with the use of an equine greatly reduced levels of depression and levels of anxiety, when compared to traditional therapy without an equine.

Descriptive statistics indicated length of treatment was the most significant factor when controlling for treatment type and overall symptom reduction. The ideology that length of treatment positively impacts symptom reduction is supported throughout the literature (Chatwin et al., 2016; Honyashiki et al., 2014; Watts , 2015). The literature also supports individuals who engage in treatment over time are expected to have a more secure attachment to their therapist and hence, less avoidant and preoccupied attachments (Bachi, 2013). Even though there was not a significant difference in secure attachment, participants who engaged in EAP reported significantly lower levels of avoidant and preoccupied attachment to their therapists. Therefore, this study indicated participants were able to decrease their level of avoidant and preoccupied styles of attachment faster when an equine was involved in treatment.

Attachment Theory

Bowlby's (1982) attachment theory was based on the child-parent bond as a means to express the client-therapist relationship. Therapeutic practitioners who subscribe to attachment theory deliver treatment based on the ideology that relationships that are built upon healthy attachments are the vessels of development (Bowlby, 1982). Research on the client-therapist relationship found the type of relationship to be the greatest factor in relation to psychotherapeutic outcome (Taylor et al., 2015). The theory supports the ideology that the type of attachment formed in childhood will resurface during psychotherapy and ultimately play a role in the development of the therapist-client relationship (Mallinckrodt et al., 1995).

Research suggests the more secure the therapeutic attachment, the greater the client viewed the relationship as trustworthy and impactful (Tayler et al., 2015). Therefore, a client who views their therapeutic relationship as anxiety provoking develops an insecure attachment to their therapist (Tayler et al., 2015). The same holds true for clients with avoidant attachment, as they often view the relationship as untrustworthy and fear rejection (Tayler et al., 2015). The client with an ambivalent or preoccupied attachment often remains close to their therapist and most likely creates boundaries issues (Tayler et al., 2015). However, no matter what type of attachment a client presents with, Tayler et al. (2015) stressed the goal of therapy was to provide a secure base that is structured in trust and respect, which would gravitate toward a healthy therapeutic relationship and bring about symptom reduction.

Notably, this study examined attachment types as they related to symptom reduction given the type of therapeutic treatment provided. The results indicated participants who received EAP or TP reported similar levels of secure attachment to their therapist. The results also indicated that EAP participants experienced greater reduction in avoidant and preoccupied attachment types over the course of treatment when compared to TP participants. This study supports the existing literature, for those who received EAP services reported experiencing higher degrees of secure attachment, showed decreases in avoidant and preoccupied attachment, and exhibited decreases in mental health symptoms (Bachi, 2013).

Overall, this study and the existing literature confirmed the connection between a healthy therapeutic relationship and symptom reduction (Kern-Godal et al., 2016). More

specifically, this study supported the existing data (Kern-Godal et al, 2016) regarding the significance of the horse-human connection on symptom reduction. The participants in the study reported feeling connected to or drawn to the horse they worked with based on a felt security and the nonjudgmental nature of the horse (Kern-Godal et al., 2016).

As discussed in Chapter 2, the positive impact of the horse-human connection has been observed and documented for over 2,500 years (Siporin, 2012). A review of the literature provided significant qualitative evidence of the benefit of using equines during therapy (Earles et al., 2015; Frederick et al., 2015; Klontz et al., 2007). The literature included discussion of how the emotional connection clients experienced with the equine provided a secure foundation to process their thoughts and feelings (Karol, 2007). Bachi (2013) emphasized that unlike a therapist, an equine is nonjudgement, passive, and naturally inquisitive. It is through their natural docile presentation that they are able to help facilitate, with the aid of the therapist, Bowlby's (1988) five point model for psychotherapy: (a) provide a secure base to process emotions, (b) provide a holding environment to assess the functioning of the current relationship, (c) assess the functioning of past relationships, (d) assess how the past influenced the present (affect mirroring), and (e) revised and updated internal working models. Bowlby (1988) projected clients and therapists who were able to perform the five points of his model would experience both an increase in secure attachment and symptom reduction. Therefore, the results of this study support the theoretical underpinnings of attachment theory in that EAP participants experienced greater reduction in levels of depression and levels of anxiety and experienced less avoidant and less preoccupied attachment styles

with their therapist due to the secure foundation provided through the horse-human connection.

Implications for Social Change

The findings of this study contribute not only to the established literature on the effectiveness of EAP, they also increase awareness of the benefits of alternative forms of psychotherapy treatment for both providers and clients in the community. Understanding how the horse-human connection promotes a reduction in levels of depression and anxiety will be helpful to individuals who may have experienced insignificant results from TP or are hesitant to engage in a therapeutic relationship.

