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Maintaining adolescent sobriety with equine assisted psychotherapy: an experiential learning intervention guide

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MAINTAINING ADOLESCENT SOBRIETY WITH EQUINE ASSISTED PSYCHOTHERAPY: AN EXPERIENTIAL LEARNING INTERVENTION GUIDE

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by

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DEDICATION

This work is dedicated to the remarkable individuals who composed my academic and internship cohorts, whose unrelenting support and friendship I will never forget.

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ABSTRACT

Given the prevalence of substance abuse among American adolescents, the implementation of innovative treatment modalities is highly indicated. The practice of animal assisted therapy, specifically equine assisted psychotherapy (EAP), has been demonstrated to effect positive changes and personal growth within participants and is suggested within this work to be applicable to adolescents in residential substance abuse treatment facilities. Due to the benefits evidenced by the therapeutic modality of EAP, participation is hypothesized to promote and maintain abstinence among this population. Thus, this project focused on highlighting the empirical evidence associated with animal assisted therapy, particularly EAP, as well as reviewing the characteristics of adolescent substance abuse and current treatment approaches. The creation of an Intervention Guide which details discussion points as well as EAP activities was designed to target the unique treatment needs of adolescents in residential substance abuse treatment facilities. The Intervention Guide was reviewed by 2 EAP practitioners who rated the content, strengths, and weaknesses of the Guide. Their feedback was incorporated into a compilation of suggestions and future directions for the Intervention Guide.

Chapter 1: Review of the Literature

Substance use among adolescents, from experimentation to dependence, is an important area for psychological intervention. In 2011, 10.1% of adolescents between the ages of 12 and 17 abused illicit substances, while 21.4% of adolescents and young adults aged 18 to 25 abused illicit substances (Substance Abuse and Mental Health Services Administration, 2012). Although a variety of treatment modalities have been employed to treat those adolescents with a substance use disorder, the treatment dropout rate is high and those who need treatment do not always receive it. In response to the need to address substance use disorders among adolescents, the proposed project will examine the applicability of equine assisted psychotherapy (EAP) for this population. The field of psychology is beginning to take note of the growing discipline of animal assisted therapy and its numerous applications. Animal assisted therapies are quickly gaining credibility as empirical evidence supporting their efficacy accumulates (Johnson, 2011; Kruger & Serpell, 2006; McCardle, McCune, Netting, Berger, & Maholmes, 2011; McNicholas & Collis, 2006; Chandler, 2005; Hart, 2006). A subset of this field, equine assisted psychotherapy (EAP), utilizes horses as therapeutic partners to achieve individual treatment goals. Available research suggests that this therapeutic modality is efficacious with various populations (Freund, Brown, & Buff, 2011; Smith-Osborne & Selby, 2010). However, despite the recent growth in the field of animal-assisted therapies, there are few standardized treatment approaches regarding the application of equine assisted psychotherapy that target specific populations. One such population that has been suggested as potentially benefiting from equine assisted interventions is adolescents recovering from substance abuse (Foley, 2008; Myers, 2004). Thus, the current dissertation focuses on developing an Intervention Guide for these adolescents; one which addresses the unique developmental needs of adolescents, as well as their

substance abuse recovery process. Specifically, this dissertation project involved the creation of an Intervention Guide for EAP practitioners to use with adolescents in residential substance abuse treatment settings. The following review of the literature will present theory and research that provides the foundation and rationale for the development of the EAP Intervention Guide.

Animal Assisted Therapy

Animal assisted therapy (AAT) is a unique practice in the field of psychology, although the utilization of animals in the healing process is certainly nothing new. Ancient Egyptian relics provide evidence of the early existence of pets (DeLoache, Pickard, & LoBue, 2011) and there are indications that as long ago as the ninth century dogs were used for therapeutic purposes (Catanzaro, 2003). Florence Nightengale was an advocate in the 1800s of using caged birds and other small pets to cheer hospitalized patients (Johnson, 2011). Yet, it is only in recent years that animals have been trained and certified as true partners in the therapeutic process. In this modality animals are viewed as promoting genuine psychological growth which distinguishes AAT from the field of animal assisted activities (AAA), which are valuable in some domains but which do not qualify as therapy. The Delta Society, one of the largest organizations that certify therapy animals in the United States, has defined both fields in the following ways:
Animal assisted activity: AAA provides opportunities for motivational, educational, recreational, and/or therapeutic benefits to enhance quality of life. AAAs are delivered in a variety of environments by specially trained professionals, paraprofessionals, and/or volunteers in association with animals that meet specific criteria. Key features include the absence of specific treatment goals, the volunteers and treatment providers are not required to take detailed notes,

and the visit content is spontaneous with visits lasting as long or short a time as needed (Delta Society, 2012a).

Animal assisted therapy: AAT is a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. AAT is directed and/or delivered by a health/human service professional with specialized expertise and within the scope of practice of his/her profession. Key features include specified goals and objectives for each individual, and progress that is measured (Delta Society, 2012b).

Animals Associated with Animal Assisted Therapy

The animals that are typically associated with AAT are dogs. In fact, the seminal paper regarding utilizing animals in psychotherapy relayed the experiences of one therapist who brought his dog into individual therapy sessions with children (Levinson, 1962). However, a great variety of animals are utilized in AAT. Cats, rabbits, birds, and horses all make for effective therapy partners in their own unique ways (Granger & Kogan, 2006).

One element common to all animals used as therapy partners is their ability to improve gross and fine motor skills through the tactile stimulation they provide, and given that the client can groom, play, pet, and feed them (Granger & Kogan, 2006). Additionally, caring for any type of animal allows the opportunity to develop a sense of responsibility as well as empathy within the caregiver. Utilizing therapy animals provides an easy way for the client to transition from their day to discussing personal matters because the presence of animals makes the situation nonthreatening and increasingly comfortable (Pichot & Coulter, 2007). The presence of any animal within the therapy room can also provide the client with an interruption from their

emotional distress, if only for a moment, because it provides the client with an external stimulus to focus upon rather than their internal state. The presence of various animals can also be helpful in releasing clients' memories about current and former pets, which can lead to additional recollection by the client and, thus, opportunities for the therapist to learn more about them. The nonverbal communication of all animals can prompt this same type of communication from clients, which can be beneficial within therapy because it facilitates an alternative mode of thinking and offers a situation in which clients may feel increasingly comfortable displaying a more personal side. In the company of animals no words are necessary; therefore, clients can feel safe in approaching various therapy animals. This stands in contrast to the experience of some clients who often do not feel safe approaching other people, with whom they may experience negative verbal interactions. Thus, in therapy any animal can act as a bridge between the therapist and the uncommunicative client (Beck & Katcher, 1983). Another benefit of utilizing any species of therapy animal is that they can all provide touch, whereas the therapist cannot, which can balance the formality of the therapy session as well as the client's possible perception of the intrusive nature of the session.

Animals are typically perceived as more genuine than people given that they do not have an agenda, thus facilitating rapport when used in therapy (Pichot & Coulter, 2007). In regards to therapy animals within an agency setting, their presence can contribute to a sense of community because of the shared experience of enjoying the animals, which emphasizes commonalities. Additionally, animals can add a human element to clients' perceptions of their therapist and create an appropriate degree of self-disclosure by the therapist, specifically that they enjoy animals. This can challenge clients' beliefs about what does or will happen with that therapist or agency. Animals can make the therapist appear friendlier, happier, more relaxed, and less

threatening, which leads clients to feel increasingly comfortable in session (Kruger & Serpell, 2006; Vidrine, Owen-Smith, & Faulkner, 2002). Finally, therapy animals can benefit the therapists themselves, who may take a moment with the animal between sessions to help clear their minds and prepare them for their next session (Pichot & Coulter, 2007).

Applications of Animal Assisted Therapy

AAT is most frequently used as an adjunct to traditional therapy (Katcher & Beck, 2006). However, many types of therapy can be adapted to integrate a therapeutic animal into the session. AAT can be incorporated into individual psychotherapy or can be utilized in a group therapy format (Chandler, 2005). Additionally, AAT in one form or another appears to be adaptable into numerous treatment settings. For example, AAT is currently being practiced in homes for the elderly, hospitals, psychiatric facilities, correctional facilities, and individual and group psychotherapy sessions (Granger & Kogan, 2006). A meta-analysis of AAT, which reviewed 49 studies, determined that this therapeutic modality was associated with moderate effect sizes in improving participant emotional well-being, behavioral problems, medical difficulties, and autism-spectrum symptoms regardless of setting (Nimer & Lundahl, 2007).

