

THESIS

USING A SYSTEMATIC MAPPING REVIEW TO EXAMINE EQUINE-ASSISTED
ACTIVITIES AND THERAPIES FOR PEOPLE WITH MENTAL HEALTH
THROUGH AN OCCUPATIONAL THERAPY LENS

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ABSTRACT

USING A SYSTEMATIC MAPPING REVIEW TO EXAMINE EQUINE-ASSISTED ACTIVITIES AND THERAPIES FOR PEOPLE WITH MENTAL HEALTH THROUGH AN OCCUPATIONAL THERAPY LENS

Equine-assisted activities and therapies (EAAT) are one type of complementary and/or alternative treatment for persons with mental illness. Various approaches have been used to improve individual's self-esteem, self-efficacy, and overall health (Bizub, Joy, & Davidson, 2003; Burgon, 2003; Klontz, Bivens, Leinart, & Klontz, 2007). However, literature on the psychosocial benefits of EAAT is fragmented and often lacks rigor (Anestis, Anestis, Zawilinski, Hopkins, & Lilienfeld, 2014; Bachi, 2012). Moreover, occupational therapy is underrepresented in the literature despite its roots in mental health. Therefore, this study uses a systematic mapping review to ascertain theories, interventions, and outcomes within literature on EAAT specific to individuals with mental health concerns. Findings from the study were examined through the perspective of a conceptual framework specific to occupational therapy, the Model of Human Occupation, which consists of three subsystems: volition, habituation, and performance capacity. Specifically, this conceptual framework was used to identify how occupational therapy may address occupational performance deficits with horses and the equine environment. Current theories, interventions, and outcomes within the literature suggest horses and the equine environment may be used to improve aspects of volition, such as self-efficacy and self-esteem, habituation, and performance capacity. Occupational therapy using horses and the equine environment may be particularly well-suited for adolescents who have eating disorder or who have experienced abuse considering the high frequency at which this population is studied.

In conclusion, there is great potential for occupational therapy to develop unique interventions that focus on occupational performance deficits using the equine environment.

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CHAPTER ONE: STATEMENT OF THE PROBLEM

Throughout history individuals experiencing mental illness have been marginalized, often secluded from their communities and placed in homes or institutions. Such individuals were seen as burdens on society due to their inability to enter the workforce and contribute financially to their local economies (Peters, 2011). Using the concepts of humane psychosocial care from moral treatment in the 1800s, the mental hygiene movement facilitated a new perspective on mental health. Fueled by declining conditions in mental health hospitals, this interdisciplinary movement proposed that mental illness was a combination of biological and environmental factors (Peters, 2011).

Today, millions of Americans are diagnosed with some type of mental illness that often hinders performance and engagement in daily life activities. While pharmacological treatment is common, alternative and supplemental therapies are also used to address symptoms of mental illness. One alternative approach that appears promising involves a wide range of equine-assisted activities and therapies (EAAT). EAAT, as used with persons with mental illness, often involve choosing, bonding with, riding and caring for the horse, as well as post-riding processing sessions. Interventions use the horse and surrounding environment to improve self-esteem, self-efficacy and overall recovery (Bizub et al., 2003; Burgon, 2003; Klontz et al., 2007).

To date, however, empirical evidence supporting the psychosocial benefits of different EAAT is limited (Bracher, 2000). Studies that have examined the effects of EAAT on participants' mental, social and emotional well-being are few in number and often lack rigor (Anestis et al., 2014; Bachi, 2012). Due to the fact that EAAT serve such a wide range of populations, research is also intermittent and fragmented (Cody, Steiker, & Szymandera, 2011). The role of occupational therapists in providing equine-assisted therapy for people with mental

illness is also unclear and poorly developed. It appears, in other words, that despite occupational therapy's roots in mental health and the profession's relevant conceptual practice models, occupational therapists have not extensively incorporated horses into their services for people with mental illness. Moreover, seemingly little evidence exists supporting the use of the horse in occupational therapy for this population.

Research Aim, Questions and General Methods

Using a systematic mapping review (SMR) methodology, this thesis aims to examine and critically evaluate the literature on EAAT using a discipline-specific lens guided by the Model of Human Occupation (MOHO). MOHO provides an occupational therapy perspective that will guide my review of this literature for individuals with mental health diagnoses. Guided also by the centennial vision of the American Occupational Therapy Association (AOTA, 2006), this thesis also aims to explore the potential therapeutic role of horses in occupational therapy for individuals with mental health concerns. Specifically, I am interested in learning if a 35-year database of refereed papers published between 1980 and 2014 pertaining to EAAT and persons with mental health diagnoses supports the use of occupational therapy in equine environments. I want to identify and categorize content of relevance to the therapeutic process in occupational therapy with particular interest in the potential for interventions aimed at improving volition, habituation, and performance capacities, three subsystems identified in the MOHO. To guide the process, the study's research questions are as follows:

1. What are the ages, specific mental health diagnoses or other mental health issues of people who have participated in equine-assisted programs?
2. What disciplines are providing EAAT for individuals with mental health concerns?
3. What specific interventions have been used for individuals with mental health

- concerns?
4. What theories inform therapeutic approaches for individuals with mental health concerns?
 5. What outcomes have been assessed and/or measured for individuals with mental health concerns?

Glossary of Definitions

Definitions Pertaining to Equine-assisted Activities and Therapies

1. Equine-assisted activities (EAA): “Any specific center activity, e.g. therapeutic riding, mounted or ground activities, grooming and stable management, shows, parades, demonstrations, etc., in which the center’s clients, participants, volunteers, instructors and equines are involved” (PATH International, 2015).
2. Equine-assisted learning (EAL): “An experiential learning approach that promotes the development of life skills for educational, professional and personal goals through EAA” (PATH International, 2015).
3. Equine-assisted therapies (EAT): “Equine-assisted therapy is a treatment that incorporates equine activities and/or the equine environment. Rehabilitation goals are related to the patient’s needs and the medical professional’s standard of practice” (PATH International, 2015).
4. Hippotherapy: “Refers to how occupational therapy, physical therapy, and speech-language pathology professionals use evidence-based practice and clinical reasoning in the purposeful manipulation of equine movement to engage sensory, neuromotor, and cognitive systems to achieve functional outcomes. In conjunction with the affordances of

the equine environment and other treatment strategies, hippotherapy is part of a patient's integrated plan of care" (American Hippotherapy Association, 2014).

5. Equine-facilitated psychotherapy (EFP): EFP is a type of equine assisted therapy led by a mental health professional with intentions of addressing psychotherapy goals (PATH International, 2015).
6. Therapeutic Riding: "An EAA for the purpose of contributing positively to the cognitive, physical, emotional and social well-being of individuals with special needs" (PATH International, 2015).

Definitions Pertaining to Occupational Therapy

1. Conceptual practice model: "A set of evolving theoretical arguments that are translated into a specific technology for practice and are refined and tested through research" (Kielhofner, 2002, p. 3)
2. Occupational therapy: "The art and science of helping people do the day-to-day activities that are important and meaningful to their health and well-being through engagement in valued occupations" (Boyt Schell, Gillen, & Scaffa, 2014, p. 50).
3. Occupation: "The things that people do that occupy their time and attention; meaningful, purposeful activity; the personal activities that individuals choose or need to engage in and the ways in which each individual actually experiences them" (Boyt Schell et al., 2014, p. 1237).
4. Occupational performance: "Doing a task related to participation in a major life area; the accomplishment of the selected occupation resulting from the dynamic transaction among the client, the context and environment, and the activity" (Boyt Schell et al., 2014, p. 1238).

5. Occupation-focused: Refers to an occupational therapy specific approach that focuses on “evaluating and/or changing a person’s quality of occupational performance – the “here and now” – not on what might occur or develop in the future.” Additionally, occupation-focused refers to the implementation of evaluations and interventions that are focused on occupation as opposed to body functioning or structures (Fisher, 2014, p. 100).
6. The Model of Human Occupation: The Model of Human Occupation (MOHO) developed by Gary Kielhofner (2002) and colleagues is a conceptual practice model that is widely used by occupational therapists in the field of mental health. This model offers a view of human occupation that explains one’s capacity to perform and how occupations are motivated and patterned.
7. Centennial Vision: A road map established by the American Occupational Therapy Association to commemorate the association’s 100 year anniversary that aims to address key societal trends and change drivers impacting occupational therapy practice, such as an increased incidence of mental health concerns (AOTA, 2006)

Definitions Pertaining to Mental Health

1. Serious Mental Illness: Serious mental illness is a mental, behavioral, or emotional disorder that results in significant functional impairments that interfere with major life activities and may be debilitating (NIMH, n.d.).
2. Mental Health Disorders: Diagnoses of mental illnesses may range from anxiety and personality disorders to schizophrenia, among others, all of which having inhibitory effects on occupational performance. Table 1 displays common characteristics of prevalent mental health disorders as described in the Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV).

Table 1.

DSM-IV Diagnostic Categories and Common Characteristics

<u>Diagnosis</u>	<u>Common Characteristics</u>
Anxiety Disorder	Inappropriate expression of fear (Spangler, 2011).
Mood Disorders	Disturbance in one's mood. Individuals experience extremes along the continuum of typical moods (APA, 2000).
Substance-Related Disorders	Individual takes an illicit drug or alcohol in abuse. Also involves the side effects of medication and toxin exposure (APA, 2000).
Eating Disorders	Individual experiences a severe disturbance in eating behavior such as refusal to maintain health body weight (APA, 2000).
Schizophrenia	Individual experiences positive symptoms such as hallucinations, delusions, disorganize thinking and behavior. Negative characteristics include flat affect, social withdrawal, and difficulty initiating activity (Brown, 2011).

Assumptions

1. Humans are occupational beings and therefore experience health and well-being through doing.
2. The therapeutic use of occupation for individuals with mental health concerns is an effective method for improving overall health, well-being and occupational performance.
3. From a methodological standpoint, the literature gathered in this systematic mapping review offers a credible basis for evaluating potential therapeutic roles of horses, as incorporated in occupational therapy, for individuals with mental health concerns.
4. The language, approaches and outcomes of the EAAT literature for individuals with mental health concerns may or may not apply to occupational therapy and/or the Model of Human Occupation.

Summary of Chapter One

Chapter One has introduced this problem addressed in my thesis: occupational therapists have not extensively involved horses in their services for people with mental health issues despite the profession's roots in mental health and relevant practice models for this population. Chapter Two provides a more thorough background to my study. The chapter describes the impact of mental illness on occupational performance, and justifies the involvement of occupational therapy in this promising intervention given the profession's history, centennial vision, and an existing discipline-specific conceptual practice model, the Model of Human Occupation (Kielhofner, 2002), which is particularly well suited to guide occupational therapy services in mental health. Chapter Three presents the methods of the study, including data collection and data analysis methods. Chapter Four presents results of the systematic mapping review (SMR) that answer the study's specific research questions. Finally, Chapter Five completes the thesis with an in-depth discussion of results including their implications for occupational therapy in equine environments. Specifically, I interpret results using concepts from the Model of Human Occupation using the American Occupational Therapy Association's (AOTA) Centennial Vision to explain the pertinence of this research.

CHAPTER TWO: BACKGROUND OF THE STUDY

Mental Illness and EAAT

There are many people who may potentially benefit from EAAT as mental illness effects millions and encompasses a wide range of diagnoses. Presently, the National Institute of Mental Health estimates that 9.6 million adults in the United States have a severe mental illness (NIMH, n.d.). Though perhaps not severely mentally ill, roughly 43.7 million civilian and non-institutionalized individuals experience some degree of mental illness. The proceeding sections outline specific conditions and their impact on occupational performance as well as the promise of EAAT to address such performance deficits.

Impact on Occupational Performance

As shown in Table 1 (Chapter One), it is likely that mental health disorders will impact an individual's daily life functioning. For example, an irrational expression of fear secondary to a diagnosis of anxiety disorder may prevent an individual from engaging in instrumental activities of daily living such as going to the grocery store (Davis, 2011). In turn this fear may lead to social isolation and depression, which may further impact activities of daily life. Unstable moods, which are characteristic of mood disorders, may result in low self-esteem and motivation to complete tasks. On the opposite end of the continuum, one may experience an exaggerated sense of self. Both extremes greatly impact daily routines for sleep, eating, self-care and social relationships (Spangler, 2011). Similarly, substance-related disorders interfere with all areas of occupational performance including basic activities of daily living, instrumental activities of daily living, rest and sleep, education, work, play, leisure, and social participation (Sells, 2011). Characteristics common to eating disorders often result in difficulties fostering satisfactory relationships and experiencing a sense of self-esteem as well as a positive identity. In turn,

challenges individuals with eating disorders face regarding occupational performance include the following: maladaptive eating habits and impaired meal preparation skills, maladaptive lifestyle habits and impaired independent living skills, impaired communication and assertion skills, impaired stress management skills and a resistance to change (Lock & Pepin, 2011). With both positive and negative symptoms, schizophrenia impacts community living and daily life activities on many levels. Additionally, the social stigma associated with the disease increases the risk of homelessness and isolation for diagnosed individuals (Brown, 2011).

The impact on occupational performance that mental health disorders consequently have on individuals is far and wide. EAAT appear to offer a variety of approaches that address a range of functional deficits. As next developed, while EAAT have been presented as promising interventions to address characteristics of a variety of individuals, occupational therapists have not commonly been involved in these interventions.

Occupational Therapy and EAAT

Although occupational therapy for persons with mental illness often aims to improve functional skills secondary to mental health diagnosis, literature concerned with the use of EAAT for people with mental health diagnoses generally focuses on equine-assisted learning (EAL) or equine-facilitated psychotherapy (EFP). While recent studies suggest that occupational therapists are engaged in providing hippotherapy to children and adults with physical disabilities and autism (Ajzenman, Standeven, & Shurtleff, 2013; Shurtleff, Standeven, & Engsborg, 2009), the extent to which they incorporate horses in their services to address the psychosocial concerns of clients is much less clear despite the profession's roots in mental health. However, theories in occupational therapy provide a framework for practitioners to use in EAAT practice when

addressing performance deficits common among individuals with mental health diagnoses. This framework will be developed in detail in the following sections.

Justification of Occupational Therapy's Involvement in Mental Health

History of Occupational Therapy

Occupational therapy emerged from roots in mental health settings. In the early 1900s the profession was established out of a movement toward humane treatment of individuals experiencing mental illness. During the period of the industrial revolution there was a shift from manual labor to mechanized work. At this time, society experienced an overarching feeling of dehumanization, increased poverty rates, and oppression of new immigrants. The social and political climate was such that people were less likely to take part in the activities that once brought joy and meaning to their lives (Larson, Wood, & Clark, 2003).

Out of inspiration from philosophers of the European Enlightenment Movement, a new and more humane approach to treating those who were mentally ill came to light. This method encouraged people with mental illnesses to participate in day-to-day routines in order to restore health and function. Proponents of this manner of treatment believed that mental illness was a direct result of the environmental pressures to adopt specific habits of living (Kielhofner, 2009). Within this framework, occupational therapy practitioners served as pivotal members of the healthcare team representing the bridge to patient's functional performance. They consistently empowered their patient's to engage in and chose meaningful and purposeful activities, i.e. occupations, that naturally healed (Peters, 2011). This approach that uses occupation for individuals with mental illness can be explained by one of occupational therapy's practice models, the MOHO (Kielhofner, 2002).

As next developed, the MOHO is used as the conceptual framework of this study. The MOHO is widely used frame of reference in the field of occupational therapy for persons with mental illness.

The Model of Human Occupation

The conceptual practice model known as the MOHO suggests that volition, habituation, and performance capacity are interrelated and their interactions describe how an individual develops occupational patterns (Kielhofner, 2002).

Volition.

Kielhofner (2002) defined volition as “a pattern of thoughts and feelings about oneself as an actor in one’s world that occur as one anticipates, chooses, experiences, and interprets what one does” (p.19). Volition is comprised of personal causation, or one’s sense of competence and effectiveness, and one’s values and interests. Kielhofner suggested that humans are biologically programmed to take action, and the actions that we do take are directly related to how we perceive ourselves interacting with our environment. Our patterns of thoughts and feelings surrounding these interactions consequently mold our sense of competence and effectiveness, personal interests, and the values we place on the occupations in which we take part. Therefore, without a sense of competence or effectiveness, the development of functional thought processes about our connections to the world is inhibited. When experiencing mental illness, cultivating this sense of competence and effectiveness becomes particularly challenging. Rather than an absence of desire being a limiting factor, it appears that a lack of self-efficacy inhibits participation.

Habituation.

Habituation is the second factor of the MOHO defined as a “semi-autonomous patterning of behavior” (Kielhofner, 2002, p.19). When an individual does not experience a sense of

competence or effectiveness when engaging in an occupation, habituation does not develop. For people living with a mental illness, creating occupational habits becomes difficult considering an overall lack of competence and effectiveness.

Performance Capacity.

Finally, performance capacity refers to one's ability to do, or take action. Performance capacity is comprised of objective and subjective components. That is, one's subjective experience of their objective abilities influences their capacity to perform. For example, the objective diagnosis of a mental illness may negatively impact one's personal experience of engaging in a meaningful or purposeful activity. People diagnosed with schizophrenia may develop a negative perception toward their diagnosis such that they do not engage with the world around them. As a result, the volitional process is disturbed. In turn, the disruption permeates all three aspects of occupational patterning effecting not only volition, but further habituation and performance capacity as well.

Need

The growing industry of EAAT suggests that there is fertile ground for the incorporation of horses in occupational therapy aimed at addressing functional deficits experienced by those with mental and behavior health concerns. Because occupational therapy is not commonly involved in EAAT for this population yet addresses individual mental health concerns, there is a need to establish whether occupational therapists may utilize horses and the equine environment to address occupational performance deficits experienced by individuals with mental illness.

Summary of Chapter Two

Chapter Two described the functional implications mental illness can have on day to day routines and activities. Chapter Two also highlighted the limited involvement of occupational

therapy with EAAT for individuals with mental health concerns, and provided a conceptual framework that might guide the incorporation of horses and the equine environment within occupational therapy with this population. The chapter concluded by stating the need for this study.

CHAPTER THREE: METHODS

The larger SMR systematically described, categorized, and synthesized a database of refereed EAAT literature published from 1980 through 2014. Implementing a SMR typically requires a broad search of the literature, selection of literature to be included, coding of papers to extract relevant data, and data analysis (Hammick, Dornan, & Steinert, 2010). I joined the research team that was conducting the SMR after the search strategy was completed. This search strategy is described below. Thus my engagement in the larger SMR began at the data management phase. To pursue my thesis, however, I was responsible for: 1) extracting data from all included papers that addressed EAAT and mental health; 2) analyzing these extracted data; and 3) interpreting findings through the lens of occupational therapy.

Data Collection

Search Strategy. The intent of the search strategy was to identify papers of relevance to EAAT for all ages and populations. In consultation with the Health and Human Sciences Librarian, team members constructed comprehensive searches to execute in selected abstracting and indexing databases. The construction of a primary search strategy was an iterative process, whereby an initial search strategy was revised several times in order to accommodate vocabulary additions and eliminations that we identified as relevant or irrelevant through our concurrent review of relevant literature. The librarian executed the revised search strategy in the following resources, adapting the strategy only as needed to account for each database's unique characteristics: CAB Abstracts (EBSCO), CINAHL (EBSCO), PsycINFO (EBSCO), PubMed (NCBI), Social Sciences Abstracts (EBSCO), Social Services Abstracts (ProQuest), Social Work Abstracts (EBSCO), SPORTDiscus (EBSCO), and Web of Science (Thomson Reuters). The search strategy was crafted and adapted to restrict retrieval, wherever possible, to records

documenting English language articles published in peer-reviewed journals between 1980 and 2014. A total of 1,620 sources were identified through this systematic searching and aggregated in an EndNote library. In addition to database searching, the reference lists of all articles included in the larger study's inclusion exclusion process were manually searched in order to identify articles not captured by the database search: 143 additional sources were manually found and coded for inclusion or exclusion into the final database.

Data Management. All references gathered through the search strategy were imported into the bibliographic management software EndNote. EndNote allows for simple organization and coding of references for inclusion and exclusion, a process described in detail by King, Hooper, and Wood (2011).

Inclusion and Exclusion Criteria. Inclusion and exclusion criteria for the larger SMR were initially developed by the research team through jointly reviewing 20 articles, identifying topics of questionable relevance to EAAT, and deciding to include or exclude those topics. Three researchers then blindly coded 20% of the database, discussed discrepancies among coders every 25 articles, and fine-tuned inclusion and exclusion criteria until they were comprehensive and precise. Table 2 presents the final criteria. The final inclusion criterion is specific to this thesis.

After coding 20% of the database, interrater reliability was calculated at 95%. The remaining articles in the database were divided between the three coders and independently coded for inclusion or exclusion. Any articles that were confusing or difficult to code were brought to the group for discussion and consensus. Overall, 306 of the original 1,620 met the inclusion criteria. Of these 306 included articles, 68 articles had a primary focus on EAAT participants with mental health concerns.