Managed health care systems base their reimbursement to providers on empirically sound evidence. The majority of existing EAP research is based on subjective data related to the client's experience. A significant amount of previous research lacked control groups and outcome measures. This lack of data has caused managed health care systems to be reluctant to reimburse or even recognize EAP as an effective alternative treatment option.

The implication of this study are that it provides tangible evidence to managed health care systems, providers, and potential clients on the benefits of EAP. This study not only used objective outcome measures, it also used a control group, as well as a manualized form of EAP. Research has indicated that providers and health care systems are more willing to engage with a provider or use alternative forms of therapy when those forms are rooted in subjective data (Anestis et al., 2014).

Limitations of the Study

Even though the study identified some significant findings, the results of the study should be interpreted with caution as potential limitations may have impacted the overall results. Although the study was able to saturate both treatment groups, the data was archival in nature. Granted, archival data has advantages, it also has disadvantages such as, the existing data may not be reliable, or it may not have been collected to the standards of the researcher (Dikolli, Evans, Hales, Matejka, Moser, & Williamson, 2013).

The CATS has not been previously validated for the use with individuals receiving EAP. The survey also relied on the participants' self-report or perception of attachment. The same holds true for both the BDI and BAI, in regards to being categorized as self-report screeners. There are disadvantages to self-report data including response bias, not understanding the rating scales, and honesty or self-image projection (Fan, Miller, Park, Winward, Christensen, Grotevant, & Tai, 2006). Participants may have attempted to place themselves in a more favorable light, or may have experienced difficulty using the rating scale provided for them (Fan et al., 2006).

The setting of treatment may have also impacted the results of the study. Participants' who engaged in TP received treatment in the downtown office located on a busy road. Where participants who received EAP were seen at the therapeutic farm located just on the outskirts of town. The degree to which the findings can be generalizable to populations outside of adults who were not experiencing active psychosis, children, and teens was also impacted in this study. This study also failed to determine how many therapy sessions a participant received during the eight weeks

between self-reports. Lastly, the experience level of each therapist who provided treatment was not assessed or taken into consideration, nor was the providers assessment of the therapeutic relationship.

Recommendations

The study found participants who engaged in EAP reported less avoidant and preoccupied attachment to their therapist and experienced a reduction in depression and anxiety symptoms greater than those who received TP. Although results showed statistical significance in some areas, the reported limitations of the study may have called into question the study's results. Therefore, it is recommended future research focus on expanding the diversity of the treatment setting, utilizing more than one treatment center, and acknowledging or identifying the experience level of the therapists who provided archival data.

Studies (Mallinckrodt et al., 1995) find individuals who are initially seen on a weekly basis for therapy tend to have greater reduction in mental health symptoms, and a higher degree of secure attachment with their therapist. Thus, it would be helpful for future studies to assess the therapist's interpretation of the relationship with the client. Doing so may shed light onto the nature of potential outliers in data, and assess more accurately for avoidant and preoccupied attachment styles.

Future research should also take into consideration the differences in distributing and collecting self-report surveys based on treatment time. More specifically, researchers should call into question when is the best time to assess for treatment outcome, as well as

a baseline. This study identified baseline as the first appointment with their therapist, therefore, this may have impacted the participants ability to assess for initial attachment.

Conclusion

This study contributes to the literature on the use of EAP in reducing symptoms of depression and anxiety through the attachment of client to therapist. Results indicated significant findings that individuals who engaged in EAP found a greater reduction in both avoidant and preoccupied styles of attachment. Furthermore, this study contributes to the existing literature pertaining to the usefulness of treating depression and anxiety with EAP. The findings were consistent with previous studies, which used attachment theory to describe the fundamentals of EAP. Additionally, this study suggests implications for social change by identifying the need for alternative forms to TP. More importantly, this study suggests the need for social change regarding managed healthcare systems to identify EAP as a valid and reimbursable service.

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Appendix A: Letter Requesting Cooperation

On 4/20/2018, you wrote:
Kelly Tobin

April 20, 2018

Dear Dr. Erin Christopher-Sisk, Ph.D.

My name is Kelly Tobin and I am a Ph.D. student in clinical psychology at Walden University. I am interested in pursuing my dissertation in the area of the efficacy of equine-assisted psychotherapy on mental health symptom reduction. I have been searching for both traditional psychotherapy settings who employ licensed psychotherapist, as well as equine-assisted psychotherapy settings who utilize Kersten's O.K. Corral Series approach. It has come to my attention that ECS Psychological Services, PC is able to provide these services and settings. It is with great hope that I request your permission to conduct the study entitled The Relationship Between Equine-Assisted Psychotherapy and Client-Therapist Attachment on Symptom Reduction within the setting of ECS Psychological Services, PC.