AAT and AAA have been demonstrated to benefit numerous populations, including the elderly. Caring for an animal can provide an older adult with a sense of increased self-worth and purpose (Elliot & Milne, 1991). The requirements of caring for an animal can additionally increase an elderly individual's perceived locus of control and self-respect (Granger & Kogan, 2006). Communication skills also tend to improve with the application of AAT to elderly participants as animals provide opportunities for clients to vocalize about the animal and

encourage social interaction (Levinson, 1962; Messent, 1983). When verbal abilities are lost in elderly individuals, the nonverbal communication and unconditional acceptance provided by animals can be critical in improving the older adult's quality of life (Beck & Peacock, 1988). Raina, Waltner-Toews, Bonnett, Woodward, and Abernathy (1999) compared the activities of daily living (ADL) levels of elderly pet owners with elderly non-owners and found that during a one-year period, the ADL of non-owners deteriorated more than the ADL of pet owners. Following the introduction of cats and dogs into the lives of elderly clients diagnosed with schizophrenia, the clients increased their interpersonal interactions and their physical mobility, while simultaneously becoming more adept at and engaging more regularly in tasks of daily living, such as personal hygiene and self-care (Barak**,** Savorai, Mavashev, & Beni, 2001). Richeson (2003) found that among nursing home residents with dementia, engaging in AAT for three weeks on a daily basis led to a significant increase in social interaction and a significant decrease in agitated behaviors. Even the caregivers of elderly individuals appear to benefit from association with companion animals. Interacting with pets appears to assuage some of the psychological stress related to caring for individuals suffering from Alzheimer's disease among young male and female caregivers (Fritz, Farver, Hart, & Kass, 1996).

Physiological benefits also exist when applying AAT with elderly clients. Chur-Hansen, Winefield, and Beckwith (2008) considered themes that arose from their interviews with elderly female pet owners and proposed that optimal health benefits occurred in the women who were moderately attached to their pets. Krause-Parello (2008) found that among elderly female pet owners, the support they received via attachment to their companion animals mediated the relationship of loneliness on general health. AAT has been demonstrated to lead to a decrease in blood pressure and an increase in the survival rate of elderly coronary care patients.

Additionally, joint mobility and muscle strength can be maintained through animal-based activities such as walking and grooming (Boldt & Dellmann-Jenkins, 1992; Manor, 1991).

AAT and AAA have also been utilized with prison inmates, leading to numerous benefits among this population. Inmates who have been allowed to care for small animals have demonstrated a decrease in physical aggression, as well as a sharp decrease in suicidality (Beck & Katcher, 1983). Animals provide affection and physical touch to inmates who otherwise would not receive this, leading to improved relationships with prison staff. The utilization of horses in treatment sessions with male juvenile offenders has resulted in decreased recidivism rates (Thomas, 2002). Equine assisted psychotherapy implemented with juvenile offenders has also led to improvement in regards to conduct, mood, and psychotic disorders (Frewin & Gardiner, 2005).

Animal Assisted Therapy with Children

AAT provides unique benefits when utilized with children, such as the promotion of empathy. It has been suggested that children view animals as peers and, therefore, instructing children to be empathic toward animals is more easily accomplished than with humans (Ewing, MacDonald, Taylor, & Bowers, 2007). However, Ascione and Weber (1996) found that a school-based humane education program led to improved attitudes toward animals and a generalization of empathy toward humans. Likewise, Poresky (1996) and Bryant (1985) have both revealed a positive correlation between animal companionship and empathy toward humans. Therapy animals assist children in developing empathy because the therapist can discuss how the animal is feeling, how it would like to be treated, and how it responds to the

child's behavior (Ewing, et al., 2007; Pichot & Coulter, 2007). Since the development of empathy is often an important treatment goal with youth who have conduct or behavioral disorders (Ewing, et al., 2007), the instillation of empathy with these youth via AAT may be particularly indicated.

Children also uniquely benefit from AAT in other ways. The therapy animal can be used as a reward for children, as the therapist can remove the animal from the room if the child acts up, stating that that the animal would be uncomfortable in the presence of that particular behavior, and brought back to the room when the child acts appropriately. This not only teaches cause-and-effect to children, but simultaneously allows them to feel a sense of pride when they create an environment that is safe and comfortable for the animal (Pichot & Coulter, 2007). Additionally, during family therapy sessions in which children frequently perceive themselves to be outcasts or the cause of the problems within their family, therapy animals can provide support for the children with their presence and touch. Moreover, therapists can capitalize on the unconditional love that animals exhibit with children who possess poor self-esteem by narrating for the therapy animal, commenting on the animal's regard for the child.

Psychological Benefits of Interactions with Animals

Numerous studies have demonstrated the various psychological benefits inherent in interacting with animals, such as the provision of social support. Many people view their pets as family members and speak to them as if speaking to a young child (McNicholas & Collis, 2006), reflecting that the owner has created an identity for the animal (Sanders, 2003). Among the clients of the University of Pennsylvania veterinary clinic, nearly 99% reported that they talk to

their pets, with 80% stating that they speak to them in the same manner that they speak to humans. Additionally, 30% reported that they speak to their companion animals in the manner of a confidant (Beck & Katcher, 1983). McNicholas and Collis (2006) contend that the social support provided by companion animals can: operate as a replacement for deficient social support from other people, function as a cushion against vacillations in human support, provide an opportunity to seek support without feelings of discomfort or embarrassment, and can afford shelter from the strains of interacting with other humans with all of their relational obligations. Sarason, Levine, Basham, and Sarason (1983) studied the perception of social support offered by companion animals and found that 87.8% of respondents stated that their pets provided at least one valuable type of support, 4.4% stated that they provided at least 10 support functions, and 4.2% responded that their pets fulfilled over 20 functions of support. Pet owners frequently state that they believe their pet is aware of their moods and can determine when they are experiencing sadness or distress, and that they can go to their pets for emotional comfort (McNicholas & Collis, 2006) or when they are experiencing loneliness (Dimitrijevic, 2009). Animals can provide social support for those who have difficulty initiating social interactions with other humans because animals give off far less complex social signals than do humans. This decreased amount of information to process can allow a greater social understanding and increased social interaction (McNicholas & Collis, 2006). In addition to the aforementioned social support benefits offered by companion animals, the presence of animals provides a natural conversation starter with other humans due to the provision of an external, neutral subject to focus upon, as well as the unscripted behavior of animals (Kruger & Serpell, 2006). Animals increase the frequency of interactions between strangers and enhance perceptions of social desirability (Kruger & Serpell, 2006; McNicholas & Collis, 2006). Simply walking a dog can attract

positive attention from passersby (McNicholas & Collis, 2006). Thus, it is apparent that companion animals provide social support both directly, through their relationships with humans, and indirectly, as a means of facilitating interactions with other people (Allen, Blascovich, & Mendes, 2002; McNicholas & Collis, 2006).

Pets may provide their owners with protection against change. Beck and Katcher (1983) stated "at the very least pets protect us from the changing fortunes we experience within human society by their simple indifference to human technology, knowledge, aspirations, and achievement" (p. 29). These authors suggest that pets "offer a bulwark of stability" (p. 29) and that they have a unique ability to bring their owners back to laughter and play, despite the owner's age. They furthermore assert that caring for a pet provides a sense of being needed within the owner and "the reciprocal feelings of caring for and being needed are lines that can hold us to life" (p. 36). Many Americans appreciate the comfort of their pets, with 60% of households in the United States owning at least one pet, and 70% of households in homes with children (Weise, 2007).

Pets and the necessary chores that come with owning them are often unaffected by an owner's medical and/or mental health diagnosis or treatment, which permits the owners to maintain a level of normality when other routines are disturbed (McNicholas & Collis, 2006). Animals do not care about our social standing, nor do they notice the fate of their owners. Rather, the one thing that they care about is the mere presence of their owner (Beck & Katcher, 1983). When faced with unemployment, disease, or disability the constant affection of a pet offers a sign to the owner that they are not, at their core, damaged.

In Western society men are socialized to not demonstrate affection with the frequency that women do; however, with animals a man can fulfill his need for touch in a socially acceptable fashion (Beck & Katcher, 1983). In one study, boys who were very rarely observed engaging in any kind of physical affection were noted to hug and kiss their horse (Vidrine, et al., 2002). The touch that an animal offers can provide comfort. Sarason et al. (1983) found that subjects who were receiving invasive surgery valued the tactile comfort they received from pets, which also affected their perceptions of themselves and improved their self-esteem.