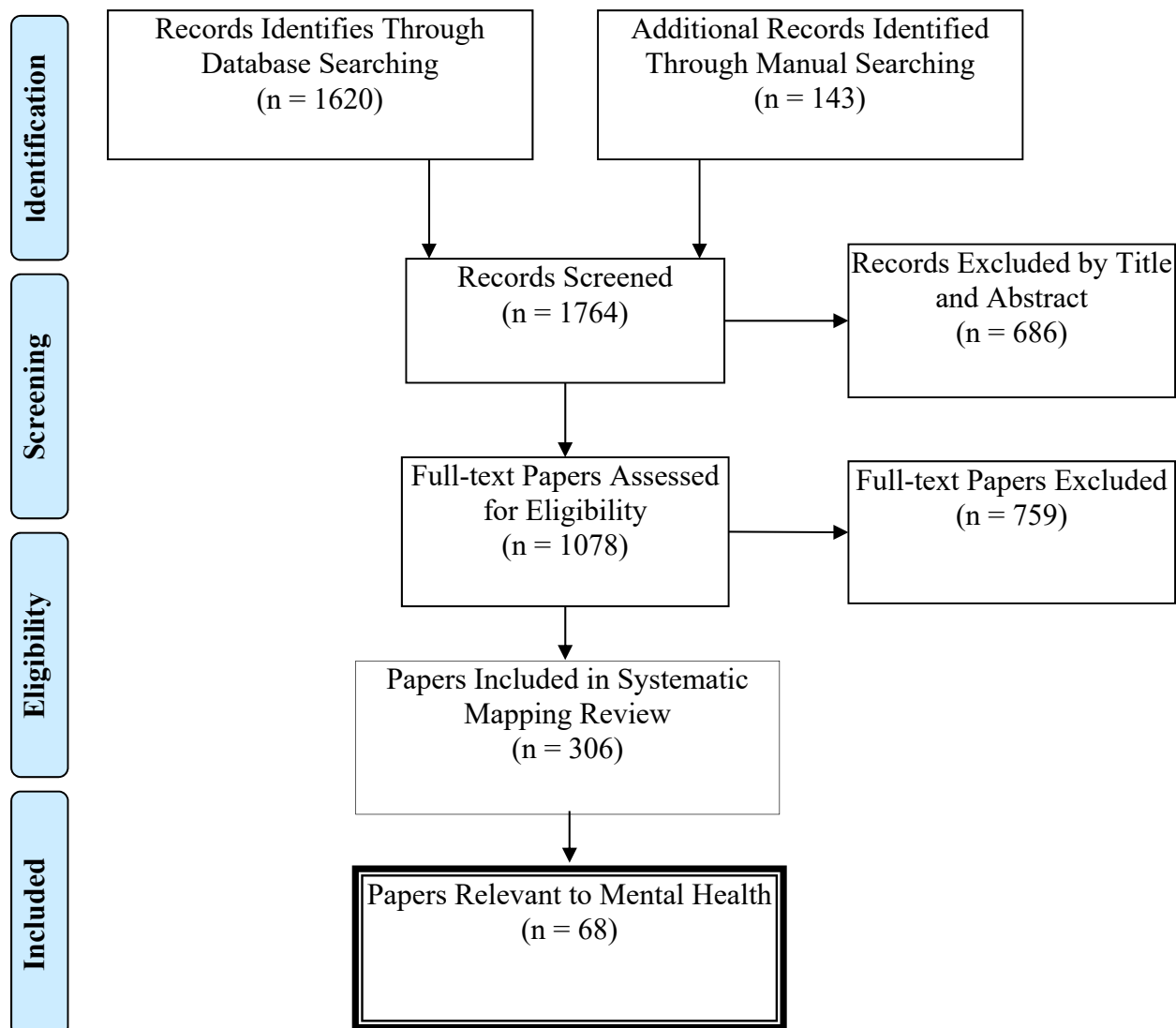


Figure 1. Data collection process

Table 2.

Inclusion and exclusion criteria

Inclusion	Exclusion
<p>All included papers must be:</p> <ul style="list-style-type: none"> • Peer-reviewed; • Primary source • Written in English; AND • Be published between 1980 – 2014 <p>Paper must be directly relevant to EAAT by meeting one of the following:</p>	<p>Papers are excluded that:</p> <ul style="list-style-type: none"> • Focus on animal-assisted therapy or human-animal bond, connection or interaction that is either unrelated to EAAT or that includes EAAT only as a minor focus • Provide only a synopsis of a paper about

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- | | |
|--|--|
| <ul style="list-style-type: none"> • Primary focus of the paper is one or more kinds of EAAT; • Primary focus of the paper is on simulated horse studies (i.e. mechanical horse studies) of relevance to EAAT; OR • Primary focus of the paper is on the welfare, training, maintenance or any other issue affecting horses involved in EAAT • Primary focus of the paper is on EAAT participants with a diagnosed DSM-IV mental illness or participants with mental health concerns such as trauma, abuse and emotional difficulties* | <ul style="list-style-type: none"> EAAT that has been published elsewhere • Provides horse related information not related to EAAT; OR • Have no obvious relevance to EAAT or human-animal bond |
|--|--|
-

*Inclusion criteria specific to this thesis

Data Extraction. In order to extract and record details from each article, the standard protocol is to develop a data extraction tool (DET) (Hammick et al., 2010). The research team collaborated to develop the data extraction tool in a manner consistent with the established research questions. Throughout the development process, the research team used the unfinished tool to code sample EAAT studies and updated the tool to capture relevant data from the studies. By doing so, the development of the tool was deeply grounded in the literature. In developing the outcomes sections of the data extraction tool, we drew from existing classification systems in order to give our classification more validity. The International Classification of Functioning, Disability, and Health (ICF) (World Health Organization, 2002) and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, (DSM-IV) (American Psychiatric Association, 2000) were both adapted to succinctly capture the outcomes that EAAT would likely produce.

An initial draft of the data extraction tool was reviewed with members of Colorado State University's Equine Science Advisory Committee, including experts from equine science, social work, and veterinary science: these experts helped make decisions surrounding what data were relevant to extract. The final tool extracted information about EAAT recipients, practitioners,

horses, facilities, interventions, and outcomes. It also collected broad descriptors of the paper such as the purpose, approach, and the journal's impact factor. After the tool was finalized, it was entered into Microsoft Access Database to allow electronic coding of articles (Appendix A).

Interrater Reliability. In systematic mapping reviews, consistency in extracting data from included sources using a DET is of utmost importance. We therefore measured percent agreement across all six team members in extracting data from specific included papers using the DET, setting our standard for agreement at 90%. Initially, all members of the research team coded included papers from a generated randomized list. With repeated practice over three months, and also further clarifications to guidelines in using the DET, the research team met this standard of 90% agreement. We next calculated Kappa coefficients to determine inter-rater reliability between two team members at a time; computed Kappa's ranged from .65 - .74, indicating substantial agreement (Cyr & Francis, 1992). Remaining papers in the initial randomized list were next divided and coded individually, and weekly meetings were used to discuss coding questions, challenges, and inter-rater drift. After this process, and to ensure both inter-rater and intra-rater reliability throughout the data analysis process, percent agreements between raters were calculated on every 22nd article.

Data Analysis

Data analysis for this thesis involved searching for, or querying, the EAAT literature relevant to individuals with mental health diagnoses using the larger study's DET and Microsoft ACCESS database. For example, a search of participant diagnoses and descriptors was done and imported into Excel. Studies were then included in the final database for this thesis if participants had one or more of the following diagnoses or descriptors: *post-traumatic stress disorder, sexual abuse/trauma, veteran, behavioral difficulties (general), abuse/neglect, emotional difficulties*

(general), relationship difficulties (general), abuse, mental illness (general), schizophrenia, anxiety, depression, attention deficit hyperactive disorder, psychiatric disabilities (general), eating disorder, borderline personality disorder, at-risk, mood disorder (general), obsessive-compulsive disorder, personality disorder, oppositional defiant disorder, trauma (significant life event), drug abuse/addiction, adjustment disorder, disruptive disorder, interparental violence, substance abuse, bipolar disorder, grief, self-injury behaviors, psycho-affective disorder, hysteria, and hypochondria. Diagnoses were chosen if they could be found in the DSM-IV or if they pertained to emotional or behavior difficulties, or traumatic events such as being in foster care, a veteran or interparental violence. If the descriptor statement of participants pertained to the above diagnoses or mental health in general, the paper was also included in the final database. Sixty-eight articles were identified as having participants that met these criteria. These 68 articles were then specifically searched in order to answer the research questions of the study. To answer the research questions, individual queries were run to identify ages of participants, diagnoses, practitioners involved with EAAT for individuals with mental health concerns, types of EAAT interventions, current theories being used in the literature, and outcomes of EAAT. Data for each research question was imported into Excel for analysis using the pivot table function.

Each individual query and their relationship to one another informed my evaluation of the literature. Specifically, I identified ages and diagnoses of participants to gain an understanding of the population being served. As well, I identified practitioners involved in facilitating EAAT for individuals with mental illness in order to ascertain occupational therapy's current involvement in EAAT for persons with mental illness.

The query of interventions used with EAAT for individuals with mental illness helped categorize different therapeutic approaches. The DET captures what actually occurred during a study's intervention such as grooming the horse, getting to know the horse, matching the horse to the participant and the use of body language communication. This categorization helped identify the potential for occupation-focused interventions for individuals with mental illness. That is, I situated different approaches within the conceptual framework mentioned in Chapter Two in order to suggest how occupational therapy can address occupational performance deficits. Additionally, proposed theories further aid in relating current EAAT practice to possible specific approaches to occupational therapy. In other words, the question of how can the theorized mechanisms of positive outcomes be applied to occupational therapy practice in the equine environment was asked.

Outcomes of EAAT for individuals with mental illness were also queried. Specifically, I identified outcomes that relate to components of volition such as sense of competence and effectiveness, habituation, and performance capacity as described previously.

Summary of Chapter Three

Chapter Three detailed the methods of the systematic mapping review used for this study including the study's approach to data analysis.

CHAPTER FOUR: RESULTS

The 68 papers included in this study are presented in Appendix B in historical order of the year in which they were published. Appendix B also provides a comprehensive map of findings related to each research question. This section is organized according to research questions, where relevant findings specific to occupational therapy are identified.

Research Question One: What are the ages, specific mental health diagnoses or other mental health issues of people who have participated in equine-assisted programs?

Fifty-two articles specified age ranges, or age categories of participants in EAAT such as young children, adolescents or adults. A majority of articles focused on individuals 11 to 21 years of age. Few articles focused on individuals younger than age 10. While included articles encompassed participants of ages across the lifespan, the frequency of participants above age 21 steadily decreased up to age 70. Reports on age categories also reflected this trend with a majority of articles reporting on the category of adolescent participants. Slightly fewer papers focused their interventions on the categories of young children or adults.

Sixty-five articles specified participant diagnoses. Of these 65 articles, eating disorders, abuse, general behavioral difficulties, general emotional difficulties, attention deficit/hyperactive disorder, post-traumatic stress disorder and depression were reported more than 10 times. Other less frequently served individuals had diagnoses that included, but were not limited to, schizophrenia, at-risk, abuse/neglect, sexual abuse/trauma, general mood disorder, anxiety, and oppositional defiant disorder. In many instances the articles focused on multiple diagnoses. This may be due to co-morbidities, similar symptomology among diagnoses, or the fact that the article was a conceptual piece describing the nature of EAAT for individuals with mental health concerns. However, individuals with eating disorders were the most commonly studied on their

own with seven articles focusing on this population. Interestingly, three articles looked at female survivors of abuse, two concentrated solely on PTSD, and one article had a main focus on participants with emotional difficulties (Appendix B).

Research Question Two: What Disciplines Are Providing EAAT for Individuals with Mental Health Concerns?

Of the 68 articles included in this study, 52 described the practitioner(s) involved in the intervention (Appendix B). Occupational therapists were underrepresented in these 52 articles. Only 2 articles (4%) mentioned occupational therapy. In contrast, frequencies of articles that identified other providers were as follows: equine professionals, 21 articles (40%); mental health professionals (not otherwise specified), 15 articles (29%); psychologists, 11 articles (21%); social workers, 7 articles (13%); therapeutic riding instructors, 7 articles (14%); physical therapists, 3 articles (6%); recreational therapists, 2 articles (4%); and speech language pathologists, 1 paper (2%). Note that the above percentages do not add to 100%. This is explained by the fact that on occasion, multiple providers were involved with a single EAAT intervention. Together equine professionals and mental health professionals are mentioned in more than half the included articles.

It is clear that occupational therapy, with a rate of 4%, is not a well-represented profession facilitating EAAT for individuals with mental health concerns. In the two conceptual articles that make up this 4%, occupational therapy was briefly mentioned. Rothe, Vega, Torres, Soler, & Pazos (2005) suggest children receiving EAAT for mental health concerns are served best by a mental health professional whereas occupational therapists serving people with mental health needs, while not out of the question, is unconventional. In Selby (2011) occupational

therapists were only mentioned in the context of hippotherapy, focusing on using the movement of the horse as a means of physical rehabilitation.

Research Question Three: What Specific Interventions Have Been Used for Individuals with Mental Health Concerns?

Appendix B shows the distributions of interventions provided to individuals with mental health concerns across the 68 included articles. Sixty-one out of the 68 included articles provided information about the specific approaches used in this various interventions. In both Selby (2011) and Rothe, Vega, Torres, Soler, & Pazos's (2005), conceptual articles in which occupational therapists were mentioned, a plethora of strategies were offered. In Selby (2011) occupational therapy was specifically mentioned as using activities wherein participants rode the horse in different positions. This approach is typical of hippotherapy, an equine-assisted therapy that focuses on physical rehabilitation.

Across all interventions, the overall representation of activities directly involving the horse were as follows: 44 (72%) articles described riding the horse, 37 (61%) articles described grooming the horse, 31 (52%) articles described caring for the horse, 29 (48%) articles described groundwork, 29 (48%) articles described getting to know the horse, and 24 (39%) articles described simply being with the horse. It is also noteworthy that roughly half of the 61 articles (49%) described the use of group activities. Other less frequently mentioned therapeutic strategies included, but were not limited to, using communication based on body language to connect with the horse, applying the experience of the intervention to everyday life, social activities within the intervention, tacking the horse, individual sessions and practicing safety behaviors while around or on the horse.

It appears that riding the horse is common to many types of EAA and EAT as is the use of group sessions. Getting to know the horse, caring for the horse, and groundwork also seem to be a part of many EAAT. Of the 43 articles that used riding the horse as an intervention, 23 were classified as equine-assisted/facilitated psychotherapy, equine-facilitated/assisted learning, or equine-assisted counseling. According to the definitions of these specific equine-assisted activities and equine-assisted therapies, the goals may focus on psychotherapy, or life skills for professional, educational, and/or personal goals. Occupational therapy, on the other hand, may utilize riding the horse, group sessions, getting to know the horse, caring for the horse, and groundwork as a means to improve occupational performance goals.

Research Question Four: What Theories Inform Therapeutic Approaches for Individuals with Mental Health Concerns?

Sixty-five of the 68 included articles provided information about the theories that informed different types of EAAT for individuals with mental health concerns. The theory most frequently proposed as having effects on positive outcomes, indeed in 45 papers, was the horse-human interaction, which includes building a relationship and bonding with the horse. The remaining top five theories described to have positive influences on improved participant outcomes include the horse as a mirror or metaphor for the participant's experience, the safe and non-judgmental equine environment, the verbal and non-verbal communication required for successful relationship with the horse, and social interaction skills required for success with the horse.

Research Question Five: What Outcomes Have Been Assessed and/or Measured for Individuals with Mental Health Concerns?

Fifty of the 68 articles reported either statistically significant, clinically significant, or no finding for outcomes. As with the interventions reported in the articles mentioning occupational therapy, many outcomes were mentioned. One article that mentioned occupational therapy, Selby (2011), reported improvements of cardiovascular and respiratory functioning, improved mobility of joints, control of voluntary movement, muscle power and tone, emotional functions, higher level cognitive functions, sensory processing, voice and speech, communication, education, and interpersonal interactions and relationships. While this is a comprehensive list, the article provided an historical perspective of psychotherapy involving horses, thus outlining all possible ways in which all EAAT may be beneficial rather than focusing on a single intervention outcome. Rothe, Vega, Torres, Soler, and Pazos's (2005), another article that mentions occupational therapy, also mentioned several outcomes related to equine-facilitated psychotherapy for children such as decreased anxiety, improved emotional functions, control of voluntary movement, language, general tasks and demands, interpersonal interactions and relationships, and self-care. These outcomes were suggested improvements that could be experienced by children based on existing literature. Given this is a descriptive piece of literature, it is difficult to conclude that an occupational therapist was able to improve the aforementioned variables based on an occupational therapy specific intervention. Rather the reader may infer some possible connections between the intervention and outcomes.

As a whole, the 68 articles indicated that the top three outcomes were emotional functions, psychosocial function, and interpersonal interactions and relationships. The most frequent outcome pertained to positive changes with emotional functioning. Emotional functions

include behavior regulation, range of emotion, and expression of affect such as happiness, sadness, enjoyment, or fear. Of the outcomes pertaining to emotional functions, 18 (37%) studies reported clinically significant findings while 3 (6%) studies reported statistically significant improvements. Psychosocial functioning including interpersonal skills and social interactions was the second most common outcome. Fourteen (29%) articles reported clinically significant improvements in participant's psychosocial functioning while two (4%) articles reported statistically significant changes. Related to psychosocial functioning, participants also improved in their ability to establish or participate in satisfying interpersonal interactions and relationships. Twelve (24%) studies reported clinically significant improvements with interpersonal interactions and relationship while 3 (6%) studies reported statistically significant improvements in this outcome category. Additional positive outcomes reported were improvements related to control of voluntary movement, higher level cognitive functioning such as volition, organization and planning, purposeful actions, self-awareness, self-monitoring, decision making, problem solving, judgment, time management, and coping, decrease in depressive symptoms, improved communication, as well as improved attention, among others.

Summary of Chapter Four

Chapter Four answers the study's research questions. Only two articles were found to discuss occupational therapy; however neither clearly indicated how occupational therapists may address issues of occupational performance experienced by those with mental illness. The following chapter will draw from reported findings to suggest discontinuity and congruence between the MOHO and the study's results. Chapter Five will also outline implications for occupational therapy.

CHAPTER FIVE: DISCUSSION

The following discussion provides an in depth analysis of research questions and interpretation of the aforementioned findings using the conceptual framework described in this study. Despite limited evidence, many findings are congruent with the volition, habituation, and performance capacity subsystems of the MOHO. Further, findings may be consistent with best practice for occupational therapy using horses and the equine environment.

Connection to the Model of Human Occupation

Some findings, but not all, are congruent with the conceptual framework of this study. I next describe how the study's findings may or may not be applied to the MOHO to inform occupational therapy practice in the equine environment. When putting this study's findings into the context of occupational therapy using the MOHO, it is important to remember the nature of the conceptual framework. The MOHO is a dynamic systems model where volition, habituation, and performance capacity exist and interact within the physical and social environment. Volition, habituation, and performance capacity form the foundation of how an individual develops occupational patterns, hence the focus on the three subsystems when examining the findings. The following will describe different aspects of EAAT for mental health that may be congruent with occupational therapy practice.

Volition

According to the MOHO, volition consists of personal causation, or one's sense of competence and effectiveness, and one's values and interests. Outcomes of the literature on EAAT especially supported the volition element of the MOHO. Several studies suggest EAAT for individuals with mental health concerns target volition as defined in the MOHO by improving confidence, self-efficacy, and self-esteem (Bizub et al., 2003; Burgon, 2003;

Carlsson, 2014; Lanning & Krennek, 2013; Maujean, Kendall, Roquet, Sharp, & Pringle, 2013). More specifically, in a qualitative study Bizub (2003) described the experience of individuals with psychiatric disabilities who participated in therapeutic horseback riding. By engaging in an activity that encouraged participants to overcome a fear, i.e. being around horses, participants and therapists alike reported a growing sense of achievement and agency that could be drawn upon for efforts and activities beyond the equine environment. Similarly, Carlsson (2014) noted in her exploratory study of equine-assisted social work that young women with self-harming behaviors were able to develop self-awareness through the interaction with the horse, as there existed an element of danger with the large animal. By mastering their environment and overcoming fears and phobias, participants were able to improve their self-esteem and self-confidence. The author reported this improvement also led to better interactions between therapist and participant. Pilot studies of a program using the Parelli Natural Horsemanship method by Maujean (2013) and a therapeutic riding program for veterans by Lanning (2013) also reported improvements to self-esteem and self-efficacy, noting that these types of EAAT provided motivation for participants to get out of the house.

Considering the previously mentioned outcomes, there is promising evidence that the volition of people with mental health challenges, as defined in MOHO, may be positively effected through the participation in EAAT such as therapeutic riding, equine-facilitated psychotherapy, or equine-assisted learning. By impacting one's sense of competence and self-efficacy, these types of interventions can facilitate the volitional subsystem of occupational performance to provide a foundation for mastering an individual's environment. In other words, given the lack of motivation commonly experienced among individuals with mental health concerns, certain approaches within EAAT can target this underlying concern.