As part of this study, I am requesting archival data (past data) from your Patient Record System. Therefore, I am in need of data that will allow for analyzing the results of two treatment forms, traditional psychotherapy and equine-assisted psychotherapy, for stress reduction. The variables included, but not limited to an individual's:

- Gender
- Age
- BDI-II
- BAI
- CATS

I am also requesting that your organization's responsibilities include: providing the archival data and overseeing the use of surveys.

Thank you for time and consideration with this matter. My university and chair committee are available to represent me, or if any proof of enrollment or afflication is required.

Thank you,

Kelly M. Tobin

Appendix B: Letter of Cooperation From a Community Research Partner for Secondary Analysis When Researcher Has Dual Roles

Date: Fri, 20 Apr 2018
To: Kelly Tobin
From: Dr. Erin Christopher-Sisk, Ph.D.
Subject: Re: Permission to Conduct Research at ECS Psychological Services, PC

Erin Christopher-Sisk, Ph.D.
Clinical Director
ECS Psychological Services, PC

April 20, 2018

Dear Kelly Tobin,

Based on my review of the proposed research by Kelly Tobin, I give permission for her to conduct the study entitled The Relationship Between Equine-Assisted Psychotherapy and Client-Therapist Attachment on Symptom Reduction within the setting of ECS Psychological Services, PC. As part of this study, I authorize the release of data requested once your Proposal is approved.

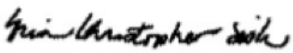
We understand that our organization's responsibilities include: providing archival data and overseeing the use of surveys.

We also understand that in addition to your Internship duties as a Doctoral Intern (providing therapy and psychological testing) at ECS, you will be undertaking a Walden University researcher role that is separate from your Doctoral Intern role. To help support this inquiry into best practice, we agree to modify our services and remove surveys during data collection that involve clients you have seen or are seeing as a means to comply with ethical standards of research.

To further support this research inquiry, our organization is also willing to release de-identified data to you, as outlined in the attached Data Use Agreement. We reserve the right to withdraw form this study at any time if our circumstances change.

Lastly, we understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,



Erin Christopher-Sisk, Ph.D.
Clinical Director
ECS Psychological Services, PC

Appendix C: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement ("Agreement"), effective as of July 5, 2015 ("Effective Date"), is entered into by and between Kelly Tobin ("Data Recipient") and ECS Psychological Services, Dr. Erin Christopher-Sisk ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

- Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

- Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

Data Fields in the LDS. **No direct identifiers such as names may be included in the Limited Data Set (LDS).** The researcher will also not name the organization in the doctoral project report that is published in Proquest. In preparing the LDS, Data Provider or designee shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research: 3 de-identified surveys (BDI-II, BAI, and CATS) of adult male and female (ages 18-70) who are or where in traditional psychotherapy or equine-assisted psychotherapy treatment.

- Responsibilities of Data Recipient. Data Recipient agrees to:

    - Use or disclose the LDS only as permitted by this Agreement or as required by law;

    - Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

    - Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

    - Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

- Not use the information in the LDS to identify or contact the individuals who are data subjects.

- Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its research activities only.

- Term and Termination.

- Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

- Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

- Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

- For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

- Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

- Miscellaneous.

- Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

- Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

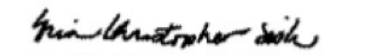
- No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

- Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

- Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

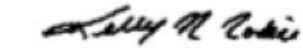
DATA PROVIDER

Signed: 

Print Name: Erin Christopher-Sisk

Print Title: PhD, Owner and Chief Psychologist of ECS Psychological Services

DATA RECIPIENT

Signed: 

Print Name: Kelly M. Tobin

Print Title: Walden Doctoral Intern, researcher, LMCH

Appendix D: Permission to Use the Client Attachment to Therapist Scale

Version Attached: Full Test

PsycTESTS Citation: Mallinckrodt, B., Gantt, D. L., & Coble, H. M. (1995). Client Attachment to Therapist Scale [Database record]. Retrieved from PsycTESTS. http://dx.doi.org/10.1037/t04301-000

Instrument Type: Rating Scale

Test Format: 6-point response scale: 1 = strongly disagree, 2 = somewhat disagree, 3 = slightly disagree, 4 = slightly agree, 5 = somewhat agree, 6 = strongly agree.

Source: Mallinckrodt, B., Gantt, D. L., & Coble, H. M. (1995). Attachment patterns in the psychotherapy relationship: Development of the Client Attachment to Therapist Scale. *Journal of Counseling Psychology, 42*(3), 307-317. https://doi.org/10.1037/0022-0167.42.3.307.