AAT has been utilized with many psychiatric populations, leading to numerous benefits. Even the mere presence of caged birds in group therapy sessions can increase client attendance and participation, and lead to greater improvement when compared to a control group (Barker & Dawson, 1998). Barker, Pandurangi, and Best (2003) studied the effects of daily AAT for 15 minutes with psychiatric patients. Results indicated significant reductions in fear and decreases in anxiety and depression. The reduction in anxiety among clients who presented with psychotic, mood, and other disorders, is likely due to the creation of a therapeutic situation that placed less demand upon the client (Barker & Dawson, 1998). Barak et al. (2001) studied elderly schizophrenic patients over a one-year controlled trial and found that the presence of an animal tended to increase social interaction and communication. It further improved self-care and personal hygiene as the animals were used as "modeling companions." Miller (2000) included a dog in the therapeutic process with schizophrenic patients, leading to a reduction in anhedonia as well as improved motivation. When animals are involved in treatment programs a reduction in the intake of psychotropic medication can occur, thereby reducing the costs of health care (Geisler, 2004). The use of animals is also indicated when treating depressive clients. Studies reflect that depressive clients improved their social relationships and decreased their depressive

symptoms following the introduction of animals in the therapy program (Barker, et al., 2003). Clients suffering from dissociative disorders and agoraphobia are yet another population that has been demonstrated to benefit from interaction with animals. Many clients with these disorders who cared for an animal demonstrated decreases in distress, fear, and social isolation. When in the presence of the animals, these clients became more expressive, communicative, calmer, and happier (Lipton, 2001). Barker, et al. (2003) also determined that when clients with Alzheimer's disease were exposed to animals, their attention improved and they demonstrated a decrease in rage and aggression. In regards to male clients diagnosed with AIDS who were provided with AAT, results indicated a decrease in loneliness and improved relationships with friends and family (Castelli, Hart, & Zasloff, 2001). Macauley (2006) reported that clients with symptoms of aphasia engaged in both traditional therapy followed by AAT, and that the clients reported that during the AAT sessions they were more motivated, they enjoyed the sessions to a greater degree, and stated that their mood during the sessions was more energetic and less stressful in comparison to traditional therapy. Dimitrijevic (2009) found that children diagnosed with Attention-Deficit/Hyperactivity Disorder and other behavioral disorders, demonstrated reduced aggression and increased focus following the utilization of AAT.

Physiological Benefits of Interactions with Animals

Humans have evolved a tendency to attend to animals, which is adaptive given that animals represent both opportunities and dangers in regards to human survival (New, Cosmides, & Tooby, 2007). Research has revealed that preschool children detect the presence of spiders and snakes more quickly than they do a variety of other stimuli (LoBue, 2010; LoBue &

DeLoache, 2008). Additionally, infants stared significantly longer at biological motion (i.e. a moving hen) than nonbiological random motion, which suggests that they found greater coherence in the former (Simion, Regolin, & Buff, 2008). Together, research suggests that in terms of both visual attention and emotional engagement, infants display a greater response to a variety of animals than to a variety of inanimate entities (DeLoache, et al., 2011).

There exist a number of physiological benefits associated with pet ownership and interactions with animals. In a study conducted by Allen, et al. (2002), it was found that pet owners had significantly lower resting heart rates and blood pressure than did nonowners and, moreover, while experiencing mental stress, pet owners continued to exhibit significantly lower heart rates, systolic blood pressure, and diastolic blood pressure than nonowners. Additionally, following the cessation of mental stress, pet owners returned to baseline levels more rapidly than did nonowners. Barker and Dawson (1998) also found that pet owners had lower blood pressure during a variety of stressful situations than did nonowners. Likewise, results from Allen and Shykoff (2001) supported that the presence of a pet dog led to decreases in blood pressure more effectively than ace inhibitor therapy. Additional research has confirmed that compared with nonowners, pet owners have lower systolic blood pressure as well as reduced plasma triglycerides (Anderson, Reid, & Jennings, 1992). In fact, simple exposure to images of animals can lead to physiological benefits. Wells (2005) compared subjects who either watched a television show, a blank television screen, or videos of birds, primates, and fish, and subsequently participated in a moderately stressful activity. During this activity, the heart rate and blood pressure of the subjects who had watched videos of animals was lower than the other two groups. In a three group (i.e., volunteer and dog, volunteer, and usual care) randomized repeated measures design, Cole, Gawlinski, Steers, and Kotlerman (2007) found additional

benefits when subjects simply interacted with animals. They compared an animal assisted intervention group with a usual care group and found that the former had significantly greater reductions in epinephrine and norepinephrine levels, as well as greater reductions in systolic pulmonary artery pressure and pulmonary capillary wedge pressure throughout and following their animal interactions. It has been suggested that animal assisted interventions are relaxing due to the participants receiving olfactory, tactile, auditory, and visual sensory input, which decreases serum cortisol levels, resulting in decreases in blood pressure as well as respiratory and heart rates (Wilson, 1991).

Dog owners derive unique benefits from pet ownership, specifically a greater amount of physical activity than nonowners, which occurs primarily through dog walking (Bauman, Russell, Furber, & Dobson, 2001; Salmon, Timperio, Chu, & Veitch, 2010). In fact, research performed in Australia demonstrated that adult dog owners were 57% more likely to achieve physical activity recommendations for adult health than nonowners (Cutt, Giles-Corti, Knuiman, Timperio, & Bull, 2008). Additionally, dog owners in China exercised 36% more often than nonowners, experienced 46% fewer incidents of poor sleep, and reported less than half the number of days taken off of work due to illness, and less than half the number of doctor visits. These effects were especially robust for owners who reported very close attachment to their pets (Headey, Na, & Zheng, 2008). Children also benefit from walking their dogs as research indicates that children in families that own dogs are 50% less likely to be overweight or obese than children who do not own a dog (Timperio, Salmon, Chu, & Andrianopoulos, 2008).

The elderly population has been demonstrated to derive physiological benefits from pet ownership and animal interactions. Raina, Bonnet, and Waltner-Toews (1998) found that elderly

individuals who were pet owners declined less in physical and mental health over a one-year period than did a matched group of nonowners. Elderly individuals in Japan who walked their dogs experienced a significantly lower stress level, as assessed by autonomic nervous activity, than when walking by themselves (Motooka, Koike, Yokoyama, & Kennedy, 2006). Even watching fish swim in aquariums during mealtimes produced significant changes in elderly individuals, specifically a 21% increase in food intake and an average of 1.65 pounds weight increase throughout the treatment period and for six weeks thereafter. Due to the improvement in the subjects' nutrition intake, there was a decreased need for nutritional supplements, resulting in health care cost savings (Edwards & Beck, 2002).

Interactions with animals have also been demonstrated to decrease pain levels in hospitalized patients. Stoffel and Braun (2006) studied pediatric and adult hospitalized patients and determined that for both groups patients reported experiencing less pain and a sense of relaxation while being visited by an animal, as well as following the visit. Additional pre-posttest design research found that one to three days after surgery, children aged five to 18 received a one-time dog visit which was associated with decreased pain ratings (Sobo, Eng, & Kassity-Krich, 2006). AAT has also been utilized prior to patients entering surgery, which was found to decrease their cholesterol, blood pressure, and anxiety. Moreover, the presence of animals decreased the level of stress among the patients resulting in a decreased need for pain-relieving medication (Dimitrijevic, 2009).

Owning pets and interacting with animals leads to numerous additional benefits. Serpell (1991) demonstrated that nonowners who acquired a dog or cat displayed improvements throughout the following 10 months in their physical health, exercise levels, psychological well-

being, and self-esteem, as compared with a control group. The mere presence of animals reduces stress as well as depressive symptoms (Allen & Blascovich, 1991; Allen, et al., 2002). In fact, among health care workers interacting with a therapy dog lead to a decrease in stress in as soon as five minutes (Barker, Kniseley, McCain, & Best, 2005).

Limitations of animal assisted therapy research. A number of researchers have reviewed the literature on animal assisted therapy and noted various limitations among some studies. Marino (2012) reviewed two meta-analyses and 28 single empirical studies and determined that construct validity is often compromised given the methodology of the research on animal assisted therapy. Placebo effects, demand characteristics, novelty effects, and construct confounding were particularly noted as contributing to compromising experimental validity; however, the researcher conceded that the literature does suggest that there exists a therapeutic effect of animal assisted therapy that is worth revealing. Other research has noted that limitations of the literature include a lack of research specifically addressing the degree to which therapeutic effects are attributable to client interactions with the animal versus the handler, and a lack of research comparing group versus individual interactions with animals (Souter & Miller, 2007). Overall, non-rigorous methodologies are a limitation of many studies performed on animal assisted therapy (Dashnaw Stiles, 2001; Lajoie, 2003).

Equine Assisted Psychotherapy

Equine assisted psychotherapy (EAP), often referred to in the literature as equine facilitated psychotherapy (Karol, 2007), utilizes horses as partners in the therapeutic process.