Habituation

In the MOHO, habituation refers to a natural readiness to consistently demonstrate behavioral patterns that are dictated by typical habits and routines within a certain temporal, physical, and social environment. Habituation allows for an individual to trust that all aspects of their environment will cooperate with them to carry out routine actions (Kielhofner, 2002). While habituation was not specifically measured in any papers, this systematic mapping review revealed several papers suggesting that mastering the equine environment may positively impact the participant's ability to self-reflect and alter his or her actions to receive desirable feedback from the environment. Such skills may in turn support the development of habits and routines whose benefits extend beyond the equine context. I will explain my interpretation of how certain EAAT may contribute to improving one's occupational performance through habituation.

Carlsson (2014) claimed that women with self-harming behaviors in her exploratory study of equine-assisted social work benefited from the horse-human interaction because the relationship encouraged self-reflection and self-regulation. That is, the women noticed that the horse's reactions provided feedback on her emotions. The horse's reactions encouraged the women to self-reflect and regulate her actions and emotions until she felt comfortable being around the horse. Accordingly, the horse's feedback encouraged the women to change their behavior rather than avoid the therapy as some of them had done in the past. I believe that changes in behavioral patterns that result from adapting to different aspects of the therapy context, such as a horse's reactions to one's emotions, can be considered habituation as described in MOHO. The overall practice of self-reflection and self-regulation outlined in the study may also carry over to other environments such that participants are able to attend to aspects of various contexts in order to mold the actions that are part of any habit or role. For example, a

participant may be able to better self-reflect and regulate in new social situations given skills she has learned from interactions with a horse and its surrounding social and physical environment.

Considering the above interpretation, other studies support habituation as well. In an exploratory study of therapeutic riding by (Lanning & Krennek, 2013), veteran participants commented that “it helped build relationships outside of the house” (p. vii) and “I talk to people. Shake people’s hands” (pp. ix). Overall the impression was that the therapy helped these individuals master their social environments by helping them become less isolated. The therapy helped build relationships not only with the horse, but with people as well. In Bizub’s (2003) study of therapeutic riding for adults with longstanding histories of psychiatric disabilities, participants reported feeling able to calm down, as if they didn’t have depression, and able to adjust or adapt to their surroundings due to feedback from the horse. According to the MOHO in my view, it may be interpreted that these interactions with the horse in turn changed their habits of interaction with both the physical and social environment.

Performance Capacity

Performance capacity refers to the objective and subjective abilities one has for doing. Every task or activity has certain physical and mental demands. For individuals with mental health concerns, occupational performance deficits are generally experienced when a task or activity exceeds the individual’s mental capacity (Spangler, 2011). However, several types of EAAT, for instance, therapeutic horseback riding (Bizub et al., 2003) and equine-assisted psychotherapy (Maujean et al., 2013), appeared to be promising in helping such individuals improve their subjective and objective capacities in order to meet the demands of everyday activities.

Several studies, including a review of the literature, claimed outcomes related to both subjective and objective components of performance capacity. Subjective outcomes included decreased feelings of depression, improved self-perception, and improved mood. Objective improvements to performance capacity included lower scores of aggression, increased attention span, increased scores on the Global Assessment of Functioning (GAF) scale, to name a few (Burgon, 2003; Klontz et al., 2007; Lentini, 2009; Thelle, 2010). From the perspective of the MOHO, these subjective and objective outcomes are intertwined and work together to enhance overall performance capacity. Outcomes such as decreased feelings of depression, improved self-perception, and improved mood contributed to a positive experience for participants. For example, one participant noted that decreased feelings of depression allowed her to forget her diagnosis and be present to enjoy her therapy (Maujean et al., 2013). In turn, performance capacity improved through an increased sense of competence and effectiveness. Objective outcomes on the other hand were observed by therapists or measured using assessments. Performance capacity, as defined in the MOHO, can be said to be improved by impacting attention span or through an increase in score on the GAF scale indicating one's improved social, psychological and occupational function.

Additionally, the top reported outcomes were emotional functions, psychosocial function, and interpersonal interactions and relationships. Emotional functions include improved behavioral regulation, range of emotion, and expression of affect. According to the MOHO each of these outcomes effect a person's performance capacity. Again, the literature suggests that various equine-assisted interventions may separately improve the aforementioned skills, which may in turn improve one's ability to successfully interact with their environments.

Incorporating Horses and Equine Environments into Occupational Therapy

While occupational therapy is underrepresented in the EAAT literature for individuals with mental health concerns, there are commonalities within theories, interventions, and outcomes that provide a basis for occupational therapy practice in the equine environment. Considering the most common therapeutic activities of grooming the horse, caring for the horse, groundwork, getting to know the horse, and being with the horse that were found in this SMR, it is clear that a variety of equine-assisted interventions use activities as a therapeutic medium. Moreover, these activities can be viewed as occupations as defined in occupational therapy. For example, EAA such as therapeutic riding or equine-assisted learning often incorporated meaningful and purposeful activities that can be experienced differently from one individual to the next. The idea that the same occupation is given different meaning and purpose from one individual to the next is central to an occupational therapy approach (Boyt Schell et al., 2014).

Additional interventions within the literature that lend themselves to an occupational therapy perspective include the use of body language to connect with the horse, tacking the horse, and practicing safety behaviors while around or on the horse. Thus, use of group rather than individual sessions also influenced participants' experience of therapeutic riding, equine-facilitated psychotherapy, and equine-assisted learning. According to the MOHO, the environment greatly impacts how one experiences occupation. The environment goes beyond the physical aspects of one's surroundings to include the social environment. As such, frequent use of group interventions may create a unique experience for individuals by creating a more complex social environment to navigate and master. A complex physical and social environment

are important when considering the premise of this study's conceptual model, which suggests that humans have an innate desire to explore and master their surroundings (Kielhofner & Burke, 1980).

With interventions that afford multiple opportunities to master both the physical and social equine environment, an occupational therapist may develop interventions that not only are occupational in nature, but also encourage the occupational growth of participants by using aspects of the equine environment to provide just the right challenge for mastery. As an example, imagine a participant entering a barn with horses and grooming equipment set up to be in sight and within reach. This environment is new and novel to the participant. The participant reaches for a brush and begins brushing a horse. The horse enjoys the experience, remains calm, and bows his head. The participant recognizes the horse's cues as positive feedback on his performance, further motivating the participant and encouraging habituation with this activity. In turn, the participant's subjective experience of the activity is positive resulting in improved performance capacity. This successful experience of occupational patterning grooming the horse may then aid the participant in other activities by facilitating an experience of improved personal causation.

Other common aspects of EAAT specific to individuals with mental health concerns are safe and non-judgmental equine environments, the verbal and non-verbal communication required for successful relationship with the horse, and social interaction/social skills required for success with the horse. Referring to the MOHO and typical occupational therapy interventions for this population, these theories presented in the literature also lend themselves to an occupational therapy approach. A safe and non-judgmental equine environment may be seen as a positive influence on the volitional subsystem according to the MOHO. Since individuals

with mental health concerns often feel stigmatized, this non-judgmental environment may positively impact their personal causation, or sense of competence and effectiveness, in such a way that they perceive themselves as competent actors in their environment. In turn, an improved sense of self facilitates active participation in the intervention. As a result, the positive influence of a non-judgmental environment has on one's personal causation in turn enhances habituation and thus performance capacity to improve overall occupational performance.

To exemplify the idea of a safe and non-judgmental environment facilitating improved occupational performance, consider a group of individuals gathering for their first occupational therapy session in an equine environment. The social environment consists of horses, therapists, and other participants. According to the literature, this environment supports engagement therefore the occupational therapist may set-up activities within the environment involving the horses to facilitate taking action. Whether participants are tasked with the activity of tacking a horse or moving the horses from their stalls to an open pasture, participants have the opportunity to receive feedback from the horse and their surroundings on their performance and adjust accordingly to complete a purposeful activity. This feedback in turn impacts their perceived and objective performance. The safe and non-judgmental environment thus provides a platform for participants to experience personal causation and motivation to complete a task that otherwise may be too intimidating to tackle due to lack of self-efficacy.

When using the MOHO as a guiding practice framework, theories, interventions, and outcomes from EAAT such as equine-assisted learning, equine-facilitated psychotherapy, and therapeutic riding, can afford opportunities for improving occupational performance. The use of group interventions, the safe and non-judgmental environment, building a relationship with the horse, and social interaction/social skills necessary to be successful with the horse can be utilized

by an occupational therapist to target deficits impacting participation in therapy as well as daily activities.

Limitations

This study is not without limitations. First, SMR aim to provide a map or topography of a particular body of literature and therefore do not account for methodological flaws within the literature. Upon further investigation of papers specific to the population under inquiry it was found that many papers were literature reviews or investigative research. In other words, research on using EAAT for individuals with mental health concerns is in the beginning stages of development with little continuity among papers. In addition, the connection between theories, interventions, and outcomes was general and at times vague. Many studies lacked clarity with regard to why particular interventions were chosen and the anticipated outcomes that would result from the intervention. Therefore, I had to extrapolate from the systematic mapping review findings how occupational therapy may uniquely understand how EAAT such as equine-assisted learning, equine-facilitated psychotherapy, and therapeutic riding can improve the occupational performance of individuals with mental health concern. As well, the literature heavily represented the adolescent population, individuals with eating disorders and individuals who experienced abuse. This narrow scope makes it difficult to identify how occupational therapy may provide services in the equine environment to individuals with mental health concerns across the lifespan with various mental health disorders.

Secondly, literature on EAAT was only gathered in English. Limiting the SMR to papers in English eliminates international research that has not been published in the English language and thus creates a limited map of EAAT. By using papers written in English the research team could not understand the international state of literature on EAAT. Thirdly, interrater reliability

was established for specific broad aspects of the data extraction tool, not to include areas such as theories. Therefore, the likelihood of introducing subjectivity during the coding process was increased. In an attempt to negate subjective interpretations of the literature, meetings were held on a weekly basis to discuss coding decisions that remained unclear and to further establish guidelines for interpreting papers. For example, it was decided that descriptions of interventions were only to be coded if described in the methods section of the paper in order to minimize subjective interpretations of how the authors carried out their study. Lastly, there is ambiguity with terminology used across the board within literature on EAAT. One example is the use of therapeutic riding interchangeably with hippotherapy. Each type of EAAT is defined by governing bodies, such as the American Hippotherapy Association and the Professional Associations for Therapeutic Horsemanship, is to be carried out by different credentialed individuals and is to include specific intervention strategies, however the literature did not always represent the governing body's definitions. As such the team had to make a decision to code papers based on the author's language rather than their interpretation of the specific type of EAAT being used.

Summary

When considering the MOHO, EAAT specific to individuals with mental health concerns provide a foundation for occupational therapy using horses and the equine environment. Theories, interventions, and outcomes can be overlaid onto the three subsystems of the MOHO: volition, habituation, and performance capacity, to target areas of occupational performance deficits specific to individuals with mental health concerns. Specifically, decreased self-esteem, self-efficacy, and volition impacting participation in daily activities. Using the conceptual framework of this study, an occupational therapist may work with an individual with mental

health concerns in equine environments to help him or her master the physical and social aspects of the unique surroundings.

Conclusion

Guided by this study's conceptual framework, theories, interventions and outcomes from EAAT such as equine-assisted learning, equine-facilitated psychotherapy, and therapeutic riding can serve to help individuals understand how their actions, thoughts, and feelings about a task or activity can impact their physical and social environment as well as their occupational performance. It appears EAAT used for individuals with mental health concerns greatly improve emotional functions which in turn positively impact performance capacity. It also appears horses and the equine environment provide a set of unique experiences, such as a non-judgmental environment and building a relationship with the horse, that help to improve self-esteem and self-awareness. The activities common to EAAT for persons with mental illness such as tacking and grooming the horse also mirror concepts with the MOHO that suggest a better sense of effectiveness and competence lead to improved mastery of one's environment and occupational performance. Occupational therapy using horses and equines may be particularly well suited for adolescents and individuals with eating disorders or who have experienced abuse, as this age group and population make up a significant portion of the study's findings.

Current Vision of the American Occupational Therapy Association

In addition to evidence supporting occupational therapy's involvement with EAAT for persons with mental illness is the American Occupational Therapy Association's (AOTA) centennial vision that suggests the time is now for occupational therapy to be involved with this population. Regardless of the existence of relevant practice models such as MOHO, occupational therapy's presence in mental health has decreased as its involvement in the medical model began

to dominate practice after World War II. As of 2010, only 3% of practicing therapists reported mental health as their primary practice (Christiansen & Haertl, 2014).

The American Occupational Therapy Association's (AOTA) centennial vision states that by the year 2017 "occupational therapy [will be] a powerful, widely recognized, science-driven, evidence-based profession with globally connected and diverse workforce meeting society's occupation needs" (AOTA, 2006). Given the limited presence of occupational therapy in mental health settings and the tendency for individuals with mental illness to be disengaged, occupational therapy in equine environments is one area in which the profession may realize its vision of meeting society's occupational needs. With AOTA's centennial vision, the time is ripe for occupational therapy to be involved with EAAT and mental health concerns.

Reflections

The process of writing this thesis has been one filled with excitement, disappointment, doubt, inspiration, passion, and personal and professional growth. I have acquired a vast array of knowledge from details about EAAT to mental health to the incredible framework developed by Gary Kielhofner, the MOHO. I have also gained a better understanding and appreciation for various quantitative and qualitative research approaches. Professional growth came from writing, reading articles, critically thinking about the data extraction tool and obtaining interrater reliability. Professional growth also came from working on a team of talented, intelligent individuals who challenged me to think critically. As well, I have been challenged to understand the occupational therapy professional from a global perspective that can be applied to a very specific intervention such as equine-assisted therapy. By understanding the MOHO and occupational therapy's role with mental health, I was able to articulate how occupational therapy may improve occupational performance for any of its clients. Personal growth has occurred

through learning to trust the process and know that each decision and draft lead to a final product or “ah huh” moment.

While I feel I have grown tremendously since beginning a master of science in occupational therapy degree, there is always room for more growth. I continue to work on my ability to think critically and apply my knowledge to effectively solve complex problems within the field of research as well as in the clinic. I challenge myself to verbally convey my thoughts and ideas to colleagues, as my strength tends to be written communication. I also continue to strive to be attentive and present with all my interactions to become a colleague who is able to contribute to a team and be a part of occupational therapy’s ever growing and changing profession with my unique perspective.

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APPENDIX A

12/8/15

Data Extraction Tool

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SECTION I: BROAD DESCRIPTORS OF PAPERS

1) Who are the Authors of the Paper?

Guideline: Write authors here:

2) What is the Title of the Paper?

Guideline: Write title here:

3) What Year was the Paper Published?

Guideline: Write year here:

4) In What Issue of What Journal Was the Paper Published?

Guideline: Write journal and journal issue here:

5) What is the impact factor of this journal?

6) Are Funding Sources Specified in the Article?

Guideline: Look in the Acknowledgements or fine print of the article. Funding sources refers here to anyone who pays for this research. The word "supported" also counts if it is by a specific foundation or seems like a institution that provides funding.

7) Is the Purpose or Aim of the Paper Stated?

Guideline: Aim or purpose must be explicit to check yes. If there are two stated purposes/aims, write both. If they are similar, quote the one in the abstract.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

a. What Is the Paper's Stated Purpose or Aim?

Guideline: If yes is checked above, then describe purpose/aim exactly.

8) Is this Paper a Research Report?

Guideline: Check yes if the primary focus of this paper is a research report and there is a systematic and apriori approach to data collection and analysis related to a purpose/aim. If yes, continue through the rest of the tool, being sure to complete the entire tool.

Guideline: In order to qualify as research, the paper must follow a traditional research format and have clearly stated headings: purpose/hypothesis, literature review, methods, results, and discussion sections.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. If not research, then what type of paper is this?

Case Report – Non-research based article that focuses on an individual participant or facility.

Conceptual/Theoretical – explanation as to why therapy might work, theoretical assumptions, conceptual model.

Editorial – opinion pieces or individual opinion, perspective.

Guideline: If no, then choose one of the categories below that best describes this paper:

<input type="checkbox"/> Case report (non-research based)	<input type="checkbox"/> Historical pieces
<input type="checkbox"/> Conceptual/theoretical	<input type="checkbox"/> Non-research literature review
<input type="checkbox"/> Editorial	<input type="checkbox"/> Other

i. What Type of Paper Is Meant by "Other"?

b. If not research, does the paper merit further analysis?

Guideline: If the article gives useful information on any of the main section headings (i.e. Descriptors of Participants; Practitioners and Horses; Interventions; or Outcomes) then check yes below.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

Guideline: If yes, skip C and D, then continue through rest of tool, completing only the portions pertinent to the article. If no, answer C and D, then discontinue use of tool.

- c. Explain the main message of the paper
- d. Explain why this paper was chosen to exclude from analysis

<input type="checkbox"/> Incongruence between article and DET	<input type="checkbox"/> Other
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9) Does this study primarily focus on Horses, Mechanical Horses, or People?

<input type="checkbox"/> Horse
<input type="checkbox"/> Mechanical Horse
<input type="checkbox"/> People

Not For Distribution

SECTION II. RESEARCH APPROACHES

Guideline: This section is filled out ONLY if the paper was categorized as having met the criteria for a research report (checked yes to #6). If section is used, must check yes to either 10, 12, or 14.

For qualitative or quantitative studies, use authors' language – i.e. if they said that they used qualitative or quantitative approaches and they do not write their findings that way, still code as a mixed method.

Guideline: If systematic review, code as Quantitative – other, and write in "systematic review."

10) Does the Study Explicitly Specify a Research Approach/Design?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

- a. If yes, write-in what the authors stated as the research design, and answer qualitative and quantitative questions below.

11) Did this study investigate a specific intervention?

Guideline: Only check yes if it is research.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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12) Did the Reported Study Use Only Qualitative Research Approaches?

Guideline: Check yes if qualitative methods were solely used. Do NOT check yes if both quantitative and qualitative methods were used. If no, skip to the next section.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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13) What Qualitative Research Approaches Were Used in the Reported Study?

Guideline: Only answer if Question #10 has been answered, "Yes."

<input type="checkbox"/> Action research	<input type="checkbox"/> Phenomenology
<input type="checkbox"/> Ethnography	<input type="checkbox"/> Qualitative Case Study
<input type="checkbox"/> Grounded theory	<input type="checkbox"/> No apparent approach
<input type="checkbox"/> Narrative	<input type="checkbox"/> Other

- a. What other approach was used?

14) Did The Reported Study Use Only Quantitative Research Approaches?

Guideline: Check yes if quantitative methods are solely used. Do NOT check yes if both quantitative and qualitative methods were used.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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15) What Quantitative Research Approaches Were Used in the Reported Study?

Guideline: Only answer if Question #12 has been answered, "Yes."

Single subject design – each subject serves as its own control, and there are no group data. Descriptive statistics presented about individuals, not groups.

Quantitative Case Study: Authors present a case (not necessarily one individual) that is explicitly bound by certain criteria. Quantitative analysis can include descriptive or inferential statistics.

Single group quasi-experimental – Statistics for all participants as a group are calculated and aggregated, even if people serve as their own control for some portion of the study.

<input type="checkbox"/> Descriptive	<input type="checkbox"/> Single group quasi-experimental
<input type="checkbox"/> Correlational	<input type="checkbox"/> Single subject design
<input type="checkbox"/> Group comparison (non-randomized)	<input type="checkbox"/> Quantitative Case Study
<input type="checkbox"/> Group comparison (randomized)	<input type="checkbox"/> No apparent approach
	<input type="checkbox"/> Other

16) Did The Reported Study Use Both Quantitative And Qualitative Methods?

Guideline: Check yes if both quantitative and qualitative methods were used, regardless of which method may have been dominant.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. If Yes, Was a Formal Mixed Methods Design Employed?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

b. If a Formal Mixed Methods Design Was Used, What Was It?

Not For Distribution

SECTION III. DESCRIPTORS OF EAAT RECIPIENTS AND/OR RESEARCH PARTICIPANTS

Guideline: Yes may be checked for the following questions for both research and non-research papers as long as the paper describes EAAT recipients, practitioners, or significant others. For non-research papers if ANY descriptors of participants are provided, check yes, even if it is very broad information or very specific information about one person.

Guideline: Data about Horses should NOT be coded here, but in Section IV.

Guideline: If research, all of the following questions pertain only to research participants and rely solely on description provided in methods section.

If a group comparison design, the following questions pertain only to the experimental group, not the control group. If non-research, questions pertain to the most pertinent EAAT participants described in the article.

17) Does this Paper Describe recipients of EAAT, significant others of recipients, or practitioners of EAAT?

Guideline: If no description is provided, skip to Section IV.

Guideline: For conceptual articles, check Yes if articles if describes recipients of EAAT. For research, check Yes and categorize research participants.