Permissions: Test content may be reproduced and used for non-commercial research and educational purposes without seeking written permission. Distribution must be controlled, meaning only to the participants engaged in the research or enrolled in the educational activity. Any other type of reproduction or distribution of test content is not

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Appendix E: Permission to Use the Beck Anxiety Inventory

Beck Anxiety Inventory [Test Development]:

An **inventory** for measuring clinical **anxiety**
Psychometric properties. (AN: 1989-10559-001 from PsycINFO) Dec, 1988.
Authors: **Beck**, Aaron T.; Epstein, Norman; Brown, Gary; Steer, Robert A.;
Source: Journal of Consulting and Clinical Psychology. 56(6), American Psychological Association, US.
Age Group: Adulthood (18 yrs & older)
Population: Human; Male; Female; Location: United States; Sample: Psychiatric Outpatients
Keywords: **Beck Anxiety Inventory**; Psychometric Properties; Test Development; Severity of **Anxiety**; Psychiatric Patients;
Subjects: **Anxiety** Disorders; Inventories; Test Construction; Test Reliability; Test Validity;

Authors:

Beck, Aaron T., University of Pennsylvania, Department of Psychiatry, Philadelphia, Pennsylvania, United States
Epstein, Norman, University of Maryland, Department of Family and Community Development, Maryland, United States
Brown, Gary, University of Pennsylvania, Department of Psychiatry, Pennsylvania, United States
Steer, Robert, University of Medicine and Dentistry of New Jersey, Department of Psychiatry, School of Osteopathic Medicine, New Jersey, United States

Source:

PsycTESTS, 1988.

Language:

English

Construct:

Anxiety

Purpose:

The purpose of the **Beck Anxiety Inventory** is to measure the severity of **anxiety** in psychiatric populations.

Description:

The **Beck Anxiety Inventory** (BAI; **Beck** et al, 1988) is a self-report **inventory** for measuring the severity of **anxiety** in psychiatric populations. An initial item pool of 86 items was drawn from three preexisting scales: the **Anxiety** Checklist, the Physician's Desk Reference Checklist, and the Situational **Anxiety** Checklist. A series of analyses was used to reduce the item pool. The final scale consists of 21 items, each describing a common symptom of **anxiety**. The respondent is asked to rate how much he or she has been bothered by each symptom over the past week on a 4-point scale. The BAI showed high internal consistency (alpha = .92) and test-retest reliability over 1 week, r(81) = .75. The BAI discriminated anxious diagnostic groups (panic disorder, generalized **anxiety** disorder, etc.) from nonanxious diagnostic groups (major depression, dysthymic disorder, etc). In addition, the BAI was moderately correlated with the revised Hamilton **Anxiety** Rating Scale, r(150) = .51, and was only mildly correlated with the revised Hamilton Depression Rating Scale, r(153) = .25. (PsycTESTS Database Record (c) 2015 APA, all rights reserved)

Format:

Respondents rate how much he or she has been bothered by each symptom over the past week on a 4-point scale ranging from 0 (Not at all) to 3 (Severely—I could barely stand it). The items are summed to obtain a total score that can range from 0 to 63.

Instrument Type:

Inventory/Questionnaire

Administration Method:

Paper

PsycTESTS Classification:

Mental Health/Illness Related Assessment (6700)

Commercial Availability:

No

Permissions:

May use for Research/Teaching

Fee:

No

Release Date:

20120109

Correction Date:

20151109

Digital Object Identifier:
http://dx.doi.org.ezp.waldenulibrary.org/10.1037/t02025-000

Test File:
Full

Accession Number:
9999-02025-000

Appendix F: Permission to Use the Beck Depression Inventory-II

On 6/03/2018, you wrote:
Kelly Tobin

June 3, 2018

To Pearson Legal Team,

I am requesting permission from Pearson to use the BDI-II for my PhD dissertation in clinical psychology. According to the Pearson website I must be granted permission from Pearson to distribute the BDI-II to my research subject. I am requesting a letter/email which indicates Pearson is giving me permission to use the BDI-II for the sole purpose of academic research.

Thank you,

Kelly Tobin

Date: Thur, 06 June 2018
To: Kelly Tobin
From: William H. Schryver

Subject: Status Update - BDI-II Study Request - Kelly Tobin

William H. Schryver
Senior Legal Licensing Specialist

June 6, 2018

Dear Ms. Tobin,

Pearson has no objection to your use of the Beck Depression Inventory®-II (BDI®-II) and you may consider this response as formal permission to use the BDI-II in your research, in the as-published format.

William H. Schryver
Senior Legal Licensing Specialist

Appendix G: Walden University Institutional Review Board Research Approval Number

The Walden University IRB approval number for this research was 11-02-18-0556258.

Appendix H: Stop Zone

Appendix I: Motivation Zone

Appendix J: Relationship Zone

Appendix K: Ground Tie

Appendix L: Longeing

Appendix M: Life’s Little Obstacles

Appendix N: Safety Dismount