The practice of working with horses as partners to meet therapeutic goals was established in numerous European countries following World War II, with horses used to help injured soldiers increase their postural control (Freund, et al., 2011). However, horses can be used in a variety of ways to aid in recovery from many disorders. For instance, hippotherapy, a unique form of horse-assisted recovery, is used to assist clients with cerebral palsy, multiple sclerosis, one-sided paralysis, spastic and rigid muscles, and those who otherwise suffer from balance, coordination, and posture problems (Giagazoglou, Arabatzi, Dipla, Liga, & Kellis, 2012; Munoz-Lasa, et al., 2011; Whalen & Case-Smith, 2012). It is performed by an occupational, physical, or speech therapist that has undergone specialized training so as to utilize the natural movement of the horse to lead to improvements in the rider (Kruger & Serpell, 2006). Given that the gait of a horse is so similar to that of a human, a rider can go through the physical motion of walking without actually placing weight on their legs (Freund, et al., 2011). Moreover, the movement of the horse's back requires the rider to repeatedly adjust and control their posture, coordination, balance, and flexion (Lessick, Shinaver, Post, Rivera, & Lemon, 2004). Among children with spastic cerebral palsy, it was found that those who participated in hippotherapy displayed a significant improvement in their muscle symmetry compared with children who sat astride a barrel (Benda, McGibbon, & Grant, 2003). Some of the physical benefits that have been found to result from riding therapy include enhancements in gross motor coordination, balance, flexibility, as well as cardiorespiratory function, in addition to speech and language abilities (Macauley & Gutierrez, 2004). The nature of riding can also improve long-term memory as the rider must practice sequential tasks prior to giving any command to the horse (Granger & Kogan, 2006). However, the world of horses is not closed for those with such severe physical impairments that they cannot ride, or for those who choose not to ride, because therapeutic

carriage driving can provide an alternative to riding (Professional Association of Therapeutic Horsemanship International PATH, 2012). The American Hippotherapy Association (AHA) defines hippotherapy in the following way (AHA, 2012):

Hippotherapy: Hippotherapy is a physical, occupational, and speech-language therapy treatment strategy that utilizes equine movement as part of an integrated intervention program to achieve functional outcomes.

Horses are so versatile in their usefulness to mankind that miniature horses are even being employed as guide animals to the visually impaired (Anderson, 2008). Miniature horses possess several advantages over dogs in this field. Their lifespan of 30 to 40 years, compared with the typical lifespan of a dog of eight to 12 years, is an obvious advantage as the consumer does not need to bond and develop a working alliance with a new animal as often. Moreover, as prey animals horses possess a natural vigilance and heightened sense of awareness that assists them in avoiding danger in their environment. As horses' eyes are on either side of their head, they have a nearly 350 degree range of vision. Miniature horses do not get fleas and their access to public places is often made easier as they are not mistaken for a pet. Finally, horses have a guide instinct that occurs naturally within them, as sighted horses will assist blind horses in a herd. For the aforementioned reasons, the Guide Horse Foundation has been providing miniature guide horses to the visually impaired at no cost since 1999.

EAP is a unique method of utilizing horses to promote therapeutic growth. The Equine Assisted Growth and Learning Association (EAGALA), one of the leading American organizations that certify EAP therapists, defines equine assisted psychotherapy in the following way (EAGALA, 2012):

Equine Assisted Psychotherapy: EAP incorporates horses experientially for emotional growth and learning. It is a collaborative effort between a licensed therapist and a horse professional working with the clients and horses to address treatment goals. Because of its intensity and effectiveness, it is considered a short-term, or "brief," approach. EAP is experiential in nature.

The benefits of utilizing horses. Horses offer unique benefits compared with other animals utilized in AAT. As mentioned earlier, due to their status as prey animals, horses have evolved to be hypervigilant, thus making them extremely reactive to subtle changes in a client's behavior and mood (Meinersmann, Bradberry, & Roberts, 2008). Horses, therefore, reflect the nature of our presence around them. Often referred to as our "mirrors," horses by their very nature require congruence and being fully present while around them. If one is incongruent in their feelings, thoughts, or behaviors, horses become confused and, therefore, view one as a potential source of danger (Porter-Wenzlaff, 2007). Horses provide instant, nonverbal feedback, in essence "mirroring" the client's emotions and their own nonverbal communication (Frewin & Gardiner, 2005; Vidrine, et al., 2002). A goal of any treatment program that utilizes horses can, therefore, include working towards the client's acceptance of their true feelings, rather than the suppression, denial, or displacement of them (Porter-Wenzlaff, 2007). The client can learn about themselves through their interactions with a horse, as a horse will act skittish or guarded if the client is anxious, not fully present, or is sending conflicting messages. However, if the client is able to relax then the horse senses this and relaxes in turn. EAP presents the opportunity for clients to gain insight into how they come across to the horse, which informs them regarding how they come across to others (Frewin & Gardiner, 2005). Horses can be thought of as "living biofeedback mechanisms" (Smith-Osborne & Selby, 2010), who are exquisitely sensitive to their

environment and who react not to the words of a client, which may be incongruent with the client's inner state, but to the actual behavior, feelings, and inner state of the client. Horses do not judge our feelings and behavior, but simply react to them in a straightforward manner, providing a non-judgmental reflection to the client regarding their behavior and their emotional state (Burgon, 2003). This clear and immediate feedback informs the client whether their nonverbal communication was effective or not (Karol, 2007; Freund, et al., 2011). The influence of the client's thoughts, words, and behaviors can be observed through the horse's reactions, teaching the client that in order to alter the behavior of the horse, they must first alter their own behaviors, thoughts, and emotions (Trotter, Chandler, Goodwin-Bond, & Casey, 2008). The immediate feedback from a horse provides the opportunity for the client to use interpretation and gain insight so as to create new ways of being around the horse and others (Frewin & Gardiner, 2005). The nature of EAP as an experiential therapy in which the client's actual experiences with the horse serve as the basis for therapeutic exploration allows for the goal of focusing attention on the present moment, and allowing the client to learn how to be aware of themselves as they live their day-to-day lives (Karol, 2007). Working with horses, humans cannot rely solely on verbal communication and so must become aware of their body.

Frame (2006) contends that the immediate feedback provided by the horse to the clients' behavior acts as an "accelerating force" in treatment. It is suggested that feedback regarding social interactions, such as with horses, is an important process that provides an opportunity for clients to realize the manner in which they impact others in their lives and how their behaviors should be altered (Russell-Martin, 2006). As a client tries to communicate with a horse, the horse immediately responds with fear, pleasure, anger, or forgiveness. The client consequently immediately experiences emotions in response to the horse (Karol, 2007). EAP provides the

opportunity to observe and explore the quality and idiosyncrasies of the communication between horse and human, as well as allowing the chance to compare this relationship with the client's interpersonal relationships.

One of the most valuable aspects of the practice of EAP is the use of metaphors with clients. Metaphors can pertain to the horse, the client's interactions with the horse, as well as the client's interactions with others in the treatment team or fellow participants, in order to connect the client's therapeutic world at the barn with their inner and outer worlds (Karol, 2007). For instance, clients who work with nervous horses can be educated regarding how horses worry just as humans do, but that they can be calmed using relaxation exercises similar to the ones that may be used with the client. Additionally, for clients experiencing sadness, horses can be said to "bear our weight, and possibly hold the weight of our sadness for us for a short time" (p. 87). The client may then feel both physically and emotionally "lighter" when riding. Another manner in which metaphors can be utilized in EAP is offering metaphors for the challenges of life. The challenges offered in EAP can symbolize any problem in life that clients must face and solve (Trotter et al., 2008). Group discussion regarding how each client tried to achieve their goals can lead to discussions that, in turn, result in insight. The relationship between the client and the horse can be viewed as a metaphor for experiences in the life of the client away from the barn (Hayden, 2005). For example, some have suggested that young or untrained horses be utilized with adolescents so that the metaphor of the horses being young, wild, and caught and retained for training purposes can be made (Kersten, 1997). Therapeutic metaphors, such as those gained in an experiential therapy like EAP, permit direct interaction with the imagistic and fluid half of the brain. For children, as well as for guarded clients or those who are developmentally delayed,

this method appears more suitable than conventional, insight-oriented, literal language-based therapies (Vidrine, et al., 2002).

Another benefit of EAP is the occurrence of projection and transference onto the horse (Klontz, Bivens, Leinart, & Klontz, 2007). Clients can often relate to the hypervigilance of the horse and their desire to flee and escape when they feel threatened. It is in the manner that a client interprets the behavior and feelings of a horse that establishes the metaphor and allows for the examination of the transference that occurred and, therefore, the resolution of unfinished business in the present moment of therapy. Interpretations of transference onto a horse are generally more readily accepted by clients than the interpretation of transference onto a therapist. When a human being (the therapist) is the object of transference, clients may be more likely to reject the transference interpretation and believe that their reaction is due to the personal shortcomings or inappropriate behavior of the therapist. With horses, however, these interpersonal factors do not exist and so transference reactions can often be more easily addressed.

Another beneficial aspect of EAP is that the exposure to a barn is a novel experience for many clients (Smith-Osborne & Selby, 2010). Given that barns are outdoors and are often in the countryside or areas tucked away from the heart of major cities, being in a more natural environment is frequently meaningful for clients (Hayden, 2005). Spending time in nature can often provide reprieve from the over stimulating world that the clients normally inhabit, and can provide the chance to gain a sense of inner peace (Esbjorn, 2006).