Guideline: Horse study riders coded as Other.

Guideline: If research participant is a practitioner, all other information should be coded in the practitioner section (skip questions 16-19).

Guideline: For non-research articles, article must explicitly state that EAAT recipients were involved in EAAT strategies

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. If yes, check all that apply

<input type="checkbox"/> EAAT Recipient	<input type="checkbox"/> Family or Significant Others of EAAT recipients	<input type="checkbox"/> Practitioner	<input type="checkbox"/> Other
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b. If other, describe. Additionally, if family or significant other, please describe.

(Write-In Box in Access)

Guideline: The following questions apply only to participants specified in this question.

18) Were Ages Specified?

Guideline: To check yes, ages must be explicitly stated OR some reference to developmental stages must be evident (e.g., young children, adolescence, young adults, older adults, geriatric etc.).

Guideline: For non-research papers specify the general age groups, if apparent, but not specific age ranges (leave specific ages for intervention studies).

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

a. What Age Ranges Were Specified?

Guideline: If yes is checked and exact ages are given, then check off all age groups that apply in the box below. Do NOT check any boxes below if only descriptions of age groups without exact ages were given.

<input type="checkbox"/> 0 – 5 years	<input type="checkbox"/> 41 – 50 years
<input type="checkbox"/> 5 – 10 years	<input type="checkbox"/> 51 – 60 years
<input type="checkbox"/> 11 - 15 years	<input type="checkbox"/> 61 – 70 years
<input type="checkbox"/> 16 – 21 years	<input type="checkbox"/> 71 – 80 years
<input type="checkbox"/> 21 – 30 years	<input type="checkbox"/> 81- 90 years
<input type="checkbox"/> 31 – 40 years	<input type="checkbox"/> > 90 years

b. If Exact Age Ranges Were not Specified, Then What Age Groups were Specified?

Guideline: If yes is checked and exact ages are NOT given, then check off all appropriate age descriptors in the box below. ONLY use the box below if exact ages have NOT been stated in the paper. Only check "adults (not specified further) if the age groups of adults are not further specified.

<input type="checkbox"/> Young children	<input type="checkbox"/> Older adults
<input type="checkbox"/> Adolescents	<input type="checkbox"/> Oldest old (geriatric)
<input type="checkbox"/> Adults (not specified further)	<input type="checkbox"/> All ages
<input type="checkbox"/> Young adults	<input type="checkbox"/> Other
<input type="checkbox"/> Middle aged adults	

c. What Other Age Descriptors Were Used?

Guideline: If other is checked above, then write other age descriptor using the author's language.

19) Was Gender Specified?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. If yes, specify in the box below. Check all that apply.

<input type="checkbox"/> Female	<input type="checkbox"/> Transgender
<input type="checkbox"/> Male	

20) Were Race And/Or Ethnicity Specified?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

a. If yes, specify in box below

(write-in box in Access)

21) Were Diagnoses or Populations Were Specified?

Guideline: This can include populations such as prison inmates, war veterans. Use DSM IV language when applicable for diagnoses.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Additional Diagnoses Were Specified?

Guideline: If yes, then list any diagnoses used to describe participants.

Note: For Personality Disorder, refer to this as specified when coding-not unspecified. If unspecified, code Borderline Personality Disorder.

22) Were Any Other Descriptors Used?

Guideline: Check yes if descriptors not captured in any of the above categories were used. Exclude outcome measures. For example, "spastic" would go here in relation to diagnosis of Cerebral Palsy above.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Additional Descriptors of Participants Were Specified?

Guideline: If yes, then describe any additional descriptors using the language of the authors that may not have been captured in any of the above categories.

23) What was total participant population initially enrolled in study (N=?)

Guideline: Include number of all participants in all groups.

(write-in box in Access for numbers)

- a. Explain any oddities about sample (drop-outs, etc.)

24) Were There Assessment Measures Used to Describe EAAT Participants?

Guideline: To be standardized, the assessment must be referenced in peer-reviewed literature.

Guideline: Do not code assessments here that are also used as outcome measures in pre-post research designs. Assessment measures to describe participants are mutually exclusive with outcome measures.

Guideline: Add here assessments used for inclusion/exclusion criteria or baseline measures that are not used as an outcome measure.

Yes No

- a. If yes, fill out table below.

Name of Tool	Standardized?	What Does the Tool Measure?
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	

25) Were inclusion criteria specified?

Yes No

Guideline: Inclusion criteria do not have to be explicit but do not over-interpret, but must be fairly obvious. Do not confuse with sampling strategies. Use author’s original groupings (i.e. if authors stated “no previous experience on a horse” as inclusion criteria, code as inclusion criteria).

- a. If Yes, Write in Below.

26) Were exclusion criteria specified?

Yes No

Guideline: Exclusion criteria do not have to be explicit but do not over-interpret, but must be fairly obvious. Do not confuse with sampling strategies. Use author’s original groupings (i.e. if authors stated “no previous experience on a horse” as inclusion criteria, code as inclusion criteria, not exclusion).

- a. If Yes, Write in Below.

SECTION IV. PRACTITIONERS, HORSES, AND FACILITIES INVOLVED IN EAAT

Guideline: Any information about horses should be provided in this section, including if horses were described as research ‘participants’ or if data was gathered about the horse.

Guideline: Yes may be checked for the following questions for both research and non-research papers.

27) Was Any Information Provided About Practitioners?

Guideline: Check yes if one or more practitioners are described with detail further than just “instructor”.

Guideline: If research paper, practitioner information must be related to specific study.

Guideline: If an intervention study, this question applies only to the practitioner involved in the intervention (not side-walkers, horse leaders, etc)

Guideline: for OTAs check Occupational Therapy, and PTAs check Physical Therapy

Yes No

a. Check all that apply

<input type="checkbox"/> Equine Professional	<input type="checkbox"/> Social Worker
<input type="checkbox"/> Occupational Therapist	<input type="checkbox"/> Mental health professional not otherwise specified
<input type="checkbox"/> Physical Therapist	<input type="checkbox"/> Speech/Language Pathologist
<input type="checkbox"/> Psychologist	<input type="checkbox"/> Therapeutic Riding Instructor
<input type="checkbox"/> Recreational therapist	<input type="checkbox"/> Other certifications or backgrounds

1) If checked other, describe other practitioners.

28) Were Other Certifications, Backgrounds, or Trainings Identified? (E.g. NARHA, PATH, drug-alcohol certification, Intervention-Specific Training)

Guideline: This question applies only to practitioners described in question 25 (not side-walkers, horse leaders, etc.). This is a broad question that can include any information given, even if it is vague.

Yes No

(Write-in in Access)

29) Was Any Information Provided about Horses or Horse-Specific Equipment Involved in the Intervention?

Guideline: Check yes if any type of information at all about the horses is provided, including but not limited to horse qualities (age, size, breed, temperament, selection criteria), how horses were obtained (e.g., donated, purchased), horses’ backgrounds or histories, how horses are cared for or maintained, training of horses for EAAT, frequency of usages in EAAT, how horses move, etc.

Guideline: This is only about the qualities of the horse that stand apart from the intervention (e.g. matching horse to participant is not coded here).

Yes No

a. What Specific Information about the horses or horse-specific equipment was provided?

Guideline: If yes is checked above, then describe in detail information provided in the paper about the horse(s).

Guideline: Use of riding helmets or other safety equipment can be coded here.

30) Were There Assessment Measures Used to Describe Horses?

Guideline: To be standardized, the assessment must be referenced in peer-reviewed literature. Do not include outcome measures used in pre-post research designs.

Guideline: When article refers to aspects of the horse for matching them to participant, code this information in Section V: Descriptors of EAAT Interventions (Were details of EAAT-related Interventions Provided?).

Yes No

a. If yes, fill out table below.

Name of Tool	Standardized?	What Does the Tool Measure?
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	

31) Was the Name of the Facility or Program Provided?

Guideline: Location of the facility is coded here. If the facility name is not given, then code location under Key Impressions.

Yes No

(write-in)

32) Was Any Information Provided about the Facility or Program in which the Intervention Occurred?

Guideline: Check yes if any type of information at all about the facility or facilities is provided above and beyond just the name of the facility or program, including but not limited to considerations of tax status (e.g., not for profit), insurance or certifications specific to provision of EAAT

Yes No

a. What Information about the Facility or Facilities was Provided?

Guideline: If yes is checked, then describe in detail information in the paper on the facility or facilities:

SECTION V. DESCRIPTORS OF EAAT INTERVENTIONS

Guideline: If research article, information in this section should come exclusively from the Methods section.

Control group: The group of subjects in a controlled clinical trial that receives no treatment, a standard treatment or a placebo.

Experimental group: a group of subjects exposed to the variable of an experiment, as opposed to the control group.

Guideline: If group-comparison research, the questions below pertain only to the experimental group, not the control group.

Guideline: Must check Yes to only 30 or 32 (Not both).

Guideline: Yes may be checked for the following questions for both research and non-research papers as long as the paper describes interventions.

33) Does this Paper Predominantly Focus on One Primary Type of Equine Assisted Activity (EAA) OR Therapy (EAT)?

Guideline: Check yes if one type of EAAT is clearly the predominant focus of the paper even if other types of EAAT are also addressed. To check yes, consider BOTH equine-assisted activities AND therapies. If check yes continue to #31. If check no skip #31.

Guideline: If there is no primary focus, but more than one focus – both of equal importance – code “no primary focus” and code both under secondary focus.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

a. What primary type of equine assisted **ACTIVITY** is the focus of this paper?

*Guideline: If yes is checked above AND the primary type of EAAT involves equine assisted activity, then classify according to the exhaustive and mutually exclusive categories below. Use definitions in document for 30a (definitions in quotations are from Path International.) Check only **one** box. Check ‘none’ if the type of EAAT involves equine assisted therapies. Check “other” if the intervention is described by authors in ways that significantly differ from the definitions below.*

- **Equine assisted activity:** “any specific center activity, e.g., therapeutic riding, mounted or ground activities, grooming and stable management, shows, parades, demonstrations, etc., in which the center’s clients, participants, volunteers, instructors and equines are involved”
- **Equine assisted/facilitated learning:** “an educational approach to equine-assisted activities. EFL content is developed and organized by credentialed practitioners with the primary intent to facilitate personal growth and development of life skills through equine interactions.”
- **Therapeutic driving:** “Offers students with physical, mental, sensory or emotional disabilities the rewards of interaction and control of a horse or pony while driving from a carriage seat or in their own wheelchair in a carriage modified to accommodate their wheelchair.”
- **Therapeutic horsemanship (unspecified):** This category is intended to capture therapeutic ground work that is not otherwise specified as involving driving, vaulting.
- **Therapeutic riding:** “an equine-assisted activity for the purpose of contributing positively to the cognitive, physical, emotional and social well-being of individuals with special needs.”
- **Therapeutic vaulting:** “an activity in which the students perform movements on and around the horse. These movements can be very simple such as sitting without holding onto the surcingle or a more elaborate compulsory move such as kneeling or standing on the horse. It all depends on the individual needs of the vaulter.”

<input type="checkbox"/> None	<input type="checkbox"/> Therapeutic Horseback Riding/Therapeutic Riding
<input type="checkbox"/> Equine-Assisted Activities (EAA) (unspecified)	<input type="checkbox"/> Therapeutic Vaulting
<input type="checkbox"/> Equine-Assisted/Facilitated Learning (EAL/EFL)	<input type="checkbox"/> Other
<input type="checkbox"/> Therapeutic Driving	
<input type="checkbox"/> Therapeutic Horsemanship (unspecified)	

i. How do the authors differently describe the primary EAA that they focused on?

Guideline: If different from the definitions of the above categories or if 'other' is checked, then describe how the authors differently described the primary equine assisted activity that they focused on here.

b. What primary type of equine assisted **THERAPY** is the focus of this paper?

Guideline: If yes is checked above AND the primary type of EAAT involves equine assisted therapy then, then classify according to the exhaustive and mutually exclusive categories below. Use definitions in document for 30b (definitions in quotations are from Path International.) Check only **one** box. Check 'none' if the type of EAAT involves equine assisted activities. Check "other" if the intervention is described by authors in ways that significantly differ from the definitions below.

- **Equine assisted therapy (unspecified):** "Treatment that incorporates equine activities and/or the equine environment. Rehabilitative goals are related to the patient's needs and the medical professional's standards of practice."
- **Equine facilitated psychotherapy:** "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." Check this box if the intervention is referred to as equine assisted psychotherapy.
- **Hippotherapy:** "A physical, occupational or speech therapy treatment strategy that utilizes equine movement... The term hippotherapy refers to the use of the movement of the horse as a treatment strategy by physical therapists, occupational therapists and speech/language pathologists to address impairments, functional limitations and disabilities in patients with neuromotor and sensory dysfunction. This treatment strategy is used as part of an integrated treatment program to achieve functional goals." Only check hippotherapy if the credentials of the therapist (OT/PT/SLP) are indicated in paper itself or author credentials.
- **Onototherapy:** Onototherapy is checked if the intervention meets the definition for hippotherapy but involves a donkey or mule rather than a horse.

<input type="checkbox"/> None	<input type="checkbox"/> Hippotherapy
<input type="checkbox"/> Equine-Assisted Therapy – Not Otherwise Specified	<input type="checkbox"/> Onototherapy
<input type="checkbox"/> Equine-Assisted/Facilitated Psychotherapy (EAP/EFP)	<input type="checkbox"/> Other

i. How do the authors differently describe the primary EAT that they focused on?

Guideline: If different from the definitions of the above categories or if 'other' is checked, then describe how the authors differently described the primary equine assisted therapy that they focused on here.

34) Does the Paper Additionally Focus on Another Type or Types of EAAT?

Guideline: Only address this question if check yes to #30. Check yes if, in addition to the paper's primary type of EAAT, another type or types of EAAT are also addressed.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Type or Types of EAA Does this Paper Additionally Address?

Guideline: If yes is checked, check which types of EAA are addressed. Do not check a box corresponding with the primary focus of the paper as this should be indicated in 30a. Since secondary types of EAA are not exhaustive and mutually exclusive, check all boxes that apply.

<input type="checkbox"/> None	<input type="checkbox"/> Therapeutic Horseback Riding/Therapeutic Riding
<input type="checkbox"/> Equine-Assisted/Facilitated Learning (EAL/EFL)	<input type="checkbox"/> Therapeutic Vaulting
<input type="checkbox"/> Therapeutic Driving	<input type="checkbox"/> Other
<input type="checkbox"/> Therapeutic Horsemanship (unspecified)	

ii. What Secondary type or Types of EAA is meant by "other"?

Guideline: If different from the definitions of the above categories or if 'other' is checked, then describe how the authors differently described the primary equine assisted activity that they focused on.

b. What Type or Types of EAT Does this Paper Additionally Address?

Guideline: If yes is checked, check which types of EAT are additionally addressed. Do not check a box corresponding with the primary focus of the paper as this should be indicated in 30b. Since secondary types of EAT are not exhaustive and mutually exclusive, check all boxes that apply.

<input type="checkbox"/> None	<input type="checkbox"/> Hippotherapy
<input type="checkbox"/> Equine-Assisted Therapy – Not Otherwise Specified	<input type="checkbox"/> Onotherapy
<input type="checkbox"/> Equine-Assisted/Facilitated Psychotherapy (EAP/EFP)	<input type="checkbox"/> Other

i. What Secondary type or Types of EAT is meant by “other”?

Guideline: If different from the definitions of the above categories or if ‘other’ is checked, then how do the authors differently describe the primary equine assisted therapy that they focused on.

35) Does the Paper Focus on Two or More Types of Equine Assisted Activity or Therapy, None of Which are Primary?

Guideline: This question is mutually exclusive with #30. If checked no at #30, check yes here. Paper should address 2 or more types of EAAT none of which are primary.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Type or Types of EAA Does this Paper Address?

Guideline: If yes is checked, check all types of EAA are addressed.

<input type="checkbox"/> None	<input type="checkbox"/> Therapeutic Horseback Riding/Therapeutic Riding
<input type="checkbox"/> Equine-Assisted/Facilitated Learning (EAL/EFL)	<input type="checkbox"/> Therapeutic Vaulting
<input type="checkbox"/> Therapeutic Driving	<input type="checkbox"/> Other
<input type="checkbox"/> Therapeutic Horsemanship (unspecified)	

iii. What Secondary type or Types of EAA is meant by “other”?

Guideline: If different from the definitions of the above categories or if ‘other’ is checked, then describe how the authors differently described the primary equine assisted activity that they focused on.

b. What Type or Types of EAT Does this Paper Address?

Guideline: If yes is checked, check all types of EAAT that are addressed.

<input type="checkbox"/> None	<input type="checkbox"/> Hippotherapy
<input type="checkbox"/> Equine-Assisted Therapy – Not Otherwise Specified	<input type="checkbox"/> Onotherapy
<input type="checkbox"/> Equine-Assisted/Facilitated Psychotherapy (EAP/EFP)	<input type="checkbox"/> Other

i. What Secondary type or Types of EAT is meant by “other”?

Guideline: If different from the definitions of the above categories or if ‘other’ is checked, then how do the authors differently describe the primary equine assisted therapy that they focused on.

36) Were Theorized or Hypothesized Influences On Positive EAAT Outcomes Described?

Guideline: Check yes if there is any clear theorized or hypothesized explanation of what influences or causes (e.g., independent variable, mechanism of action) positive changes resulting from EAAT. This is regarding to theory about **WHY** EAAT may work, and must directly relate to how the intervention is developed and outcomes are achieved. Click yes if theory is presented anywhere in the article.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Favorable Influences Upon or Causes of Positive EAAT Outcomes Were Discussed or Specified?

Guideline: Check all that apply.

<input type="checkbox"/> Benefits of other therapeutic practices (e.g. CBT, SLP) <input type="checkbox"/> Cerebellar stimulation <input type="checkbox"/> Connection with nature/spiritual connection <input type="checkbox"/> EAAT inherently motivates participation <input type="checkbox"/> Exposure therapy <input type="checkbox"/> Group reflection of equine experience <input type="checkbox"/> Handling the horse <input type="checkbox"/> Horse-human interaction (relationship, bond) <input type="checkbox"/> Interaction with involved practitioners/helpers/volunteers <input type="checkbox"/> Learning a new skill <input type="checkbox"/> Movement of the horse (pelvic movement, proprioceptive input from movement)	<input type="checkbox"/> Physical exercise <input type="checkbox"/> Qualities of the barn/stable/outdoor environment (context) <input type="checkbox"/> Recreation or leisure benefits <input type="checkbox"/> Responsibility of taking care of a horse <input type="checkbox"/> Sensory activities while on the horse <input type="checkbox"/> Size and power of the horse <input type="checkbox"/> Social interactions/skills <input type="checkbox"/> Strength-based (capitalize on participants' strengths and abilities) <input type="checkbox"/> Task-related behaviors (problem solving tasks, sequencing tasks) <input type="checkbox"/> Temperature of the horse
--	---

b. What Other Explanations of Positive EAAT-related Outcomes were Given?

Applied Behavioral Analysis- Differential reinforcement during therapy can reduce negative behaviors and increase positive behaviors (e.g. the instructor/ volunteers praise the child for social behaviors, the child is allowed to trot if he does a targeted behavior, the horse naturally reinforces good communication by trotting when the child says trot and stopping when the child says halt)

Archetypes of animals (including the horse) are important for psychological well-being (Jung; Serpell; & Wilson, as cited in Burgon, 2003).

Being in the Moment: Horses can help people be present and not overpowered by intrusive thoughts, hyper-arousal, depression, etc. (Duncan et al., 2014).

Body image restoration – “motor and emotional dynamics that occur when the rider is on the horse result in body image restoration, encouraging physical and psychic balance. The feeling is developed by the movement of the animal generates a feeling of freedom in the rider, which can lead to an improved sense of well-being” (Beinotti, 2013, p. 231).

Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). In animal-assisted therapy, the animals are usually brought into institutional settings, where going to a horse facility affords a much more rich and stimulating environment.

Holistic Activity – Refers to the view that meaningful activities on a horse are fun and motivating while also naturally effective in integrating basic motor, vestibular/cerebellar, sensory skills with higher order cognitive skills and functional task performance. Key point here is that EAAT can't be divided into component parts (from Shurtleff et al, 2009).

Horse-human interaction – refers to relationship, bond

Massed and Variable Practice: - refers to the view that “hippotherapy provides massed but variable practice of 3000 to 5000 repetitions of a forced-used postural challenge and trunk/head righting exercise per 45-min sessions” (from Shurtleff et al, 2009).

Movement of the horse – refers to pelvic movement, recruits large muscle groups, manipulation of the body through the horse's movement, proprioceptive input.

“Multiple Domains of Functioning”- EAAT simultaneously stimulates multiple domains of functioning, including motor, cognitive, and social domains (Bass, Duchowny & Llabre, 2009)

Problem-solving tasks – refer to cognitive problem-solving (not motor problem-solving)

Safe and non-judgmental environment: people and horses.