A unique advantage of EAP over traditional therapy is that it may increase client motivation to attend, participate, and cooperate in treatment (Trotter et al., 2008). Children and

adolescents in particular are rarely self-referred to treatment. Therefore, it can be challenging to get them to make a deliberate, free choice to enter therapy. However with EAP the horse can serve as a powerful motivating force (Karol, 2007). Among those EAP programs in which riding is the ultimate goal, clients can work toward this goal and feel rewarded when they reach it, having overcome their fear and feelings of inadequacy (Trotter et al., 2008). Another motivating force is the ability to confide in the horses. In a study of horse-owning adolescents, over 70% reported that they confide in their horse (Beck & Katcher, 1983). This ability to confide is particularly important for adolescents who may feel alienated from their parents or peers, or who feel unable to share their innermost thoughts or emotions with another human.

Horses are large creatures that can easily engender fright in anyone due to the size differential between humans and horses. Handling horses, therefore, creates the opportunity to overcome one's fear, and handling them effectively can result in increased confidence and self-esteem (Frewin & Gardiner, 2005). This is particularly useful in the treatment of survivors of abuse, who can gain feelings of control and power when a 1,200-pound animal obeys their commands. This can, in turn, empower clients to regain control over their lives given their experience of having successfully influenced such a large living being (Trotter et al., 2008). Displaying courage is a unique aspect of this therapeutic modality, and addressing fear head-on can be fundamental in increasing a sense of achievement and agency (Bizub, Joy, & Davidson, 2003). The risk-taking behavior inherent in EAP allows clients to test themselves and learn to control themselves as well as their surroundings, resulting in therapeutic insight that is unavailable in the traditional therapy setting (Trotter et al., 2008). Additionally, the size and power of horses elicits respect and demands that clients increase their attention and focus (Freund, et al., 2011).

Empirical findings related to equine assisted psychotherapy. One of the most robust findings in the empirical literature on EAP is that it leads to improvements in self-esteem, self-concept, and self-efficacy (Bizub, et al., 2003; De Pauw, 1986; Rothe, Vega, Torres, Soler, & Pazos, 2005; Scialli, 2002;). Self-esteem is enhanced through undergoing successful experiences interacting with and controlling a large, powerful animal, which can also result in increased self-confidence (Trotter et al., 2008). Additionally, Mallon (1994) and Walsh and Mertin (1994) have demonstrated that merely having a relationship with an animal can boost self-esteem. Moreover, simply recognizing one's ability to influence another being can increase self-esteem (Rothe et al., 2005). Due to the challenging nature of EAP activities, success at these tasks can contribute to improved self-efficacy (Trotter et al., 2008). The client's experience of success can generalize and strengthen their confidence that they can overcome their mental health issues, such as eating disorders, or other problems (Christian, 2005). The bond that is established between the client and horse and the ensuing positive feelings can also be generalized to interpersonal interactions, which can additionally contribute to increased self-esteem (Esbjorn, 2006). MacDonald (2004) appraised five EAP programs in the United States and determined that adolescents between the ages of 13 and 16 displayed increased self-esteem and a greater internal locus of control following the completion of treatment, as assessed by the Self-Esteem Index and the Harter Self-Perception Profile for Adolescents. Iannone (2003) studied emotionally disturbed adolescents prior to and following the implementation of a vocational and therapeutic riding program and determined that it led to increases in self-esteem. This increase was likely enhanced by the opportunity for the participants to learn new skills, thereby contributing to a sense of mastery. Additionally, caring for another living being appeared to provide the subjects with a sense of personal value and importance, which augmented

participants' perceptions of their self-worth. Moreover, the peer mentorship aspect included in the program allowed participants to pass on the knowledge they had learned, reminding them of how much knowledge they have acquired, and once more being provided with the opportunity to feel important and needed. Hayden (2005) found that after the implementation of EAP with adolescents, the participants' responses suggested themes of increased self-esteem and experiences of mastery. One aspect of the efficacy of this therapeutic modality as reflected in the researcher's findings is that it provides opportunities for success that these adolescents may not otherwise have had. Furthermore, the peer mentoring component provided adolescents with the opportunity to help one another and build confidence through serving as a role-model and positively effecting change in another person. The contact with a challenging experience may also have contributed to increased frustration tolerance and greater feelings of self-control.

Several studies suggest that the successes achieved in EAP increase and improve self-efficacy, self-concept, and adaptive behaviors among participants (Brouillette, 2006; Frame, 2006; Hayden, 2005; Trotter et al., 2008). Self-efficacy represents a protective factor that may encourage and allow adaptive and instrumental behavior required for successful development (Masten, Best, & Garmezy, 1990). It has been found that a sense of self-efficacy increases following success in a task, and EAP provides numerous opportunities for both success and failure (Whitely, 2009). Self-efficacy is developed through experiences of mastery, which also leads to increased self-esteem (Masten, et al., 1990). A strong component of EAP is the development of mastery and, therefore, self-efficacy, due to its provision of opportunities to acquire skill while in a supportive environment (Hayden, 2005). The chance to learn new skills, specifically how to work with horses, can lead to feelings of mastery (Katcher & Wilkens, 1998) and personal efficacy (Graham, 2007). In fact, a significant improvement in self-concept was

found among 20 asocial adolescent boys following the implementation of EAP (Emory, 1992). Clients who have participated in EAP have reported feeling as though they are better people, and some have noted that they view life in an increasingly positive manner and feel more confident regarding setting personal goals (Brouillette, 2006; Frame, 2006; Hayden, 2005; Trotter et al., 2008). Bizub, et al. (2003) recruited five adults with a history of psychiatric illness to participate in EAP. Following a 10- week program the participants demonstrated an increase in self-esteem and a sense of agency, so much so that one participant subsequently pursued residential and financial independence. The progress that the participants observed within themselves motivated them and led to a feeling of satisfaction, leading them to become more active in their recovery and in life.

An increase in confidence among participants is a powerful element of this therapeutic modality. Burgon (2003) implemented an EAP program with six adult women who suffered from psychiatric disorders including depression, schizophrenia, and other psychotic disorders. A robust finding from the study was an increase in confidence among the participants. Several factors played into this improvement in confidence, such as the horse had acted as a motivating force that inspired the women to try a new experience and stick with it. Additionally, the environment had been perceived by the women as a safe, nonjudgmental place, and their acquisition of a new skill and the perception of their improvement had led their confidence to generalize into other social situations. The increase in confidence promoted day-to-day improvements in the women's lives; for instance, one woman volunteered her time and another was able to enter shops alone for the first time.

Horses make excellent therapeutic partners for clients experiencing anxiety. As noted above, horses can serve as effective metaphors for anxious clients because the therapist can explain that when horses worry they can be calmed using relaxation techniques, similar to the relaxation exercises the clients have learned or have yet to learn (Karol, 2007). Whitely (2009) noted that among participants, many began to utilize relaxation methods so as to self-regulate while participating in EAP. A number of the participants reported that the horses themselves calmed them, and that by feeling calm they could gain self-control through self-regulation techniques, such as being mindful of their breathing and physical responses. Among the subjects in another study, one noted that EAP taught her breathing skills because she quickly realized that if she did not breathe properly she was susceptible to falling off of the horse. Another subject stated that she enjoyed getting close to her horse and breathing in time with him (Meinersmann, et al., 2008). While some clients may enter EAP with a fear of horses, the horses' authenticity and affection tend to alleviate these fears for most clients, which approximates exposure therapy (Marx & Cumella, 2003), and may increase clients' willingness to participate in future exposure therapies addressing other fears or phobias.

Participation in EAP requires that the client trust in the horse, the therapist, support staff, the client's peers, and in themselves (Marx & Cumella, 2003; Rothe et al., 2005; Vidrine, et al., 2002). The trust that the client develops can generalize to their lives outside of EAP therapy. Whitely (2009) noted that several participants in their study, who viewed trust as a basic component of healthy relationships, stated that they had gained an increased ability to trust in interpersonal relationships where a lack of trust once held. Given EAP's ability to enhance trust and communication, a child client who has witnessed family violence may be guided toward healthier interpersonal relationships in the future (Schultz, Remick-Barlow, & Robbins, 2007).

Gaining the trust and cooperation of such a large animal can make other life challenges seem diminished (Trotter et al., 2008). Participants in one study spoke to the realization that they no longer had to feel powerless, but that they could feel in control. One participant stated, "And if I can control this horse, I should be able to control my life" (p. 39) (Meinersmann, et al., 2008).

The reduction of physical and verbal aggression among EAP participants has been documented as a benefit of this therapeutic modality. Trotter et al. (2008) demonstrated that EAP reduces both physically and verbally aggressive behaviors, including arguing, damaging property, criticizing, threatening, hitting, and engaging in animal cruelty. Additionally, conflict between the EAP therapist and the client tends to occur rarely. Foley (2008) noted that there was little conflict between the EAP therapist and young at-risk female participants because issues that came across while participants were riding were tackled proactively. The therapist understood that if the participant became frustrated that it was part of learning how to ride, and could explain this to her calmly. The therapist modeled prosocial skills for dealing with conflict, demonstrating to the girls that frustration does not necessarily have to result in arguments or conflict.

EAP programs can lead to an increased sense of responsibility among clients because they have to care for a living being (Karol, 2007). Among children, such programs have been noted to facilitate the development of a sense of responsibility (Rothe et al., 2005). The responsibility of caring for a horse also promotes empathy in the caregiver (Taylor & Signal, 2005), which may be generalized not only to others, but to the clients themselves. By developing empathy for the horse, youth are taught socially appropriate behaviors that allow them to attach to people (Johnson, 2001; Kaminski, Pellino, & Wish, 2002; Taylor & Signal,

2005). Additionally, the tasks involved in caring for a horse, such as various grooming tasks, have encouraged clients to take personal responsibility for better caring for themselves. For example, learning to wash a horse's mane can influence clients, including children, to independently wash their own hair (Rothe et al., 2005).

Learning how to interact with and ride a horse can be a normalizing experience for those with psychiatric disorders because it is an activity that is offered to the public at large (Bizub, et al., 2003). Many individuals who suffer from mental illness can feel different than and isolated from others; however, the relationship the participants form with a horse can decrease these feelings of isolation. The unconditional acceptance that horses provide can create the basis of a relationship and allow the individual to practice nonverbal relationship skills (Marx & Cumella, 2003), which are generalized to the bonds that participants form with one another (Bizub, et al., 2003). Additionally, working with and riding horses is a positive activity that is frequently experienced as fun and exciting, and that can take the place of engaging in activities such as substance abuse and alcohol consumption (Esbjorn, 2006).

The nature of a barn setting requires creativity on the part of the client. Vidrine, et al. (2002) commented on issues that arose in their study of therapeutic vaulting with children and adolescents, such as having to problem-solve around weather and deal with issues such as horse illness or missing horseshoes. This setting allowed for trial and error problem-solving, and provided an environment in which learning could occur at any moment, for example when the veterinarian or farrier visited. The study also allowed for participants to process their experience of loss following the death of a horse. EAP activities themselves call for creativity (Rothe et al., 2005). In fact, in a study of EAP utilized with at-risk children and adolescents, the more creative

the solutions and the more cooperative clients were with one another, the sooner success at the task was achieved (Trotter et al., 2008).

The empirical literature has also demonstrated that EAP promotes the development of emotion management skills. As noted previously, due to the nature of horses as prey animals, it is crucial to communicate calmly and non-reactively with them. This encourages the development of skills such as emotional awareness, self-control, emotion regulation, and impulse modulation (Marx & Cumella, 2003). In a study of EAP performed with at-risk and delinquent adolescent girls, Foley (2008) noted improved emotion management among 47.8% of participants. While developing a therapeutic bond with a horse, clients learn to identify their emotions as well as direct and channel them into appropriate conduct while establishing a sense of assertiveness, empowerment, empathy, patience, and self-worth (Bizub, et al., 2003; Brouillette, 2006; Ewing, et al., 2007; Frame, 2006; Greenwald, 2001; Trotter et al., 2008).

EAP has been shown to decrease depressive symptoms, including subjective experiences of sadness. Trotter et al. (2008) assessed depression in children prior to and following their participation in an EAP program using the Behavior Assessment System for Children, Parent Rating Scales (BASC:PRS), and determined that EAP led to a significant decrease in depression among the children. Likewise, EAP has also been demonstrated to decrease depression among adult women. In an experimental pre-posttest comparison design, Graham (2007) studied women who had suffered a catastrophic loss within the past 24 months, assessing their depressive symptoms with the Beck Depression Inventory, Second Edition (BDI-II). Graham found that the subjects' depression scores were significantly lower following participation in an EAP program.

A number of studies indicate that at-risk children and adolescents are a population that significantly benefits from participation in EAP. In a qualitative and quantitative pre-posttest comparison study, Ewing, et al. (2007) revealed through interviews and observations that positive changes occurred within youth who suffered from severe emotional disorders following participation in EAP. Trotter et al. (2008) administered the Behavior Assessment System for Children (BASC) to at-risk children and adolescents following the implementation of an EAP program and found a decrease in negative behaviors and an increase in positive behaviors. The BASC Self-Report revealed improvement on the Emotional Symptom Index, Clinical Maladjustment Composite, Atypical Scale, Sense of Inadequacy Scale, and Relationship with Parents Scale. Likewise, improvement was observed on several subscales of the BASC Parent Rating Scales: Adaptive Skills, Hyperactivity, Aggression, Conduct Problems, Anxiety, Depression, Somatization, Attention Problems, Social Skills, Behavioral Symptoms Index, Externalizing Problems Composite, and the Internalizing Problems Composite. Foley (2008) noted improvements among delinquent and at-risk adolescent girls housed in a residential facility, following their participation in an EAP program, which generalized to the residential facility itself. Specifically, the girls appeared to engage more fully in their treatment program, they demonstrated an increased ability to focus their attention, and an increased ability to cope with their environments. Staff of the residential facility reported that the girls evidenced fewer problem behaviors and increased proactive behaviors. The staff also asserted that the EAP program had improved the girls' attitudes towards themselves and men, such as their EAP "coach." The girls themselves reported an increased sense of empowerment, improved emotion management, and an increased ability to deal with the negativity that surrounded their residential environment.

Whitely (2009) also explored the benefits of an EAP program with at-risk adolescents. The Youth Outcome Questionnaire Self-Report (Y-OQ-2.0 SR) and the Youth Outcome Questionnaire parent/guardian version (Y-OQ-2.0) were used to measure the therapeutic benefits of EAP. The latter revealed the parents' and guardians' views that the participants' overall psychosocial functioning had improved following participation in EAP sessions, with a clinically significant improvement in the Total Score, the Intrapersonal Distress Scale, the Interpersonal Relations Scale, and the Behavior Dysfunction Scale. Moreover, the at-risk adolescents evidenced clinically significant improvement on the Y-OQ-2.0 SR on the Total Score and the Intrapersonal Distress Scale. A qualitative analysis was also performed which revealed a number of themes, among them an improvement in relationship skills. Specifically, through the relationships the participants developed with the horses, their fellow participants, and the facilitators, the participants learned the essential components of a healthy relationship, such as trust and respect, which the participants were able to generalize to outside relationships. The qualitative analysis also demonstrated that the participants had discovered the value of self-regulating their emotions and behaviors. The mirroring behavior of the horses had prompted the participants to examine their own emotions. They furthermore acquired self-regulation skills as they had to control their emotions to interact effectively with the horse. Moreover, participants gained a sense of responsibility as their actions led to immediate consequences. A theme of self-awareness also emerged in which the participants connected with an internal locus of control and redefined their coping strategies. Additionally, the participants acquired an increased sense of self-efficacy and self-esteem, which enhanced their self-concept. Finally, the participant's empathy was found to have increased following their participation in EAP.

Other populations that have been shown to benefit from EAP are children who have experienced intra-family violence and adult victims of domestic violence. Schultz, et al. (2007) assessed children aged four to 16who had experienced intra-family violence, utilizing an observational cross-sectional study using the Children's Global Assessment of Functioning (GAF) Scale. This scale was used to assess changes in psychosocial functioning following the administration of an EAP program. The study determined that all participants revealed an improvement in GAF scores, with a positive correlation between the number of EAP sessions attended and the percentage of improvement. In regards to victims of domestic violence, working with horses requires consistency and assertiveness; therefore, this therapeutic modality may be especially helpful to this population who tend to have a deficiency of assertiveness (Kersten, 1997). Victims of domestic violence can be taught these assertiveness skills and how to generalize them to other areas in their lives. Both of these populations also benefit from participation in EAP because they can physically interact with the horses on an intimate basis at a speed that they control (Vidrine, et al., 2002).

Kaiser, Spence, Lavergne, and Bosch (2004) were curious as to what would happen if they provided EAP for children who were not suffering from any psychological disorder. The participants in their observational pre-posttest comparison study ranged from seven- to 17-years-old, and they were assessed using the Children's Inventory of Anger prior to and following participation in a therapeutic riding camp. The researchers found that after a mere five days of participation the subject's overall scores significantly decreased. Moreover, the subscales Authority Relations, Peer Relationships, and Physical Aggression decreased significantly as well, leading the researchers to conclude that EAP can decrease levels of anger in psychologically healthy children.

EAP has also demonstrated significant benefits when utilized with participants with eating disorders. Research has demonstrated that the implementation of an EAP program with this population led to a decrease in Beck Depression Inventory, Second Edition (BDI-II) scores, as well as an improvement in Eating Disorder Inventory, Second Edition (EDI-II) scores (Lutter, 2008). Helm (2009) also studied EAP in relationship to participants with eating disorders, and reported that one participant stated that EAP was less "threatening" than individual therapy in an office. Another participant felt that she had learned how to communicate her feelings more openly and effectively, leading to the development of trust and self-confidence.