Sensory activities while on the horse – for example walking on different types of trails, listening to music, touching different textures

Transference and projections issues with horse. These arise in the here-and-now during equine activities and help to resolve unfinished business. Transference reactions are easier and less complicated to address with the horse than with the therapist (Klontz et al., 2007)

Virtual cycle – refers to the view that initial benefits of EAAT may facilitate more engagement in everyday activities and functional capacity development, or other benefits, stemming from that increased engagement (from Shurtleff et al, 2009).

Whole Body Participation- EAAT requires activation of the whole body, thus increasing strength, muscle tone, flexibility, relaxation, body awareness, and enhanced motor coordination and balance

Guideline: If other was checked, then provide a written description of the explanation.

37) Were Details of EAAT-related Interventions Provided?

Guideline: Check yes if any explanation of what actually occurred during the intervention was provided. If no, skip to question 35.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. What Therapeutic Interventions During Sessions Were Described?

Guideline: If yes above, then check all that apply.

<input type="checkbox"/> Activities on the horse (put ball in basket, ring on cone, etc.) <input type="checkbox"/> Application of experience to daily life <input type="checkbox"/> Barn activities and maintenance (mucking stalls, playing in the hay, etc.) <input type="checkbox"/> Being with the horse (as in “in the moment”) <input type="checkbox"/> Body language communication <input type="checkbox"/> Cognitive tasks <input type="checkbox"/> Family Participation <input type="checkbox"/> Following verbal commands <input type="checkbox"/> Gait and speeds (walk, trot, canter) <input type="checkbox"/> Getting to know the horse <input type="checkbox"/> Grooming the horse <input type="checkbox"/> Groundwork <input type="checkbox"/> Group Session <input type="checkbox"/> Holding the reins <input type="checkbox"/> Integration of other therapeutic practices (CBT, SLP, play-therapy, etc) <input type="checkbox"/> Individual Session <input type="checkbox"/> Matching the horse to the participant for the intervention	<input type="checkbox"/> Memory skills <input type="checkbox"/> Perceptual / spatial skills <input type="checkbox"/> Riding ground course (Obstacles used like ground poles, cones, barrels, hills; or figures like serpentine, figure 8) <input type="checkbox"/> Riding the horse <input type="checkbox"/> Riding the horse in different positions (prone, backwards, sideways, standing, etc.) <input type="checkbox"/> Safety behaviors <input type="checkbox"/> Sensory activities (touch the hay, smell the horse, etc.) <input type="checkbox"/> Speech and Language Activities <input type="checkbox"/> Social Activities <input type="checkbox"/> Steering the horse (as opposed to the therapist/instructor steering) <input type="checkbox"/> Stretching/strengthening/exercise activities (not on the horse—before or after) <input type="checkbox"/> Stretching/strengthening/exercise activities (while on the horse) <input type="checkbox"/> Tacking the horse <input type="checkbox"/> Vaulting (on the horse) <input type="checkbox"/> Other
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iv. What other interventions were described?

Groundwork: activities with the horse including leading, to develop horsemanship skills, exercises to develop bond, or leadership qualities. Could be done online (with halter and leadrope) or “at liberty” with no ropes or tack involved (horse is naked!) in a round pen, arena, obstacle course, etc. (Does not include grooming or tacking up).

Guideline: If other was checked, then provide a written description of the explanation.

38) Were Numbers or Durations of Intervention Sessions Stated?

Guideline: Check yes if any explanations were provided of how many individual sessions occurred, of how long each session was, or of ‘dosages’.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. Described Stated Durations of EAAT Sessions

Guideline: Provide written description of durations. These can be durations of individual sessions and/or #s of sessions in a designated program.

39) Were any Other Treatments or Therapies in Addition to EAAT Provided to the Experimental Group as Part of the Research Design?

Guideline: If off-the horse processing/reflection that builds upon the horse experience occurs, it does not qualify as other treatment. Check no.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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(write-in in Access)

Not For Distribution

SECTION VI. INTERVENTION OUTCOMES

Guideline: Outcomes in regards to the horse should only be coded under #46 "Other quantitative outcomes" and should be named "Horse-_____"

Guideline: If research, Rely solely on information given in the outcomes section. It is up to the researcher's judgment whether to code the outcome given by the entirety of an outcome measure, or to code outcomes given by individual subscales.

Guideline: Yes may be checked for the following questions for both research and non-research papers as long as the paper describes or claims specific outcomes.

Guideline: If non-research, outcomes coded here should be specific to EAAT interventions only.

40) Were There Assessment Measures for Outcomes?

Guideline: To be standardized, the assessment must be referenced in peer-reviewed literature.

Guideline: The intent of this question is to gather the method(s) the author used to measure outcomes, therefore skilled observation, interview, focus group, as well as standardized assessments should all be coded here.

Guideline: For subjective experience of participant, therapist (or anyone else) that is reported but not analyzed formally as part of the study design, put information in key impressions.

Guideline: For mental health outcomes, if an outcome measure clearly fits a DSM category, code there even if the participants do not have that diagnoses. For example: Beck Depression Inventory we could code under DSM-IV Depressive disorder - article does not specify, even if participants were not identified as having depressive disorder.

Guideline: When adding assessments to the dropdown list, spell out entire name of assessment first, with abbreviations in parentheses afterwards.

Yes No

a. If yes, fill out table below.

Name of Tool	Standardized?	What Does the Tool Measure?
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	
	<input type="checkbox"/> Standardized <input type="checkbox"/> Customized	

41) Were EAAT Outcomes Identified Using DSM-IV Diagnostic Criteria or Language?

Guideline: If any DSM-IV categories were used to describe outcomes of EAAT, describe below in writing. Language and terminology used in the DSM-IV must be explicitly used in article. Use DSM-IV guidelines to make this determination. If no, skip to 39..

Guideline: If you capture items exactly on DSM, then don't also put it into ICF. Check outcomes most obvious and clear (so don't secondarily what is related in ICF if it is less clear there). Check where we have to least read into the author's language.

Guideline on Levels of Significance: Check “statistically-significant” ONLY if it is a research report, and statistics were provided demonstrating a significant change. Check “other important finding” if authors claim there was a clinically-important or somehow other important finding in quantitative studies, qualitative studies, or for outcomes claimed by conceptual articles. “Other important finding” can also be used if the statistics did not show significance but the authors elaborated that results trended in a positive direction, and some benefits were achieved despite not being statistically significant. Check “no finding” if item was measured but no outcome was found.

Yes No

a. Were DSM-IV Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence that were identified and classify the significance of the findings.

<input type="checkbox"/> Attention-deficit and disruptive behavior disorders	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Communication disorders	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Feeding and eating disorders of infancy or early childhood	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Learning disorders	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Mental retardation	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Motor skill disorders (developmental coordination disorder)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other disorders of infancy, childhood, or adolescence (Separation anxiety, Selective mutism, Reactive attachment disorder, Stereotypic movement disorder)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> PDD – Asperger’s disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> PDD - Autistic disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> PDD – Childhood disintegrative disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> PDD - NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> PDD – Rett’s disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Pervasive developmental disorders	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Tic disorders	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
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	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
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b. Were DSM-IV Delirium, Dementia, and Amnestic and other Cognitive Disorders Specified as Outcomes?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to Cognitive Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Dementia – Alzheimer’s type with early onset	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Alzheimer’s type with late onset	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to Creutzfeldt-Jakob disease	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to head trauma	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to HIV disease	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to Huntington’s disease	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to multiple etiologies	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to Parkinson’s disease	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Due to Pick’s disease	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – Vascular dementia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dementia – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

c. Were DSM-IV Substance Related Disorders Specified as Outcomes?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to Substance Related Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Alcohol use disorders – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Amphetamine use disorders – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Cannabis use disorders - dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

<input type="checkbox"/> Cocaine use disorders – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Hallucinogen use disorders – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Inhalant use disorder – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Opioid use disorder – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Phencyclidine use disorder – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Polysubstance-related disorder – dependence	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sedative, hypnotic, or anxiolytic use disorder – dependence or abuse	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Substance related disorder – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

d. Were DSM-IV Schizophrenia Spectrum or Other Psychotic Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Psychotic Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> None	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia - Catatonic type	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia - Disorganized type	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia - Paranoid type	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia - Residual type	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia - Undifferentiated type	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizophrenia – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

e. Were DSM-IV Mood Disorders Were Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Mood Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Depressive disorder - Major depressive disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Depressive disorder - Dysthymic disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Depressive disorder – NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Depressive disorder – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Bipolar disorder - Bipolar 1 disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Bipolar disorder - Bipolar 2 disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Bipolar disorder - Cyclothymic disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Bipolar – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

f. Were DSM-IV Anxiety Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Anxiety Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Agoraphobia without history of panic disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Generalized anxiety disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Obsessive-compulsive disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Panic disorder with agoraphobia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Panic disorder without agoraphobia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Post-traumatic stress disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Social phobia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Specific phobia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Anxiety disorder – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

g. Were DMS-IV Somatoform Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Somatoform Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Body dysmorphic disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Hypochondriasis	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Pain disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Somatoform disorder NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Somatoform disorder – article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

h. Were DSM-IV Dissociative Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Dissociative Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Dissociative amnesia	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dissociative Fugue	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dissociative identify disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Depersonalization disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dissociative disorder NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dissociative disorder - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

i. Were DSM-IV Eating Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Eating Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Anorexia nervosa	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Bulimia nervosa	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Eating disorder NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Eating disorder - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

j. Were DSM-IV Sleep Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Sleep Disorders that were identified and classify the significance of the findings.

Dyssomnias: primary insomnia, primary hypersomnia, narcolepsy, breathing-related sleep disorder, circadian rhythm sleep disorder, delayed sleep phase type, jet lag type, shift work type, unspecified type, dyssomnia NOS.

Parasomnias: nightmare disorder, sleep terror disorder, sleepwalking disorder, parasomnia NOS.

<input type="checkbox"/> Dyssomnias	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Parasomnias	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sleep disorder - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

k. Were DSM-IV Impulse-Control Disorders Not Elsewhere Classified Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Impulse-Control Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Intermittent explosive disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Kleptomania	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Pyromania	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Pathological gambling	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Trichotillomania	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Impulse-control disorder NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Impulse-control disorder - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

l. Were DSM-IV Adjustment Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Adjustment Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Adjustment disorder – with depressed mood	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder – with anxiety	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder – with mixed anxiety and depressed mood	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder – with disturbance of conduct	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder – with mixed disturbance of emotions and conduct	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder – unspecified	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Adjustment disorder - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

m. Were DSM-IV Personality Disorders Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Personality Disorders that were identified and classify the significance of the findings.

<input type="checkbox"/> Antisocial personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Avoidant personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Borderline personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Dependent personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Histrionic personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Narcissistic personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Obsessive-compulsive personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Paranoid personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Schizotypal personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input checked="" type="checkbox"/> Schizoid personality disorder	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Personality disorder NOS	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

n. Were DSM-IV Other Conditions that may be a Focus of Clinical Attention Specified as Outcomes?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Other Conditions that were identified and classify the significance of the findings.

<input type="checkbox"/> Problems of abuse or neglect – physical abuse of child	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Problems of abuse or neglect – sexual abuse of child	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Problems of abuse or neglect – neglect of child	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Problems of abuse or neglect – physical abuse of adult	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Problems of abuse or neglect – sexual abuse of adult	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Problems of abuse or neglect - article does not specify	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

42) Were EAAT Outcomes Identified Related to ICF Bodily Functions?

Guideline: Check yes if any explanation of outcomes that relate to bodily functions as defined by the ICF were provided. Author does not need to use explicit ICF language, it is up to the clinical rational of the researcher to map onto the ICF framework. If there is a direct link to the subdomains listed in the ICF (in boxes below), then interpretation is appropriate. If yes is checked, proceed to the following questions, being certain to check level of significance.

Guideline: For research reports, yes is checked ONLY if identified outcomes were integrated into the research approach (data must be gathered and analyzed, cannot be reported as a subjective sidenote)

Guideline on Levels of Significance: Check “statistically-significant” ONLY if it is a research report, and statistics were provided demonstrating a significant change. Check “other important finding” if authors claim there was a clinically-important or somehow other important finding in quantitative studies, qualitative studies, or for outcomes claimed by conceptual articles. Check “no finding” if item was measured but no outcome was found.

Guideline: The following outcome measures can be coded under ICF BF: Timed-Up and Go Test (TUG) is coded as control of voluntary movement AND gait patterns.

Yes No

a. Were Outcomes Pertaining to Global Mental Functions Identified?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Global Mental Functions that were identified and classify the significance of the findings.

Consciousness – alertness, arousal level, continuity of wakeful state

Energy and Drive (motivation, appetite, impulse control) – energy level, vitality, motivation, impulse control, appetite

Intellectual – understanding and integration of cognitive functions

Orientation (time, place, person) – person, place, time, self, others, past, present

Psychosocial (interpersonal skills, social interactions) – interpersonal skills and social interactions

Temperament and Personality – emotional stability, disposition, confidence

Sleep – amount and onset of sleep, quality, and sleep cycle functions

<input type="checkbox"/> Consciousness	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Energy and Drive (motivation, appetite, impulse control)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Intellectual	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Orientation (time, place, person)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Psychosocial (interpersonal skills, social interactions)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Temperament and Personality	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sleep	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

b. Were ICF Outcomes of Specific Mental Functions Identified?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Specific Mental Functions that were identified and classify the significance of the findings.

Attention – selectivity, sustainability, shifting, divided

Calculation – (Mary Law)

Emotional Functions – Behavioral regulation, and range of emotion, expression of affect (such as happiness, sadness, enjoyment, pleasure, fear...)

Higher level cognitive functions (volition, organization) – volition, organization/planning, purposeful action, self-awareness, self-monitoring, decision making, problem solving, judgment, time management, and coping

Language – reception of spoken, written and sign language and expression of spoken, written and sign language.

Memory – short-term, long-term, and working

Perception – auditory, visual, olfactory, gustatory, tactile, visual-spatial

Psychomotor (appropriate affect, response time, excitement) – and speed of behavior. Excitement: level of excitement/agitation.

Sensory Processing – reception, organization, assimilation, and integration

Sequencing Complex Movement (praxis) - praxis

Thought – ideation, pace of thought, and content

<input type="checkbox"/> Attention	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Calculation	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Emotional Functions	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Higher level cognitive functions (volition, organization)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Language	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Memory	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Perception	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Psychomotor (appropriate affect, response time, excitement)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sensory Processing	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sequencing Complex Movement (praxis)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Thought	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

c. Were ICF Outcomes Pertaining to Sensory Functions or Pain Identified?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Sensory Functions that were identified and classify the significance of the findings.

<input type="checkbox"/> Auditory	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Pain	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Proprioception	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Smell	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Taste	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Touch	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Temperature	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Vestibular	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Visual	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

d. Were ICF Outcomes of Voice and Speech Functions Identified?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to Speech Functions that were identified and classify the significance of the findings

<input type="checkbox"/> Alternative vocalization	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Articulation	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Fluency and rhythm of speech	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Voice	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

e. Were ICF Outcomes of Hematological, Immunological and Respiratory Systems Identified?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to Hematological, Immunological and Respiratory System Functions that were identified and classify the significance of the findings

<input type="checkbox"/> Cardiovascular (heart rate)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Haematological (blood pressure)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Immunological	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Respiratory system (breathing)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

f. Were ICF Outcomes Related to Digestive, Metabolic and Endocrine Systems Identified?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to Digestive, Metabolic and Endocrine System Functions that were identified and classify the significance of the findings.

<input type="checkbox"/> Related to digestive system	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Related to endocrine system	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Related to metabolism	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

g. Were Outcomes of Musculoskeletal and Movement-related Functions Identified?

Yes No

i. If Yes, Classify Findings. Check All that Apply.

Statistically-significant Other Important Finding No Finding

ii. If provided, specify in detail outcomes related to Musculoskeletal and Movement-related Functions that were identified and classify the significance of the findings.

Mobility of joint – PROM and AROM

Muscle power – pinch, grip, force

Muscle tone – quality

Control of voluntary movement – coordination (dexterity, gross motor, bilateral integration), motor execution. Balance, posture.

Involuntary movement – unconscious movement

Balance – see “control of voluntary movement”

Gait – gait patterns

Quality of Life – code in “other outcomes”

Joints and Bones	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Mobility of joint	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Mobility of bone	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Stability of joint	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
Muscle	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Muscle endurance	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Muscle power	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Muscle tone	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
Movement	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Control of voluntary movement	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Gait patterns	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Involuntary movement	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Motor reflex	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Sensations related to muscle and movement	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Other			

iii. If Other Outcomes Related to Bodily Functions Were Identified, What Were They?

Guideline: Describe outcomes marked as “other” above, or any other outcomes that appear to relate to bodily function, including whether they were statistically significant or not assuming the paper met the criteria for research.

43) Were EAAT Outcomes Identified Related to ICF Bodily Structures?

Guideline: Check yes if any explanation of outcomes that relate to bodily structures as defined by the ICF were provided. If yes, proceed to the following questions, being certain to check if statistically Significant were identified. In order for a finding to be identified as statistically significant, the paper must report on a specific research study, meeting all criteria for research.

Guideline: Author does not need to use explicit ICF language, it is up to the clinical rational of the researcher to map onto the ICF framework. If there is a direct link to the subdomains listed in the ICF (in boxes below), then interpretation is appropriate.

Yes No

a. If Yes, What Bodily Structure Outcomes were Described?

44) Were EAAT Outcomes Identified Related to Activity/Participation in the ICF?

Guideline: Author does not need to use explicit ICF language, it is up to the clinical rational of the researcher to map onto the ICF framework. If there is a direct link to the subdomains listed in the ICF (in boxes below), then interpretation is appropriate.

Guideline: Refer to ICF definitions of Activity and Participation when considering where to code outcomes. "Activity is the execution of a task or action by an individual. Participation is involvement in a life situation" (WHO, 2002, p. 10).

Examples of Outcome Measures that measure activity/participation are: The Timberlawn Parent-Child Interaction Scale, and The Activity Card Sort, Barthel Index (self-care) (keep adding examples as you come across them and notify the team of changes you make).

Guideline: In order to code as activity/participation the outcome must be related to task behavior that occurs in any context.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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i. If Yes, Classify Findings. Check All that Apply.

<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
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ii. If provided, specify in detail outcomes related to activity/participation that were identified and classify the significance of the findings.

Civic participation – political life, citizenship, human rights, and advocacy

Communication (reception and production) – receiving and producing (verbal, nonverbal, written, sign language), conversation and use of communication devices and techniques

Domestic life (household tasks) – acquisition of a place to live, acquisition of goods and services, preparing meals, doing housework, caring for household objects, assisting others

Education – informal, preschool, school

General tasks and demands (single task, routine) – undertaking a single task, undertaking multiple tasks, carrying out daily routine, handling stress and other psychological demands

Interpersonal interactions and relationships – general interpersonal interactions, informal social relationships, formal relationships, relating with strangers, family relationships, intimate relationships

Learning and applying knowledge – purposeful sensory experiences (watching, listening), basic learning (copying, learning to read, learning to calculate, rehearsing, learning to write, acquiring skills), and applying knowledge (focusing attention, thinking, reading, writing, calculating, solving problems, making decisions).

Recreation and leisure - sports, arts and culture, crafts, hobbies

Work – apprenticeship; acquiring, keeping, and terminating a job; remunerative employment; non-remunerative employment

<input type="checkbox"/> Carrying and Handling Objects	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Civic Participation	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Communication (reception and production)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Community Participation	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Domestic life (household tasks)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Education	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> General tasks and demands (single task, routines)	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Interpersonal interactions and relationships	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Learning and applying knowledge	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Play	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Recreation and Leisure	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding
<input type="checkbox"/> Religion and Spirituality	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other important finding	<input type="checkbox"/> No finding

<input type="checkbox"/> Self-care			
<input type="checkbox"/> Walking and Moving			
<input type="checkbox"/> Work			
<input type="checkbox"/> Any other activity			

45) Where Were Outcomes Measured?

- | |
|---|
| <input type="checkbox"/> Community
<input type="checkbox"/> Contrived health care or research setting
<input type="checkbox"/> EAAT Context
<input type="checkbox"/> Home
<input type="checkbox"/> School
<input type="checkbox"/> Work
<input type="checkbox"/> Other* |
|---|

*(write- in for other)

46) Were Any Other Additional Quantitative Outcomes Identified?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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a. If yes, write-In additional outcomes and classify their significance

Guideline: Include all quantitative finding not captured elsewhere in the tool, including personal factors.

Guideline: Mutually exclusive significance, only check one level of significance for each outcome.

Guideline: Any outcomes related to the horse should be coded as "horse – _____" (horse as a prefix) to differentiate between people and horse outcomes.

Guideline: Horse outcomes related to horse height, wither height, or hands high, can be coded as the outcome "height of withers."

<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding
<input type="checkbox"/>	<input type="checkbox"/> Statistically-significant	<input type="checkbox"/> Other Important Finding	<input type="checkbox"/> No Finding

47) Were Any Additional Qualitative Findings or Outcomes Identified?