Qualitative studies have revealed additional benefits of EAP. In an observational one group pre-posttest with follow-up design, Klontz et al. (2007) found that among adults ranging in age from 23- to 70-years-old, improvements occurred in a number of areas following participation in EAP. Participants were more present-oriented and able to exist in the here-and-now, and less troubled by future-related fear. Guilt, resentments, and regret all became less burdensome for participants. Additionally, participants increased in independence while simultaneously becoming more self-supportive. This research also demonstrated a decrease in reported psychological symptoms and a decrease in the intensity of distress that the symptoms caused. These benefits were still present six months after the cessation of the EAP program. Peterson (2010) conducted a phenomenological narratology study involving participants' experiences with EAP and seven themes became clear within their stories: trust, friendship, bravery, alternative fun, responsibility, confronting one's self, and peace.

EAP has even been utilized with couples. Russell-Martin (2006) compared EAP couple's therapy with solution-focused couple's therapy in an observational pre-posttest comparison

study. While the initial three weeks of therapy revealed the two modalities to be equally efficacious, by the sixth week EAP was demonstrated to be more effective as assessed by the Dyadic Adjustment Scale (DAS). The researchers assert that EAP is effective in treating relational adjustment issues among couples in as few as six sessions.

Finally, EAP has been demonstrated to result in numerous other benefits for participants. For one, the active nature of EAP helped participants fall asleep at night (Bizub, et al., 2003). The group format, typical for many EAP programs that work with children and adolescents, allows for a focus on developing peer relationships within a positive environment (Karol, 2007). Various tasks in EAP, such as teaching a horse to kick a ball, require the client to break a task down into small, manageable steps (Myers, 2004). EAP programs are also beneficial because they teach vocational skills and provide clients with an opportunity for community service (Iannone, 2003). Horses offer opportunities for both giving and receiving affection, which children need for sufficient growth and personality development (Folse, Minder, Aycock, & Santana, 1994). While adolescents may not typically express feelings of vulnerability to others, they are able to show affection, trust, and vulnerability to horses (Esbjorn, 2006). For spiritual clients, participation in EAP can promote spiritual growth as the client experiences the beauty and wonder of nature (Marx & Cumella, 2003). Foley (2008) noted that 30% of participants in EAP improved their ability to focus their attention. The motion of riding a horse can also prevent a rider from dissociating and return them to the present moment (Esbjorn, 2006). Autistic children displayed improved motor proficiency and sensory integrative functions following the administration of EAP (Wuang, Wang, Huang, & Su, 2010). Finally, throughout EAP sessions the therapist and the horse professional model appropriate, prosocial behavior to

the clients. The relationship between the two serves as an example of open communication, respect, cooperation, and collaborative decision making (Rothe et al., 2005).

Adolescence and Substance Abuse

Normative development during adolescence. Adolescence is a time of many changes in multiple domains; however, there are a number of markers of normative adolescent development. For example, the transition into middle school and high school (Wagner, 2008), the focus on immediate concerns (Mark, et al., 2006), and the process of separation and individuation. The latter involves a shift from youth experiencing closeness with their parents to an increasing closeness with peers (Savin-Williams & Berndt, 1990) as adolescents begin to physically and emotionally separate themselves from their family (Mark et al., 2006). The peer group gains great importance for the adolescent during this period of development (Macgowan & Wagner, 2005). In fact, the peer group becomes so central to adolescents that peer substance use is viewed as among the most powerful risk factors for substance abuse among adolescents (Beauvais, 1992). The stronger affiliation with peers that develops increases the peers' influence on the individual adolescent (MacMaster, Holleran, & Chaffin, 2005). The individual adolescent's identity, including who they are and who they want to be, becomes based on the group of peers they choose to associate with. The nature of parent-child interactions throughout adolescence changes as well. Whereas interactions were previously based upon parents' unilateral control of behavior, during adolescence interactions increasingly focus on conversation, negotiation, and joint decision-making (Clark, Horton, Dennis, & Babor, 2002).

Throughout this period of development, subjective rankings of closeness between parents and adolescents decrease, as do objective measures of child-parent interdependence (Wagner, 2008).

Conformity behavior is normative throughout preadolescence and early adolescence (Miyajima & Naito, 2008) but may decline during middle to late adolescence (Mussen, Conger, & Kagan, 1974). Conformity to peers has been demonstrated to be a more effective predictor of risk behavior than peer pressure, and both have been shown to be better predictors of risk behavior than a desire to be popular (Santor, Messervey, & Kusumakar, 2000). The increased conformity behavior that occurs in early adolescence is associated with an increased dependence on the peer group. However, there exist several factors that influence conformity behavior. For instance, it has been suggested that girls tend to conform to the pressure of the peer group to a greater extent than do boys (Schinke, Botvin, & Orlandi, 1991). Additionally, high-status as opposed to low-status peers have been found to be more influential in adapting both the pro-alcohol and anti-alcohol norms of adolescents (Teunissen, Spijkerman, Prinstein, Cohen, Engels, & Scholte, 2012).

Formal operational thinking also develops during adolescence (Piaget, 1969). Following the commencement of puberty, adolescents gain the ability to think about and reason over hypotheses about the world, and are able to deduce and to think abstractly. Over time, their ability to think in a theoretical manner increases and they are able to critically dissect their thoughts. This ability to think critically allows adolescents to discover inconsistencies or flaws in the logic of arguments presented by adults, including those concerning substance abuse (Schinke, et al., 1991). The development of formal operational thinking also allows adolescents to develop counterarguments to anti-drug messages, as well as create rationalizations for substance abuse and for ignoring the associated risks.

Throughout adolescence the brain continues to develop. The prefrontal cortex/limbic system matures, resulting in an increased ability to self-regulate, increased executive mental functions, and increased cognitive capacity (Wagner, 2008). Galanter and Kleber (2008) highlight adolescent brain development in regions associated with impulsivity and motivation. The maturational changes in the frontal cortical and subcortical monoaminergic systems help explain the tendency of adolescents to act impulsively and to seek novelty (Galanter & Kleber, 2008). Although these maturational changes may be advantageous in terms of promoting learning drives for the adaptation to adult roles, they may simultaneously lead to increased susceptibility to the addictive nature of substances (Chambers, Taylor, & Potenza, 2003). In addition to the maturation of the brain, physical changes occur throughout adolescence as well. The alteration in physical appearance which occurs signals to both the adolescent and their parents and society at large that they are no longer children (Bukstein, 1995). The development of secondary sexual characteristics alters the nature of social relations for the adolescent, particularly in regards to interactions with members of the gender or genders that they are attracted to.

Some degree of experimentation with illicit substances has been determined to be statistically normative for adolescents in the United States (Kaplow, Curran, & Dodge, 2002; Winters, Newcomb, & Fahnhorst, 2004). The Substance Abuse and Mental Health Services Administration (SAMHSA) reported that in 2011, 10.1% of adolescents between the ages of 12 and 17 abused illicit substances, while 21.4% of adolescents and young adults aged 18 to 25 abused illicit substances (SAMHSA, 2012). Swendsen, et al. (2012) determined that by late adolescence 78.2% of adolescents in the United States had consumed alcohol. Additionally, 81.4% of adolescents reported that they had experienced the opportunity to use illicit drugs,

45.2% had actually used substances, and 16.4% abused substances. Moreover, the median age of onset of alcohol abuse with or without dependence was 14-years-old. Likewise, the median age of onset for drug abuse with dependence was 14-years-old, and 15-years-old for drug abuse without dependence. The majority of adolescents are able to steer their way through this period of experimentation without significant consequences to their development, and most "mature out" of this behavior (Labouvie, 1996). Psychoactive substances may be taken as part of the maturation process of adolescents, typically in culturally accepted circumstances, such as consuming alcohol on the weekend. This can be viewed as normative regarding both prevalence and developmental task perspective (Newcomb & Bentler, 1988).

Adolescent substance abuse & associated risk factors. Adolescents who abuse substances have typically been exposed to numerous risk factors, as their substance abuse tends to be multi-determined (Hersen & Ammerman, 1995). It has been suggested that with increased exposure to risk factors, there is an increased likelihood that the adolescent will abuse substances. Risk factors not only predict substance use but also predict an increase in substance use over time (Scheier & Newcomb, 1991), suggesting that substance use is engaged in as a coping mechanism for dealing with these risk factors. The type of risk factor appears to be less essential in predicting substance use than does the accrual of risk factors in the adolescent's life (Hersen & Ammerman, 1995).

A robust finding in the empirical literature is the association between an adolescent's substance abuse and the substance abuse of their friends (Sale, Sambrano, Springer, & Turner, 2003; Scull, Kupersmidt, Parker, Elmore, & Benson, 2010; Simons-Morton & Chen, 2006; Rumpold, et al., 2006; Wu, Lu, Sterling, & Weisner, 2004). This is due to socialization as well

as the selection of friends who possess comparable values and behaviors to oneself ("associative pairing") (Kandel, 1978). Having a greater attachment to peers, as opposed to parents, increases the vulnerability of adolescents to peer influences (Brook, Lukoff, & Whiteman, 1980; Kandel, Kessler, & Margulies, 1978). Similarly, having a strong bond with one's parents and family leads to reduced odds that an adolescent will abuse substances (Pilgrim, Abbey, & Kershaw, 2004). Simons-Morton and Chen (2006) found that adolescent substance use predicted an increase in the number of substance using friends over time, which suggests an effect of selection and, moreover, that the initial number of substance using friends predicted substance use progression, indicating socialization. Despite these findings regarding reciprocal influences, socialization was a more consistent influence on adolescent substance use than selection was.