Guideline: If themes were provided list major themes with brief description. Remain close to author's language and quote when possible.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
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(Write In Access)

VII. LEVELS OF EFFECTIVENESS, APPROPRIATENESS & FEASIBILITY

Guideline: This section should only be completed for papers classified as research.

48) Does this Paper Provide Empirical Evidence of Effectiveness or Ineffectiveness Regarding the Intervention?

Guideline: Effectiveness relates to “whether the intervention achieves intended outcomes and so is concerned with issues such as: Does the intervention work? What are the benefits and harm? Who will benefit from its use?” (Evans, 2003, p. 80).

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

- a. If yes, explain the nature of the evidence

(Write-In Access)

49) Does this Paper Provide Empirical Evidence of Appropriateness or Inappropriateness Regarding the Intervention?

Guideline: Appropriateness addresses “the impact of the intervention from the perspective of its recipient. It is concerned with the psychosocial aspects of care reflected in questions like: What is the experience of the consumer? What health issues are important to the consumer? Does the consumer view the outcomes as beneficial?” (Evans, 2003, p. 81).

Guideline: Only check yes if information is given from the viewpoint of people coded as participants in section III. The data must explicitly represent the participants’ perspectives.

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

- a. If yes, explain the nature of the evidence

(Write-In Access)

50) Does this Paper Provide Empirical Evidence of Feasibility or Lack of Feasibility Regarding the Intervention?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

- a. If yes, explain the nature of the evidence

(Write-In Access)

SECTION VIII. KEY IMPRESSIONS

51) Write key impressions about this article below.

Write things that stand out about the article, characteristics or qualities, things that stand-out or are unusual about the article, what strikes you, your overall impressions that will help you distinguish and remember this article from others.

For example: This article seems to be translated from another language and has poor usage of English. "I loved this article." "This has one of the clearest definitions I have seen about EAAT theory."

Write in if you do not agree with what the authors stated as study design, etc. Anything that bugs you, you like, caveats, whatever stands out.

If there is any doubt about how you chose to code something, explain that here.

Not For Distribution

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APPENDIX B

Year, First Author, Paper Type (Design)	Type of EAAT and Provider	Participants (Diagnosis and age)	Theory	Intervention	Outcomes
1994, Cawley, Roger C., Cawley, Doreen J. and Retter, Kristen Research (single group quasi-experimental)	Therapeutic horseback riding/Therapeutic riding Therapeutic riding instructor	<ul style="list-style-type: none"> • Intellectual disability • Learning disability • Emotional difficulties (general) Age: 11-21 years	<ul style="list-style-type: none"> • Physical exercise • Safe and non-judgmental environment: people and horses 	<ul style="list-style-type: none"> • Group session • Holding the reins • Matching the horse to the participant for the intervention • Riding the horse • Taking the horse • Caring for the horse 	<ul style="list-style-type: none"> • Not specified
1994, Tyler, Judith J. Non-research (editorial)	Equine-assisted/facilitated psychotherapy, therapeutic horsemanship	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Cerebral palsy • Down Syndrome • Intellectual disability • Visual impairment • Learning disability • Behavioral difficulties (general) • Emotional difficulties (general) • Spina bifida • Depression • Attention deficit/hyperactive disorder • Hearing impairment • Multiple Sclerosis 	<ul style="list-style-type: none"> • Movement of the horse (pelvic movement, proprioceptive input from movement) • Qualities of the barn/stable/outdoor environment (context) • Calming effect of horse • Being in the moment • Building a mutual trusting relationship with horse • Positive experience 	<ul style="list-style-type: none"> • Grooming the horse • Group session • Matching the horse to the participant for the intervention • Riding the horse • Stroking and talking to the horse 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interaction)- Other important finding • Language- Other important finding

		<ul style="list-style-type: none"> • Amputation • Muscular Dystrophy • Communication Disorder (general) • Sexual abuse/trauma • Abuse • Personality Disorder • Relationship difficulties (general) • Oppositional Defiant Disorder • Trauma (significant life event) • Brain Damage • Paralysis <p>Ages: young children, adolescents, adults</p>			
2001, Bowers, Mark J. Research (single group quasi-experimental)	Equine-assisted/facilitated psychotherapy Therapeutic riding instructor, volunteer	<ul style="list-style-type: none"> • Learning disability • Mood disorder (general) • Eating disorder • Abuse • At-risk • Drug abuse/addiction <p>Ages: 14-18 years old</p>	<ul style="list-style-type: none"> • Benefits of other therapeutic practices (e.g. CBT, SLP) • Horse-human interaction (relationship, bond) • Size and power of the horse • Social interaction/skills • Temperature of the horse • Attachment theory • Horse is a mirror/metaphor • Active engagement in therapy • Safe and non-judgemental environment: people and horses 	<ul style="list-style-type: none"> • Application of experience to daily life • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Grooming the horse • Group session • Riding the horse • Tacking the horse 	<ul style="list-style-type: none"> • Higher level cognitive functions (volition, organization) – No finding

			<ul style="list-style-type: none"> • Natural horsemanship • Horse is sensitive to human beings • Human-animal contact 	<ul style="list-style-type: none"> • Caring for the horse • Natural horsemanship techniques of 'shoo' and 'join up' 	
2002, Bates, A. Non-research (literature review)	Therapeutic horseback riding/therapeutic riding, equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> • Emotional difficulties • Eating disorder • Borderline personality disorder • Schizophrenia • Abuse <p>Ages: Not specified</p>	<ul style="list-style-type: none"> • Qualities of the barn/stable/outdoor environment (context) • Size and power of the horse • Calming effect of the horse • Learning a new skill(s) to build self-esteem 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Not specified
2002, Vidrine, Maureen, Owen-Smith, Patti and Faulkner, Priscilla Non-research (conceptual/theoretical)	Equine-assisted/facilitated psychotherapy, therapeutic horseback riding/therapeutic riding Psychologist, psychotherapist, nurse	<ul style="list-style-type: none"> • Intellectual disability • Behavioral difficulties (general) • Emotional difficulties (general) • Sexual abuse/trauma • Abuse • Relationship difficulties • Foster children <p>Ages: young children, adolescents</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Movement of the horse (pelvic movement, proprioceptive input from movement) • Size and power of the horse • Social interactions/skills • Symbolic Interactionism • Horse is a mirror/metaphor • Vygotsky's Theory on social development • Being in the moment • Equine qualities 	<ul style="list-style-type: none"> • Family participation • Gait and speeds (walk, trot, canter) • Getting to know the horse • Grooming the horse • Group session • Individual session • Riding the horse • Riding the horse in different positions (prone, backwards, sideways, standing, etc.) • Social activities • Stretching/strengthening/exercising activities (not on 	<ul style="list-style-type: none"> • Movement: control of voluntary movement – Other important finding • Interpersonal interactions and relationships – Other important finding

			<ul style="list-style-type: none"> • Preverbal experiences • Experiential theory • Unpredictability of equine environment 	<p>the horse – before or after)</p> <ul style="list-style-type: none"> • Tacking the horse • Vaulting (on the horse) • Learning new moves on the stationary barrel prior to riding 	
<p>2003, Hauser, Gundula</p> <p>Non-research (case report)</p>	<p>Therapeutic vaulting, systematic counseling</p> <p>Physical therapist</p>	<ul style="list-style-type: none"> • Eating disorder • Depression <p>Ages: 19 years old</p>	<ul style="list-style-type: none"> • Benefits of other therapeutic practices (e.g. CBT, SLP) • Connection with nature/spiritual connection • Horse-human interaction (relationship, bond) • Temperature of the horse • Horse is a mirror/metaphor • Projection of participant's wants/difficulties onto the horse • Communication (verbal and non-verbal) • Sensorimotor improvement • Holistic activity • Body image restoration • Being in the moment • Whole-Body Participation • Relaxation 	<ul style="list-style-type: none"> • Application of experience to daily life • Being with the horse (as in “in the moment”) • Body language communication • Gait and speeds (walk, trot, canter) • Getting to know the horse • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Riding the horse • Caring for the horse • Sensory awareness • Energy exercises 	<ul style="list-style-type: none"> • Not specified

			<ul style="list-style-type: none"> • Horse is sensitive to human beings • Building a mutual trusting relationship with horse • Positive experience • Breathing techniques 		
<p>2003, Bizub, Anne L., Joy, Ann and Davidson, Larry</p> <p>Research (qualitative-unspecified)</p>	<p>Therapeutic horseback riding/therapeutic riding,</p> <p>Therapeutic riding instructor</p>	<ul style="list-style-type: none"> • Schizophrenia • Substance abuse • Personality disorder <p>Ages: 26-46 years old</p>	<ul style="list-style-type: none"> • EAAT inherently motivates participation • Horse-human interaction (relationship, bond) • Social interactions/skills • Motivation • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). • Normalizing effect of horses 	<ul style="list-style-type: none"> • Getting to know the horse • Grooming the horse • Group session • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Riding the horse • Tacking the horse 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding
<p>2003, Burgon, Hannah</p> <p>Research (qualitative-unspecified)</p>	<p>Equine-assisted therapy NOS</p> <p>Physical therapist</p>	<ul style="list-style-type: none"> • Depression • Schizophrenia • Psychotic illness (unspecified) • Nervous breakdowns 	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Horse is a mirror/metaphor 	<ul style="list-style-type: none"> • Grooming the horse • Group session • Matching the horse to the 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interaction) – Other

		Ages: 30-40 years old	<ul style="list-style-type: none"> • Safe and non-judgmental environment: people and horses • Archetypes of animals (including the horse) are important to psychological well-being. Inhabit our psyche 	<p>participant for the intervention</p> <ul style="list-style-type: none"> • Riding the horse • Tacking the horse • Group discussions about horse-related topics 	<p>important finding</p> <ul style="list-style-type: none"> • Muscle power – Other important finding • Attention – Other important finding • Domestic life (household tasks) – Other important finding • Recreation and leisure – Other important finding • Work – Other important finding
2003, Cumella, Edward J. Non-research (literature review)	Equine-assisted/facilitated psychotherapy, equine-assisted therapy NOS Equine professional	<ul style="list-style-type: none"> • Eating disorder <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Exposure therapy • Handling the horse • Horse-human interaction (relationship, bond) • Learning a new skill • Recreation or leisure benefits • Size and power of the horse • Social interaction/skills • Positive reinforcement for communication • Motivation 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Not specified

			<ul style="list-style-type: none"> • Communication (verbal and non-verbal) • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). • Structured social activity 		
<p>2004, Glazer, H. R., Clark, M. D. and Stein, D. S.</p> <p>Research (qualitative-unspecified)</p>	Equine-assisted therapy NOS	<ul style="list-style-type: none"> • Emotional difficulties <p>Ages: 0-15 years old</p>	<ul style="list-style-type: none"> • Group reflection of equine experience • Handling the horse • Horse-human interaction (relationship, bond) • Learning a new skill • Responsibility of taking care of a horse • Communication (verbal and non-verbal) 	<ul style="list-style-type: none"> • Activities on the horse (put ball in basket, ring on cone, etc.) • Being with the horse (as in “in the moment”) • Getting to know the horse • Groundwork • Riding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Communication (reception and production) – Other important finding • Interpersonal interactions and relationships – Other

					important finding
2004, Roberts, Florence, Bradberry, Judy and Williams, Cheryl Non-research (feature article)	Equine-assisted/facilitated psychotherapy Social worker	<ul style="list-style-type: none"> Behavioral difficulties (general) Depression Attention deficit/hyperactivity disorder (ADHD) Grief Ages: 5-21 years old	<ul style="list-style-type: none"> Connection with nature/spiritual connection Horse-human interaction (relationship, bond) Size and power of the horse Social interactions/skills Holistic activity Safe and non-judgmental environment: people and horses Learning a new skill(s) building self-esteem Being in the moment Resonancy 	<ul style="list-style-type: none"> Being with the horse (as in “in the moment”) Body language communication Getting to know the horse Riding the horse Caring for the horse Relaxation breathing techniques, stress reduction, and anger reduction techniques while on the horse 	<ul style="list-style-type: none"> Not specified
2005, Turner, J. Research (descriptive, correlational)	Equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> Behavioral difficulties Emotional difficulties Sexual abuse/trauma Ages: 5-21 years old	<ul style="list-style-type: none"> Not specified 	<ul style="list-style-type: none"> Group session Individual session Classes about horsemanship, equine anatomy, and equine care 	<ul style="list-style-type: none"> Not specified
2005, Christian, Jo Ellen Non-research (case report)	Equine-assisted therapy NOS	<ul style="list-style-type: none"> Eating disorder Ages: 21-30 years old	<ul style="list-style-type: none"> Positive field of emotion Identity Formation 	<ul style="list-style-type: none"> Activities on the horse (put ball in basket, ring on cone, etc.) Application of experience to daily life Individual session Riding the horse Feeding the horse 	<ul style="list-style-type: none"> Learning and applying knowledge – Other important finding

				<ul style="list-style-type: none"> Riding ground course (serpentine, ground pols, figure 8's) 	
<p>2005, Frewin, Karen and Gardiner, Brent</p> <p>Non-research (literature review)</p>	<p>Therapeutic vaulting, equine-assisted/facilitated psychotherapy, hippotherapy</p> <p>Equine professional, Mental health professional</p>	<ul style="list-style-type: none"> Behavioral difficulties (general) Anxiety Depression Attention deficit/hyperactivity disorder (ADHD) Eating disorder Abuse Relationship difficulties (general) <p>Ages: not specified</p>	<ul style="list-style-type: none"> Connection with nature/spiritual connection Horse-human interaction (relationship, bond) Learning a new skill Symbolic Interactionism Horse is a mirror/metaphor Communication (verbal and non-verbal) Safe and non-judgmental environment: people and horses 	<ul style="list-style-type: none"> Application of experience to daily life Being with the horse (as in "in the moment") Getting to know the horse Grooming the horse Groundwork Group session Safety behaviors Social activities Caring for the horse 	<ul style="list-style-type: none"> Not specified
<p>2005, Rothe, Eugenio Quiroz, Vega, Beatriz Jiménez, Torres, Rafael Mazo, Soler, Silvia María Campos and Pazos, Rosa María Molina</p> <p>Research (conceptual/theoretical)</p>	<p>Equine-facilitated psychotherapy</p> <p>Mental health professional, occupational therapist</p>	<ul style="list-style-type: none"> Autism spectrum disorder (ASD) Behavioral difficulties (general) Emotional difficulties (general) Anxiety Mood disorder (general) Post-traumatic stress disorder (PTSD) Depression Attention deficit/hyperactivity disorder (ADHD) Eating disorder 	<ul style="list-style-type: none"> Benefits of other therapeutic practices (e.g. CBT, SLP) Horse-human interaction (relationship, bond) Learning a new skill Qualities of the barn/stable/outdoor environment (context) Responsibility of taking care of a horse Size and power of the horse 	<ul style="list-style-type: none"> Application of experience to daily life Barn activities and maintenance (mucking stalls, playing in the hay, etc.) Being with the horse (as in "in the moment") Body language communication Cognitive tasks Getting to know the horse 	<ul style="list-style-type: none"> Anxiety disorder – Other important finding Movement: control of voluntary movement – Other important finding Emotional functions – Other

		<ul style="list-style-type: none"> Abuse/neglect <p>Ages: young children</p>	<ul style="list-style-type: none"> Social interactions/skills Positive reinforcement for communication Motivation 	<ul style="list-style-type: none"> Groundwork Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) Riding the horse Tacking the horse Vaulting (on the horse) 	<p>important finding</p> <ul style="list-style-type: none"> Language – Other important finding General tasks and demands (single task, routines) – Other important finding Interpersonal interactions and relationships – Other important finding Self-care – Other important finding
<p>2006, Kaiser, L., Smith, K. A., Heleski, C. R. and Spence, L. J.</p> <p>Research (descriptive/correlational; observational study)</p>	<p>Therapeutic horseback riding/therapeutic riding</p>	<ul style="list-style-type: none"> Cerebral palsy Learning disability Depression Attention deficit/hyperactivity disorder (ADHD) Bipolar disorder Oppositional defiant disorder <p>Ages: 8-18 years old</p>	<ul style="list-style-type: none"> Learning a new skill Responsibility of taking care of a horse Social interactions/skills Safe and non-judgmental environment: people and horses 	<ul style="list-style-type: none"> Group session Riding the horse 	<ul style="list-style-type: none"> Psychosocial (interpersonal skills, social interactions) – No finding Movement: control of voluntary movement – Statistically significant Emotional functions – Statistically significant

<p>2007, Ewing, C. A., MacDonald, P. M., Taylor, M. and Bowers, M. J.</p> <p>Research (informal mixed methods)</p>	<p>Equine-assisted/facilitated learning</p> <p>Therapeutic riding instructor</p>	<ul style="list-style-type: none"> • Autism spectrum disorder • Learning disability • Behavioral difficulties (general) • Post-traumatic stress disorder (PTSD) • Depression • Attention deficit/hyperactivity disorder (ADHD) • Educational mental handicap • Obsessive-compulsive disorder (OCD) • Bipolar disorder • Intermittent explosive disorder • Borderline personality disorder 	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Size and power of the horse 	<ul style="list-style-type: none"> • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) • Getting to know the horse • Grooming the horse • Matching the horse to the participant for the intervention • Riding the horse • Safety behaviors • Tacking the horse • Caring for the horse 	<ul style="list-style-type: none"> • Depressive unspecified – No finding
<p>2007, Karol, Jane</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Psychologist</p>	<ul style="list-style-type: none"> • Mood disorder (general) • Depression • Attention deficit/hyperactivity disorder (ADHD) • Obsessive-compulsive disorder (OCD) <p>Ages: young children, adolescents, adults</p>	<ul style="list-style-type: none"> • Psychodynamic theory 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Grooming the horse • Individual session • Riding the horse 	<ul style="list-style-type: none"> • Energy and drive (motivation, appetite, impulse control) – Other important finding • Temperament and personality – Other important finding • Emotional functions – Other important finding

					<ul style="list-style-type: none"> Higher level cognitive functions (volition, organization) – Other important finding
<p>2007, Porter-Wenzlaff, L.</p> <p>Non-research (conceptual/theoretical)</p>	Equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> Abuse <p>Ages: not specified</p>	<ul style="list-style-type: none"> Connection with nature/spiritual connection Choice and autonomy Horse is a mirror/metaphor Communication (verbal and non-verbal) Being in the moment Equine Qualities Building a mutual trusting relationship with horse 	<ul style="list-style-type: none"> Being with the horse (as in “in the moment”) Getting to know the horse Grooming the horse Groundwork Matching the horse to the participant for the intervention Riding the horse Tacking the horse Caring for the horse Observation of horses Explanation to rider about horse, such as likes/dislikes Reflection of recognized feelings and observed behaviors 	<ul style="list-style-type: none"> Emotional functions – Other important finding Interpersonal interactions and relationships – Other important finding
2007, Schultz, Pamela N., Remick-Barlow, G. Ann and Robbins, Leslie	Equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> Mood disorder (general) Post-traumatic stress disorder (PTSD) 	<ul style="list-style-type: none"> Horse-human interaction (relationship, bond) 	<ul style="list-style-type: none"> Application of experience to daily life 	<ul style="list-style-type: none"> Not specified

Research (single group quasi-experimental)	Social worker	<ul style="list-style-type: none"> • Attention deficit/hyperactivity disorder (ADHD) • Abuse/neglect • Adjustment disorder • Disruptive disorder • Interparental violence <p>Ages: 4-16 years old</p>	<ul style="list-style-type: none"> • Interaction with involved practitioners / helpers / volunteers • Qualities of the barn/stable/outdoor environment (context) • Size and power of the horse • Horse is a mirror/metaphor • Learning a new skill(s) building self-esteem • Fit into the world 	<ul style="list-style-type: none"> • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) • Body language communication • Family participation • Grooming the horse • Groundwork • Group session • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Safety behaviors • Social activities • Caring for the horse 	
2008, Kunz, G. Research (descriptive)	Therapeutic horseback riding/therapeutic riding	<ul style="list-style-type: none"> • Eating disorder <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Temperament and personality – Other important finding • Emotional functions – Other important finding
2008, Dell, C. A., Chalmers, D., Dell, D., Sauve, E. and MacKinnon, T.	Equine-assisted/facilitated learning	<ul style="list-style-type: none"> • Substance abuse <p>Ages: youth</p>	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • EAAT inherently motivates participation 	<ul style="list-style-type: none"> • Application of experience to daily life • Being with the horse (as in “in the moment”) 	<ul style="list-style-type: none"> • Not specified

Non-research (conceptual/theoretical)			<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Strength-based (capitalize on participants' strengths and abilities) • Motivation • Communication (verbal and non-verbal) • Holistic activity • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Being in the moment • Structured social activity 	<ul style="list-style-type: none"> • Body language communication • Getting to know the horse • Groundwork • Riding the horse • Safety behaviors • Sensory activities (touch the hay, smell the horse, etc.) • Social activities • Caring for the horse 	
2008, Meinersmann, K. M., Bradberry, J. and Roberts, F. B. Research (qualitative-unspecified)	Equine-assisted/facilitated psychotherapy Mental health professional	<ul style="list-style-type: none"> • Abuse Ages: 27-49 years old	<ul style="list-style-type: none"> • Horse is a mirror/metaphor • Safe and non-judgmental environment: people and horses • Archetypes of animals (including the horse) are important to psychological well-being. Inhabit our psyche 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Self-care – Other important finding • Work – other important finding
2008, Trotter, Kay Sudekum, Chandler, Cynthia K, Goodwin-	Equine-assisted counseling	<ul style="list-style-type: none"> • At-risk Ages: adolescents	<ul style="list-style-type: none"> • Group reflection of equine experience 	<ul style="list-style-type: none"> • Body language communication 	<ul style="list-style-type: none"> • Attention – Statistically significant

<p>Bond, Deborah and Casey, Janie</p> <p>Research (group comparison-non-randomized)</p>	<p>Equine professional, mental health professional</p>		<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Horse is a mirror/metaphor • Safe and non-judgmental environment: people and horses 	<ul style="list-style-type: none"> • Following verbal commands • Getting to know the horse • Grooming the horse • Groundwork • Group session • Riding the horse • Safety behaviors • Caring for the horse • Traditional talk therapy • Group processing 	<ul style="list-style-type: none"> • Emotional functions – Statistically significant • Interpersonal interactions and relationships – Statistically significant
<p>2008, Westerman, Patricia, Westerman, Delores, Hargreaves, Holly and Verge, Melissa</p> <p>Non-research (editorial)</p>	<p>Therapeutic horseback riding/therapeutic riding</p>	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Cerebral palsy • Intellectual disability • Behavioral difficulties (general) • Developmental disability • Multiple sclerosis • Abuse <p>Ages: 16-60 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Interaction with involved practitioners / helpers / volunteers • Responsibility of taking care of a horse • Bandura's Theory of Self-Efficacy • Equine Qualities • Working/Volunteering in an EAAT program 	<ul style="list-style-type: none"> • Grooming the horse • Riding the horse • Feeding the horse • Riding ground course (serpentine, ground poles, figure 8's) 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Joints and bones: Mobility of joint – Other important finding • Movement: control of voluntary movement – Other important finding • Muscle endurance – Other

					<p>important finding</p> <ul style="list-style-type: none"> • Emotional functions – Other important finding • Education – Other important finding • Recreation and leisure – Other important finding
<p>2008, Yorke, J., Adams, C. and Coady, N.</p> <p>Research (phenomenology)</p>	<p>Equine-assisted/facilitated psychotherapy</p>	<ul style="list-style-type: none"> • Traumatic brain injury (TBI) • Physical disability (general) • Head trauma • Abuse <p>Ages: 16-60 years old</p>	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • Handling the horse • Horse-human interaction (relationship, bond) • Qualities of the barn/stable/outdoor environment (context) • Size and power of the horse • Strength-based (capitalize on participants' strengths and abilities) • Calming effect of horse • Attachment Theory • Motivation • Positive field of emotion 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Emotional functions – Other important finding • General tasks and demands (single task, routines) – Other important finding

			<ul style="list-style-type: none"> • Communication (verbal and non-verbal) • Identity Formation • Safe and non-judgmental environment: people and horses • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). 		
<p>2009, Lucarelli, L., Cuesta, M. and Barajas, M.</p> <p>Non-research (case report)</p>	<p>Leisure educational activity assisted by horses</p> <p>Psychologist, nurse, therapeutic riding instructor</p>	<ul style="list-style-type: none"> • Cerebral palsy • Down Syndrome • Mental illness (general) • Brain damage <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Grooming the horse • Ground work • Riding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Communication (reception and production) – Other important finding • Interpersonal interactions and relationships – Other important finding
<p>2009, Chardonnens, Evelyne</p> <p>Non-research (case report)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Psychologist</p>	<ul style="list-style-type: none"> • Intellectual disability • Behavior difficulties (general) <p>Ages: teenager</p>	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • Handling the horse • Horse-human interaction (relationship, bond) 	<ul style="list-style-type: none"> • Application of experience to daily life • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Education – Other

			<ul style="list-style-type: none"> • Interaction with involved practitioners / helpers / volunteers • Learning a new skill • Social interactions/skills • Task-related behaviors (problem solving tasks, sequencing tasks” • Positive reinforcement for communication • Calming effect of horse • Creation of routine • Attachment theory • Motivation • Positive field of emotion • Communication (verbal and non-verbal) • Identity formation • Holistic activity • Body image restoration • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Enriched environments play an important role in human 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Following verbal commands • Getting to know the horse • Grooming the horse • Groundwork • Riding the horse • Feeding the horse • Caring for the horse 	important finding
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			<p>neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014).</p> <ul style="list-style-type: none"> • Being in the moment • Structured social activity 		
<p>2009, Froeschle, Janet</p> <p>Non-research (literature review)</p>	<p>Equine-assisted career therapy</p>	<ul style="list-style-type: none"> • Abuse <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Learning a new skill • Social interactions/skills • Positive field of emotion • Horse is a mirror/metaphor • Holistic activity • Learning a new skill(s) building self-esteem • Adaptability 	<ul style="list-style-type: none"> • Application of experience to daily life • Being with the horse (as in “in the moment”) • Getting to know the horse • Grooming the horse • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Feeding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Not specified
<p>2009, Lentini, Jennifer A and Knox, Michele</p> <p>Research (systematic literature review)</p>	<p>Therapeutic horseback riding/therapeutic riding, equine-assisted experiential therapy and equine-facilitated therapy, equine assisted/facilitated psychotherapy, hippotherapy</p>	<ul style="list-style-type: none"> • Behavioral difficulties (general) • Anxiety • Post-traumatic stress disorder (PTSD) • Depression • Attention deficit/hyperactivity disorder (ADHD) • Eating disorder • Abuse/neglect • Schizophrenia 	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Interaction with involved practitioners / helpers / volunteers • Size and power of the horse • calming effect of horse • Horse is a mirror/metaphor 	<ul style="list-style-type: none"> • Groundwork • Group session • Individual session • Riding the horse • Vaulting (on the horse) • Caring for the horse • Using multiple horses • Observation 	<ul style="list-style-type: none"> • Childhood disorder not specified – Other important finding • Psychosocial (interpersonal skills, social interactions) – Other important finding

	Equine professional, psychotherapists	<ul style="list-style-type: none"> • Psychiatric disabilities (general) • Personality disorder • Oppositional defiant disorder • Grief • At-risk <p>Ages: young children, adolescents, adults</p>	<ul style="list-style-type: none"> • Communication (verbal and non-verbal) • Archetypes of animals (including the horse) are important to psychological well-being. Inhabit our psyche • Being in the moment • Id, ego, and superego analogy • Equine Qualities • Relaxation • Preverbal Experiences • Holding environment - being "held"/supported by horse 		<ul style="list-style-type: none"> • Attention – Other important finding • High level cognitive functions (volition, organization) – Other important finding • Language – Other important finding • Sequencing complex movement (praxis) – Other important finding
2010, Shambo, Leigh, Seely, Susan K. and Vonderfecht, Heather R. Research (single group quasi-experimental)	Equine professional, mental health professional	<ul style="list-style-type: none"> • Post-traumatic stress disorder • Borderline personality disorder <p>Ages: adults</p>	<ul style="list-style-type: none"> • Group reflection of equine experience • Horse-human interaction (relationship, bond) • Size and power of the horse • Social interactions/skills • Communication (verbal and non-verbal) • Equine Qualities • Horse is sensitive to human beings 	<ul style="list-style-type: none"> • Application of experience to daily life • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Groundwork • Group session • Integration of other therapeutic practices (CBT, 	<ul style="list-style-type: none"> • Anxiety disorder unspecified – Other important finding • Dissociative disorder unspecified – Statistically-significant • Depressive unspecified – Statistically-significant • Interpersonal interactions

			<ul style="list-style-type: none"> • Building a mutual trusting relationship with horse • Cognitive Behavior Therapy • Behavioral Theories (unspecified) • Somatic Awareness and Modulation • Assertiveness skill building • Emotional Intelligence • Psychoeducation 	<p>SLP, play-therapy, etc.)</p> <ul style="list-style-type: none"> • Safety behaviors • Social activities • Curriculum, including emphasis on psychoeducation, cognitive-behavior model, and assertiveness 	<p>and relationships – Statistically-significant</p>
<p>2010, Thelle, Mona I.</p> <p>Research (descriptive)</p>	<p>Equine-assisted/facilitated psychotherapy</p>	<ul style="list-style-type: none"> • Sexual abuse/trauma • Post-traumatic stress disorder (PTSD) • Complex dissociative disorder (NOS) • Complex dissociate identity disorder <p>Ages: 24-57 years old</p>	<ul style="list-style-type: none"> • Movement of the horse (pelvic movement, proprioceptive input from movement) • Size and power of the horse • Equine Qualities • Horse facilitates therapist-patient bond 	<ul style="list-style-type: none"> • Application of experience to everyday life • Being with the horse (as in “in the moment”) • Gait and speeds (walk, trot, canter) • Grooming the horse • Groundwork • Group session • Riding the horse • Riding the horse in different positions (prone, backwards, sideways, standing, etc.) • Safety behaviors • Sensory activities (touch the hay, smell the horse, etc.) • Social activities 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Attention – Other important finding • Emotional functions – Other important finding

				<ul style="list-style-type: none"> • Stretching/strengthening/exercise (while on the horse) • Reflections • Observing the horse • Activities related to themes by the trauma therapist and horse person 	
<p>2010, Corring, Deborah J., Johnston, Megan E. and Rudnick, Abraham</p> <p>Research (exploratory; phenomenological)</p>	<p>Therapeutic horseback riding/therapeutic riding</p> <p>Equine professional, recreational therapist</p>	<ul style="list-style-type: none"> • Schizophrenia <p>Ages: 25-49 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Positive field of emotion 	<ul style="list-style-type: none"> • Group session • Riding the horse • Post-group debriefing of riding experience 	<ul style="list-style-type: none"> • Not specified
<p>2010, Masini, Angela</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Mental health professional</p>	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Behavioral difficulties (general) • Emotional difficulties (general) • Anxiety • Mood disorder (general) • Post-traumatic stress disorder (PTSD) • Depression • Attention deficit/hyperactivity disorder (ADHD) • Abuse • Veteran • Drug abuse/addiction 	<ul style="list-style-type: none"> • EAAT inherently motivates participation • Horse-human interaction (relationship, bond) • Learning a new skill • Size and power of the horse • Social interactions/skills • Horse is a mirror/metaphor • Projection of participant's wants/difficulties onto the horse • Horse is sensitive to human beings 	<ul style="list-style-type: none"> • Application of experience to daily life • Grooming the horse • Groundwork • Group session • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Individual session • Riding the horse • Social activities • Caring for the horse • Riding ground course 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Self-care – Other important finding

		<ul style="list-style-type: none"> • Trauma (significant life event) • Family conflict <p>Ages: young children, adolescents, adults</p>		<p>(serpentine, ground poles, figure 8's)</p> <ul style="list-style-type: none"> • Discussion and processing following the experience with the horse 	
<p>2010, Smith-Osborne, Alexa and Selby, Alison</p> <p>Research (literature review)</p>	<p>Equine-assisted activity NOS</p>	<ul style="list-style-type: none"> • Cerebral palsy • Learning disability • Physical disability (general) • Emotional difficulties (general) • Attention deficit/hyperactivity disorder (ADHD) • Abuse/neglect • Language disability (general) • At-risk <p>Ages: 0-21 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Horse is a mirror/metaphor • Equine Qualities 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Statistically-significant • Emotional functions – Other important finding • Higher level cognitive functions (volition, organization) – Other important finding • Communication (reception and production) – Other important finding
<p>2011, Selby, A.</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine-assisted activity, equine-assisted/facilitated learning, therapeutic driving, therapeutic</p>	<ul style="list-style-type: none"> • Behavioral difficulties (general) • Anxiety • Depression • Eating disorder 	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • Horse-human interaction (relationship, bond) 	<ul style="list-style-type: none"> • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) 	<ul style="list-style-type: none"> • Cardiovascular (heart rate) – Other important finding

	<p>horseback riding/therapeutic riding, therapeutic vaulting, equine assisted/facilitated learning, equine-assisted/facilitated therapy, hippotherapy</p> <p>Mental health professional, occupational therapist, physical therapist, social worker, speech language pathologist, therapeutic riding instructor</p>	<ul style="list-style-type: none"> • Veteran • Substance abuse • Gout • Polio • Trauma (significant life event) • Hysteria • Hypochondria <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Interaction with involved practitioners / helpers / volunteers • Movement of the horse (pelvic movement, proprioceptive input from movement) • Physical exercise • Qualities of the barn/stable/outdoor environment (context) • Social interactions/skills • Temperature of the horse • Calming effect of horse • Attachment theory • Motivation • Sensory integration theory • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Motor learning theories • Exercise • Equine qualities • Horse is sensitive to human beings • Building a mutual trusting relationship with the horse 	<ul style="list-style-type: none"> • Body language communication • Grooming the horse • Groundwork • Group session • Holding the reins • Individual session • Riding the horse • Riding the horse in different positions (prone, backwards, sideways, standing, etc.) • Social activities • Steering the horse • Stretching/strengthening/exercise activities (while on and off the horse) • Vaulting on the horse • Driving the horse • Riding and horsemanship skill instruction 	<ul style="list-style-type: none"> • Respiratory system (breathing) – Other important finding • Joints and bones: Mobility of joint – Other important finding • Movement: Control of movement – Other important finding • Muscle power – Other important finding • Muscle tone – Other important finding • Emotional functions – Other important finding • Higher level cognitive functions (volition, organization) – Other important finding
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			<ul style="list-style-type: none"> • Neurodevelopment theory • Risk behavior 		<ul style="list-style-type: none"> • Sensory processing – Other important finding • Voice and speech (other) – Other important finding • Communication (reception and production) – Other important finding • Education – Other important finding • Interpersonal interactions and relationships – Other important finding
2011, Shambo, L. Non-research (conceptual/theoretical)	Equine-assisted/facilitated psychotherapy Equine professional, therapist	<ul style="list-style-type: none"> • Post-traumatic stress disorder Ages: not specified	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Getting to know the horse • Grooming the horse • Groundwork • Riding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Not specified

				<ul style="list-style-type: none"> • Learning to soothe the horse • Active free play in a large round pen • Interactional games and tricks using reward-based training 	
2011, Shkedi, A. Non-research (conceptual/theoretical)	Equine-assisted activities NOS, equine-assisted therapy NOS	<ul style="list-style-type: none"> • Post-traumatic stress disorder • Veteran • Ataxia <p>Ages: young children, adults</p>	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • Horse-human interaction (relationship, bond) • Movement of the horse (pelvic movement, proprioceptive input from movement) • Communication (verbal and non-verbal) • Exercise • Safe and non-judgmental environment: people and horses • Relaxation • Purposeful Activity • Sense of Purpose • Empowerment theory • Therapeutic rapport • Fear factors • Supplement mind 	<ul style="list-style-type: none"> • Gait and speeds (walk, trot, canter) • Riding the horse • Relaxation exercises: breathing and muscle relaxation training, soothing self-talk 	<ul style="list-style-type: none"> • Not specified
2011, Thomas, L. Non-research (conceptual/theoretical)	Equine-assisted/facilitated learning, equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Post-traumatic stress disorder (PTSD) • Depression 	<ul style="list-style-type: none"> • Strength-based (capitalize on participants' strengths and abilities) 	<ul style="list-style-type: none"> • Application of experience to daily life • Groundwork • Reflection 	<ul style="list-style-type: none"> • General tasks and demands (single task, routines) – Other

	Mental health professional	<ul style="list-style-type: none"> • Eating disorder • Schizophrenia • Veteran <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Horse is a mirror/metaphor • Safe and non-judgmental environment: people and horses • Being in the moment • Activities on the horse • Sense of purpose • Experiential therapy • Client-centeredness • EAGALA model: SPUDS 	<ul style="list-style-type: none"> • SPUDS: shifts, patterns, unique, discrepancy, and self-awareness (EAGALA model) 	<p>important finding</p> <ul style="list-style-type: none"> • Learning and applying knowledge – Other important finding
2011, Burgon, Hannah Louise Research (ethnography; case-study)	<p>Equine-assisted/facilitated learning, equine-assisted therapy NOS</p> <p>Equine professional, play therapist, teacher, counselor</p>	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Attention deficit/hyperactivity disorder (ADHD) • At-risk <p>Ages: 11-21 years old</p>	<ul style="list-style-type: none"> • Group reflection of equine experience • Handling the horse • Horse-human interaction (relationship, bond) • Size and power of the horse • Social interaction/skills • Positive reinforcement for communication • Calming effect of horse • Attachment theory • Motivation • Communication (verbal and non-verbal) • Identity formation • Holistic activity • Body image restoration 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Grooming the horse • Groundwork • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Riding the horse • Safety behaviors • Caring for the horse • Riding without saddle or reins • One-on-one time with the horse in a pen 	<ul style="list-style-type: none"> • Emotional functions – Other important finding • Community participation – Other important finding • Interpersonal interactions and relationships- Other important finding

			<ul style="list-style-type: none"> • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Horse's movement are unpredictable 		
<p>2011, Cerino, S., Cirulli, F., Chiarotti, F. and Seripa, S.</p> <p>Research (single group quasi-experimental)</p>	<p>Therapeutic horseback riding/therapeutic riding</p>	<ul style="list-style-type: none"> • Schizophrenia <p>Ages: 18-40 years old</p>	<ul style="list-style-type: none"> • Learning a new skill • Movement of the horse (pelvic movement, proprioceptive input from movement) 	<ul style="list-style-type: none"> • Body language communication • Grooming the horse • Groundwork • Group session • Individual session • Riding the horse • Tacking the other • Classes to improve knowledge of the horse 	<ul style="list-style-type: none"> • Schizophrenia unspecified – Statistically-significant
<p>2011, Cody, Patricia, Steiker, Lori Holleran and Szymandera, Mary Lynn</p> <p>Non-research (special topics interview)</p>	<p>Equine therapy-general</p> <p>Mental health professional, social worker</p>	<ul style="list-style-type: none"> • Substance abuse <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Getting to know the horse • Safety behaviors 	<ul style="list-style-type: none"> • Not specified
<p>2011, De Rose, P., Cannas, E. and Reinger Cantiello, P.</p> <p>Research (descriptive; correlational)</p>	<p>Onoterapy</p> <p>Psychologist</p>	<ul style="list-style-type: none"> • Intellectual disability • Behavioral difficulties (general) • Emotional difficulties (general) • Communication disorder (general) • Language disability (general) 	<ul style="list-style-type: none"> • EAAT inherently motivates participation • Horse-human interaction (relationship, bond) • Social interactions/skills • Strength-based (capitalize on 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Social activities • Caring for the horse 	<ul style="list-style-type: none"> • Language – Other important finding • Communication (receptive and production) – Other

		<ul style="list-style-type: none"> • Obsessive-compulsive traits <p>Ages: 5-15 years old</p>	<p>participants' strengths and abilities)</p> <ul style="list-style-type: none"> • Task-related behaviors (problem solving tasks, sequencing tasks" • Positive reinforcement for communication • Symbolic Interactionism • Motivation • Positive field of emotion • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Identity Formation • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). 		important finding
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<p>2011, Dell, Colleen Anne, Chalmers, Darlene, Bresette, Nora, Swain, Sue, Rankin, Deb and Hopkins, Carol</p> <p>Research (phenomenology)</p>	<p>Equine-assisted/facilitated learning</p>	<ul style="list-style-type: none"> • Substance abuse <p>Ages: 11-21 years old</p>	<ul style="list-style-type: none"> • Connection with nature/spiritual connection • Horse-human interaction (relationship, bond) • Communication (verbal and non-verbal) • Holistic activity • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). • Being in the moment 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Body language communication • Getting to know the horse • Caring for the horse 	<ul style="list-style-type: none"> • Interpersonal interactions and relationships - Other important finding
<p>2011, Lutter, Carrie and Smith-Osborne, Alexa</p> <p>Research (correlational)</p>	<p>Equine-assisted activity NOS</p>	<ul style="list-style-type: none"> • Eating disorder <p>Ages: 18-50 years old</p>	<ul style="list-style-type: none"> • Exercise 	<ul style="list-style-type: none"> • Family participation • Grooming the horse • Groundwork • Group session • Individual session • Riding the horse • Social activities • Steering the horse • Driving the horse • Caring for the horse • Riding ground course (serpentine, ground poles, figure 8’s) • Trail ride 	<ul style="list-style-type: none"> • Eating disorder unspecified – Statistically significant • Depressive unspecified – Statistically-significant • Metabolism – Other important finding

<p>2011, MacLean, Barbara</p> <p>Non-research (editorial)</p>	<p>Equine-assisted therapy NOS</p> <p>Psychologist, recreational therapist</p>	<ul style="list-style-type: none"> • Veteran • Post-traumatic stress disorder (PTSD) <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Handling the horse • Horse-human interaction (relationship, bond) • Learning a new skill • Social interactions/skills • Communication (verbal and non-verbal) • Body image restoration • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Being in the moment • Natural Horsemanship 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Body language communication • Following verbal commands • Gait and speeds (walk, trot, canter) • Getting to know the horse • Grooming the horse • Groundwork • Riding the horse • Social activities • Tacking the horse • Feeding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Not specified
<p>2012, Bachi, Keren</p> <p>Non-research (non-research literature review)</p>	<p>Equine-facilitated psychotherapy</p> <p>Equine professional, mental health professional unspecified</p>	<ul style="list-style-type: none"> • Cerebral palsy • Intellectual disability • Abuse/neglect • Developmental delay • Scoliosis • Abuse • Cancer • Trauma (significant life event) • Nursing students 	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Attachment theory • Horse is a mirror/metaphor • Being in the moment • Cognitive behavior therapy • Experiential therapy • Gestalt therapy • Object relations theory 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) • Movement: control of voluntary movement • Muscle tone • Sensory processing • Communication (reception and production) • Interpersonal interactions

					and relationships
2012, Holmes, Christian, Goodwin, Deborah, Redhead, Edward and Goymour, Katy Research (descriptive; correlational)	Equine-assisted activities NOS, Equine professional, social worker	<ul style="list-style-type: none"> • Learning disability • Behavioral difficulties (general) • Emotional difficulties (general) Ages: 12-14 years old	<ul style="list-style-type: none"> • Exposure therapy • Horse-human interaction (relationship, bond) • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). 	<ul style="list-style-type: none"> • Being with the horse (as in “in the moment”) • Getting to know the horse • Grooming the horse • Group session • Safety behaviors • Tacking the horse 	<ul style="list-style-type: none"> • Specific phobia – Statistically-significant • Emotional functions – No finding
2012, Siporin, Sheldon Non-research (conceptual/theoretical)	Equine-assisted/facilitated psychotherapy Equine professional, mental health professional	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Substance abuse • Inmates Ages: not specified	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Attachment theory • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Horse is sensitive to human beings • Psychoanalytic Theory • Kohutian Theory • Intersubjectivity • Pre-verbal reciprocity 	<ul style="list-style-type: none"> • Application of experience to daily life • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) • Body language communication • Getting to know the horse • Grooming the horse • Groundwork • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Riding the horse • Caring for the horse 	<ul style="list-style-type: none"> • Emotional functions – Other important finding

<p>2012, Symington, Ashley</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Equine professional, mental health professional</p>	<ul style="list-style-type: none"> Grief Bereavement <p>Ages: not specified</p>	<ul style="list-style-type: none"> Horse is a mirror/metaphor Projection of participant's wants/difficulties onto the horse Being in the moment Experiential therapy 	<ul style="list-style-type: none"> Choosing a horse 	<ul style="list-style-type: none"> Emotional functions – Other important finding
<p>2012, Westerman, Patricia L., Stout, Sarah M. and Hargreaves, Holly A.</p> <p>Non-research (case report)</p>	<p>Therapeutic horseback riding/therapeutic riding</p>	<ul style="list-style-type: none"> Autism spectrum disorder (ASD) Cerebral palsy Abuse/neglect Developmental disability <p>Ages: not specified</p>	<ul style="list-style-type: none"> Interaction with involved practitioners / helpers / volunteers Positive reinforcement for communication Mentorship Bandura's Theory of Self-efficacy Vygotsky's Theory on social development 	<ul style="list-style-type: none"> Activities on the horse (put ball in basket, ring on cone, etc.) Gait and speeds (walk, trot, canter) Getting to know the horse Grooming the horse Riding the horse Social activities 	<ul style="list-style-type: none"> General tasks and demands (single task, routines) – Other important finding
<p>2013, Bachi, Keren</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Mental health professional</p>	<ul style="list-style-type: none"> Abuse/neglect Abuse <p>Ages: 11-15 years old</p>	<ul style="list-style-type: none"> Connection with nature/spiritual connection Handling the horse Horse-human interaction (relationship, bond) Learning a new skill Movement of the horse (pelvic movement, proprioceptive input from movement) Qualities of the barn/stable/outdoor environment (context) 	<ul style="list-style-type: none"> Being with the horse (as in “in the moment”) Body language communication Gait and speeds (walk, trot, canter) Getting to know the horse Grooming the horse Groundwork Riding the horse Riding the horse in different positions (prone, backwards, 	<ul style="list-style-type: none"> Not specified

			<ul style="list-style-type: none"> • Responsibility of taking care of a horse • Size and power of the horse • Social interactions/skills • Temperature of the horse • Calming effect of horse • Attachment theory • Motivation • Positive field of emotion • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Identity formation • Sensorimotor improvement • Holistic activity • Body image restoration • Safe and non-judgemental environment: people and horses • Learning a new skill(s) building self-esteem • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in 	<ul style="list-style-type: none"> • sideways, standing, etc.) • Safety behaviors • Sensory activities (touch the hay, smell the horse, etc.) • Caring for the horse 	
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			Dabelko-Schoeny et al., 2014). <ul style="list-style-type: none"> Horse's movement are unpredictable 		
2013, Corring, Deborah, Lundberg, Erica and Rudnick, Abraham Research (phenomenology)	Therapeutic horseback riding/therapeutic riding Equine professional	<ul style="list-style-type: none"> Schizophrenia Schizoaffective disorder Ages: 36-59 years old	<ul style="list-style-type: none"> Horse-human interaction (relationship,bond) Interaction with involved practitioners/helpers/volunteers Positive field of emotion Learning a new skill(s) building self-esteem 	<ul style="list-style-type: none"> Group session Riding the horse 	<ul style="list-style-type: none"> Not specified
2013, DeZutti, J.E. Non-research (literature review)	Equine assisted/facilitated psychotherapy Equine professional, psychologist, nurse	<ul style="list-style-type: none"> Eating disorder Ages: adolescents, adults	<ul style="list-style-type: none"> Benefits of other therapeutic practices (e.g. CBT, SLP) Exposure therapy Group reflection of equine experience Handling the horse Horse-human interaction (relationship,bond) Social interaction/skills Task-related behaviors (problem solving tasks, sequencing tasks) Positive reinforcement for communication Behavior theory perspective Horse is a mirror/metaphor 	<ul style="list-style-type: none"> Application of experience to daily life Being with the horse (as in “in the moment”) Body language communication Getting to know the horse Grooming the horse Groundwork Group session Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) Social activities Caring for the horse 	<ul style="list-style-type: none"> Not specified

			<ul style="list-style-type: none"> • Communication (verbal and non-verbal) • Identity formation • Body image restoration • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Being in the moment 		
<p>2013, Lanning, Beth A. and Krennek, Nancy</p> <p>Research (mixed methods)</p>	<p>Therapeutic horseback riding/therapeutic riding</p>	<ul style="list-style-type: none"> • Traumatic brain injury (TBI) • Physical disability (general) • Post-traumatic stress disorder (PTSD) • Cerebrovascular accident (CVA) • Sexual abuse/trauma • Veteran <p>Ages: 29-52 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Interaction with involved practitioners/helpers/volunteers • Calming effect of the horse • Autonomy 	<ul style="list-style-type: none"> • Gait and speeds (walk, trot, canter) • Grooming the horse • Groundwork • Matching the horse to the participant for the intervention • Riding the horse • Social activities • Steering the horse • Caring for the horse • Riding ground course (serpentine, ground poles, figure 8's) 	<ul style="list-style-type: none"> • Depressive unspecified – Other important finding • Energy and drive (motivation, appetite, impulse control) – Other important finding • Psychosocial (interpersonal skills, social interactions) – Other important finding • Pain – Other important finding

					<ul style="list-style-type: none"> • Emotional functions – Other important finding
<p>2013, Maujean, Annick, Kendall, Elizabeth, Roquet, Lillan, Sharp, Tony and Pringle, Graham</p> <p>Research (qualitative- unspecified)</p>	<p>Equine-assisted/facilitated psychotherapy</p> <p>Equine professional, psychologist</p>	<ul style="list-style-type: none"> • At-risk <p>Ages: 12-22 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship,bond) • Interaction with involved practitioners/helpers/ volunteers • Qualities of the barn/stable/outdoor environment (context) • Size and power of the horse • Social interaction/skills • Task-related behaviors (problem solving tasks, sequencing tasks) • Motivation • Mastery • Reflection 	<ul style="list-style-type: none"> • Application of experience to everyday life • Group session • Matching the horse to the participant for the intervention • Natural horsemanship demonstration and practice • Group discussion 	<ul style="list-style-type: none"> • Energy and drive - Other important finding • Emotional functions – Other important finding • Education - Other important finding • Interpersonal interactions and relationships - Other important finding • Recreation and leisure - Other important finding
<p>2013, Pendry, P. and Roeter, S.</p> <p>Research (group comparison-randomized)</p>	<p>Equine-assisted/facilitated learning</p> <p>Equine professional, instructor in equine assisted mental health, volunteers</p>	<ul style="list-style-type: none"> • Low social competence <p>Ages: young children, adolescents</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship,bond) • Social interaction/skills • Calming effect of horse • Horse is a mirror/metaphor 	<ul style="list-style-type: none"> • Grooming the horse • Group session • Individual session • Riding the horse • Steering the horse • Unmounted activities such as observation of equine behavior, 	<ul style="list-style-type: none"> • Higher level cognitive functions (volition, organization) – Statistically-significant • Interpersonal interactions and relationships –

				horsemanship activities	Statistically-significant
<p>2013, Selby, Alison and Smith-Osborne, Alexa</p> <p>Research (systematic review)</p>	<p>Equine-assisted activities NOS, equine-assisted/facilitated psychotherapy</p> <p>Equine professional, teachers, mental health professional, psychologist, social worker, therapeutic riding instructor</p>	<ul style="list-style-type: none"> Behavioral difficulties (general) Emotional difficulties (general) Post-traumatic stress disorder (PTSD) Abuse Healthy individuals At-risk <p>Ages: young children, adolescents, adults</p>	<ul style="list-style-type: none"> Horse-human interaction (relationship, bond) Recreation or leisure benefits Psychodynamic theory Equine qualities Horse is sensitive to human beings Empowerment theory Health belief model Dual representation theory Cognitive remediation Cognitive behavior therapy Humanistic and Transpersonal models Experiential therapy 	<ul style="list-style-type: none"> Horse massage Driving the horse Application of experience to daily life Barn activities and maintenance (mucking stalls, playing in the hay, etc.) Grooming the horse Groundwork Group session Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) Riding the horse Social activities Tacking the horse Feeding the horse Caring for the horse Natural horsemanship Horse-related classroom activities Adventure-based treatment activities 	<ul style="list-style-type: none"> Anxiety disorder unspecified – Other important finding Depressive unspecified - Other important finding Haematological (blood pressure) - Other important finding Movement: Control of voluntary movement - Other important finding Emotional functions - Other important finding
<p>2013, Yorke, Jan, Nugent, William, Strand, Elizabeth, Bolen, Rebecca,</p>	<p>Equine-assisted therapy NOS, equine-</p>	<ul style="list-style-type: none"> Post-traumatic stress disorder <p>Ages: 8-10 years old</p>	<ul style="list-style-type: none"> Cerebellar stimulation 	<ul style="list-style-type: none"> Grooming the horse Matching the horse to the 	<ul style="list-style-type: none"> Related to endocrine system – Other

<p>New, John and Davis, Cindy</p> <p>Research (single subject design)</p>	<p>assisted/facilitated psychotherapy</p>		<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Social interaction/skills • Attachment theory • Behavior theory perspective • Cognitive tasks (letter ID, shapes, etc.) • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). • Relaxation • Holding environment-being “held”/supported by horse • Human-animal contact • Person-in-environment 	<p>participant for the intervention</p> <ul style="list-style-type: none"> • Riding the horse 	<p>important finding</p>
<p>2014, Anestis, M. D., Anestis, J. C., Zawilinski, L. L., Hopkins, T. A., & Lilienfeld, S. O.</p> <p>Research (systematic review)</p>	<p>Therapeutic horseback riding/therapeutic riding, equine-assisted/facilitated psychotherapy</p>	<ul style="list-style-type: none"> • Autism spectrum disorder (ASD) • Emotional difficulties • Attention deficit/hyperactive disorder • Eating disorder • Schizophrenia • At-risk 	<ul style="list-style-type: none"> • Equine qualities 	<ul style="list-style-type: none"> • Grooming the horse • Group session • Matching the horse to the participant for the intervention • Riding the horse • Feeding the horse 	<ul style="list-style-type: none"> • PDD- Autistic disorder - Other important finding • Eating disorder unspecified - Other important finding

		<ul style="list-style-type: none"> • Mental illness (general) <p>Ages: across the lifespan</p>		<ul style="list-style-type: none"> • Caring for the horse • Classroom activities on equine-related topics • Trail rides • Therapeutic horseback riding activities • Group discussion 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) Other important finding, No finding • Movement: control of voluntary movement - Other important finding • Attention - Other important finding • Emotional functions - Other important finding • Sensory processing - Other important finding
<p>2014, Carlsson, C., Ranta, D.N., & Traeen, B.</p> <p>Research (phenomenology)</p>	<p>Equine-assisted social work</p> <p>Social worker</p>	<ul style="list-style-type: none"> • Eating disorder • Self-injury behaviors <p>Ages: 15-21 years old</p>	<ul style="list-style-type: none"> • Benefits of other therapeutic practices (e.g. CBT, SLP) • EAAT inherently motivates participation • Horse-human interaction (relationship, bond) • Interaction with involved 	<ul style="list-style-type: none"> • Not specified 	<ul style="list-style-type: none"> • Emotional functions - Other important finding • Higher level cognitive functions (volition, organization) - Other

			<p>practitioners/helpers/volunteers</p> <ul style="list-style-type: none"> • Learning a new skill • Social interaction/skills • Positive reinforcement for communication • Calming effect of horse • Attachment theory • Motivation • Choice and autonomy • Positive field of emotion • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Body image restoration • Safe and non-judgmental environment: people and horses • Learning a new skill(s) building self-esteem • Being in the moment • Horse's movement are unpredictable • Relaxation • Nature, culture, and authenticity • Theory of cognitive dissonance 		<p>important finding</p> <ul style="list-style-type: none"> • Interpersonal interactions and relationships - Other important finding • Learning and applying knowledge - Other important finding
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<p>2014, Duncan, C Randy, Critchley, Steve and Marland, Jim</p> <p>Research (single group quasi-experimental)</p>	<p>Equine-assisted/facilitated learning</p>	<ul style="list-style-type: none"> • Post-traumatic stress disorder (PTSD) • Veteran <p>Ages: not specified</p>	<ul style="list-style-type: none"> • Communication (verbal and non-verbal) • Safe and non-judgmental environment: people and horses • Being in the moment 	<ul style="list-style-type: none"> • Body language communication • Family participation 	<ul style="list-style-type: none"> • Post-traumatic stress disorder - Other important finding
<p>2014, Johansen, S. G., Arfwedson Wang, C. E., Binder, P.-E., & Malt, U. F.</p> <p>Non-research (conceptual/theoretical)</p>	<p>Equine facilitated body and emotion-oriented psychotherapy (EBEP)</p> <p>Mental health professional</p>	<ul style="list-style-type: none"> • Abuse/neglect • Abuse • Drug abuse/addiction <p>Ages: adolescents, adults</p>	<ul style="list-style-type: none"> • EAAT inherently motivates participation • Group reflection of equine experience • Handling the horse • Horse-human interaction (relationship, bond) • Interaction with involved practitioners/helpers/volunteers • Learning a new skill • Physical exercise • Size and power of the horse • Social interaction/skills • Temperature of horse • Positive reinforcement for communication • Calming effect of horse • Attachment theory • Control over one's environment • Motivation • Sensory experience of riding a horse 	<ul style="list-style-type: none"> • Application of experience to daily life • Being with the horse (as in "in the moment") • Body language communication • Getting to know the horse • Grooming the horse • Groundwork • Integration of other therapeutic practices (CBT, SLP, play-therapy, etc.) • Safety behaviors • Sensory activities (touch the hay, smell the horse, etc.) • Social activities • Tacking the horse • Caring for the horse • Relaxation and breathing techniques • Reflection 	<ul style="list-style-type: none"> • Not specified

			<ul style="list-style-type: none"> • Positive field of emotion • Horse is a mirror/metaphor • Communication (verbal and non-verbal) • Holistic activity • Exercise • Safe and non-judgmental environment: people and horses • Enriched environments play an important role in human neurobiological development (Affum et al., 2010 as cited in Dabelko-Schoeny et al., 2014). • Being in the moment • Structured social activity • Relaxation • Horse is sensitive to human beings 	<ul style="list-style-type: none"> • Leading the horse • Move the horse without touching the horse 	
<p>2014, Kemp, Kathleen, Signal, Tania t signal equ edu au, Botros, Helena, Taylor, Nik and Prentice, Kathy</p> <p>Research (single group-quasi experimental)</p>	Equine-assisted/facilitated psychotherapy	<ul style="list-style-type: none"> • Sexual abuse/trauma • Physical abuse <p>Ages: 5-21 years old</p>	<ul style="list-style-type: none"> • Horse is a mirror/metaphor 	<ul style="list-style-type: none"> • Application of experience to daily life • Groundwork • Group session 	<ul style="list-style-type: none"> • Anxiety disorder unspecified – Statistically-significant • Post-traumatic stress disorder – Statistically-significant • Dissociative disorder

					unspecified – Statistically-significant <ul style="list-style-type: none"> • Depressive unspecified – Statistically-significant • Abuse or neglect- sexual abuse of child – Statistically-significant • Emotional functions- Statistically-significant
2014, Pendry, P. Research (group comparison-randomized)	Equine-assisted/facilitated learning Equine professional, psychologist, PATH instructor	<ul style="list-style-type: none"> • At-risk Ages: young children, adolescents	<ul style="list-style-type: none"> • EAAT inherently motivates participation • Group reflection of equine experience • Equine interactions as analogy for life skills • Positive youth development (PYD) perspective • Presence of supportive facilitator 	<ul style="list-style-type: none"> • Application of experience to daily life • Barn activities and maintenance (mucking stalls, playing in the hay, etc.) • Body language communication • Family participation • Grooming the horse • Groundwork • Group session • Individual session • Riding the horse • Social activities • Tacking the horse • Driving the horse • Caring for the horse 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, interactions) – Statistically-significant

				<ul style="list-style-type: none"> • Riding ground course (serpentine, ground poles, figure 8's) • Observation of equine behavior • In-hand horsemanship • Unmounted activities • Personal and group reflection • Horse massage • Desensitizing horses 	
<p>2014, Pendry, P., Smith, A. N., & Roeter, S. M.</p> <p>Research (group comparison-randomized)</p>	<p>Equine-assisted/facilitated learning</p> <p>Equine professional, psychologist, certified counselor</p>	<ul style="list-style-type: none"> • Experiencing stressor at home or school <p>Ages: adolescents</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Cognitive behavior therapy 	<ul style="list-style-type: none"> • Grooming the horse • Group session • Riding the horse • Caring for the horse • Unmounted activities • Observation of equine behavior • Personal and group reflection 	<ul style="list-style-type: none"> • Related to endocrine system – Statistically-significant
<p>2014, Sharpe, H.</p> <p>Research (phenomenology)</p>	<p>Equine facilitated counseling</p>	<ul style="list-style-type: none"> • Eating disorder <p>Ages: 16-50 years old</p>	<ul style="list-style-type: none"> • Horse-human interaction (relationship, bond) • Size and power of the horse • Communication (verbal and non-verbal) • Equine qualities • Preverbal experiences 	<ul style="list-style-type: none"> • Grooming the horse • Groundwork • Group session • Individual session • Riding the horse • Tacking the horse • Vaulting (on the horse) • Caring for the horse 	<ul style="list-style-type: none"> • Psychosocial (interpersonal skills, social interactions) – Other important finding • Emotional functions - Other

				<ul style="list-style-type: none"> • Painting the horse • Participating in rodeos and shows to strengthen bond between horse and participant 	important finding
<p>2015, Andrea Beetz, Nora Winkler, Henri Julius, Kerstin Uvnas-Moberg, & Kurt Kotrschal</p> <p>Research (group comparison-randomized)</p>	Equine-assisted intervention	<ul style="list-style-type: none"> • Mother-child insecure attachment • History of drug abuse • Abuse • Psychological disorders <p>Ages: 11-27 years old and 19-49 years old</p>	<ul style="list-style-type: none"> • Attachment theory • Motivation • Human-animal contact • Oxytocin system • Caregiver behavior 	<ul style="list-style-type: none"> • Activities on the horse (put ball in basket, ring on cone, etc.) • Application of experience to daily life • Being with the horse (as in “in the moment”) • Family participation • Gait and speeds (walk, trot, canter) • Getting to know the horse • Matching the horse to the participant for the intervention • Riding the horse • Feeding the horse 	<ul style="list-style-type: none"> • Interpersonal interactions and relationships - Other important finding