Psychopathology is a major risk factor for adolescent substance use (Rumpold, et al., 2006). Adolescent depression and anxiety appear to enhance the risk of later substance abuse (Hersen & Ammerman, 1995). Among the adolescent participants in one study who met criteria for a substance use disorder, 40.5% concurrently met criteria for at least one comorbid Axis I disorder, with a high prevalence of anxiety disorders (22.5%), mood disorders (19.2%), and somatoform disorders (9.3%), as well as conduct disorder among the underage subgroup (41.5%). Additionally, the female subjects displayed a significantly greater risk for lifetime comorbid disorders, especially among anxiety and somatoform disorders (Langenbach, et al., 2010). The "self-medication" hypothesis asserts that individuals with psychiatric disorders engage in substance use so as to assuage these symptoms and cope with their distress (Khantzian, 1985).

A negative family atmosphere is another significant risk factor for adolescent substance use (Rumpold et al., 2006). Specifically, negative communication patterns, inconsistent behavioral limits, and lack of anger control tend to be characteristic of families who have an adolescent who abuses substances (Bukstein, 1995). Inconsistent and poor parenting have been identified as risk factors in and of themselves (Poikolainen, 2002) and a deficit in closeness between a parent and child has been found to be a predictor of the use of illicit substances other than marijuana (Kaminer, 1994). Among adolescent females, family conflict was significantly associated with substance use (Skeer, et al., 2011). For Hungarian youth, negative family interactions serve as a risk factor for adolescent use of tobacco as well as alcohol consumption (Piko & Balazs, 2012). Parental monitoring of adolescents is also connected to adolescent substance abuse, with poorer monitoring predicting early adolescent substance use (Molina, Chassin, & Curran, 1994), which may be due to the parental naiveté of the adolescent's exposure to peers who abuse substances and to high-risk environments (Bukstein, 1995). Among African American adolescents, both low parental supervision and exposure to negative neighborhood activities increases the onset of substance use by the 8th grade (Burlew, et al., 2009). Family substance use, including parental use, constitutes another risk factor for adolescent substance use (Clark, Cornelius, Kirisco, & Tarter, 2005; Poikolainen, 2002; Sale, et al., 2003), as does parental psychopathology (Buu, et al., 2009).

If adolescents experience physical, sexual, or emotional abuse then they are at an increased risk for substance use (Moran, Vuchinich, & Hall, 2004). However, the effect of emotional abuse on later substance use was lower than the effect of physical or sexual abuse alone, while the greatest effect on later substance use was the experience of a combination of physical and sexual abuse. Shin, Hong, and Hazen (2010) found that children exposed to sexual

abuse were at particular risk for developing an adolescent substance use disorder, even after controlling for age, ethnicity, parental and family substance use, peer substance use, psychopathology, and other types of childhood maltreatment. Adult females with substance use disorders had rates of childhood sexual abuse that were nearly two times higher than those found among the general population, with a similar pattern for adult females who experienced childhood physical abuse (Simpson & Miller, 2002). Additionally, adult males with histories of childhood sexual abuse were determined to be at greater risk for substance use disorders than those in the general population, although the same was not true for men who experienced childhood physical abuse.

A number of factors exist in childhood that can predict the later use of substances in adolescence. Temperament is predictive of later substance use (Feldstein & Miller, 2006), including innate aggressiveness and impulsivity (Clark, et al., 2005; Poikolainen, 2002). Crawford, Pentz, Li, and Dwyer (2003) determined that sensation seeking had strong predictive value for current and later alcohol and marijuana use among adolescents. Additionally, maladaptive conflict resolution styles have been associated with cigarette smoking, alcohol consumption, and marijuana use (Colsman & Wulfert, 2002).

The commencement of substance use at an early age is a risk factor for later substance use (Becker, Curry, & Yang, 2011; Clark, et al., 2005). Gil, Wagner, and Tubman (2004) found strong associations between substance use in early adolescence and substance use disorders and psychiatric disorders during young adulthood. The researchers noted that the strength of these associations differed by racial and ethnic group, with the strongest associations among African Americans and Hispanic immigrants, who reported the lowest early-adolescent substance use.

Researchers have suggested that adolescents often use substances to further their identity formation. Sanders (2011) found that adolescent males often engage in substance use as a means of achieving masculinity. Adolescents can gain a sense of identity from using illicit substances, especially if they use substances as part of a gang or social clique that has rites of initiation, symbols, and its own identity (Mason & Collison, 1995). Additionally, adolescents who are lonely or confused about who they are, or who feel isolated from others, may find a group of peers who abuse substances to be appealing.

Additionally, another risk factor for substance use in adolescence is academic failure or poor academic performance (Hersen & Ammerman, 1995; Rumpold et al., 2006). However, it is unclear whether the academic performance itself, as opposed to factors that would result in poor academic performance, represents the true risk factor for later substance use. Factors that may lead to poor academic performance include the presence of learning disabilities, Attention-Deficit/Hyperactivity Disorder (ADHD), low IQ, or poor socialization (Bukstein, 1995). Yet it is known that a low commitment to school corresponds to a risk factor for substance use among youth (Hersen & Ammerman, 1995). Engberg and Morral (2006) found that reductions in alcohol consumption and illicit drug use, and the elimination of marijuana use, are each independently associated with increased school attendance.

Moreover, an additional risk factor for adolescent substance use is if substances are readily available to the adolescent (Hawkins, Catalano, & Miller, 1992). Extreme poverty represents another risk factor, as does neighborhood instability (Buu, et al., 2009). Community violence is associated with adolescent substance use, which emphasizes the importance of addressing violence witnessed by adolescents in prevention and intervention efforts (Lee, 2012;

Zinzow, et al., 2009). Individual traits can also be risk factors for substance use among youth. Sensation-seeking or the "need for excitement" is a risk factor (Hersen & Ammerman, 1995). Another trait common among adolescents, but which amplifies their risk of using substances, is having a sense of invulnerability and immortality. Those adolescents who use substances indeed tend to display a lack of concern regarding the deleterious effects linked to substance use (Schinke, et al., 1991).

Chen and Jacobson (2012) identified gender and racial differences among adolescents who use substances. Adolescent girls displayed higher levels of substance use in early adolescence while males showed higher levels of use in mid-adolescence and early adulthood. Although Hispanic adolescents had higher initial rates of substance use, Caucasian youth displayed the highest levels of substance use from mid-adolescence through the early 30s. Racial differences appeared to largely disappear after age 30, with the exception that African Americans had greater levels of marijuana use than other racial groups. Chen and Jacobson (2012) assert that based upon their findings, critical periods for intervention and prevention of substance use likely differ across gender and race. Sexual orientation is also a critical risk marker for adolescent substance use (Marshal, et al., 2008; Marshal, Friedman, Stall, & Thompson, 2009). Adolescents who identified as homosexual or bisexual reported higher initial rates of substance use compared with youth who identified as heterosexual. Additionally, their substance use increased over time more rapidly.

A serious consequence of adolescent substance use is its association with suicidal behavior (Esposito-Smythers & Goldston, 2008). Given the commonality of the occurrence of substance use disorders and suicidal ideation and behaviors, it appears that they are often

functionally interrelated (Esposito-Smythers, et al., 2012). Adolescents who commit suicide are often under the influence of alcohol or other substances (Brent, 1987). One reason for this relationship may be because intoxication can be experienced as a severe dysphoric condition, accompanied by impaired judgment and behavioral disinhibition. Additionally, engaging in substance use can also aggravate preexisting psychopathology, particularly depression, anxiety, and impulse dyscontrol (Galanter & Kleber, 2008).

Differences between adult and adolescent substance abuse. Substance abuse in adolescence greatly differs from substance abuse in adulthood. Indeed, some researchers have contended that the DSM-IV-TR criteria for substance abuse and dependence are inappropriate for adolescents (Bailey, Martin, Lynch, & Pollock, 2000; Chung, et al., 2000; Wagner, Lloyd, & Gil, 2002). Martin and Winters (1998) assert that one glaring weakness is the lack of information regarding the overall validity of the criteria for adolescents. Another weakness is that a number of symptoms in the DSM-IV-TR are atypical for adolescents who abuse substances, such as the presence of substance-related medical problems. Additionally, some of the symptoms listed possess low specificity in differentiating adolescents that do and do not engage in substance use, for instance tolerance to the effects of alcohol. Finally, some of the symptoms are apt to arise in specific subgroups of adolescents, for instance, legal problems typically present with older male adolescents who have conduct disorders. Wagner (2008) adds that the symptoms in the DSM-IV-TR do not take into account the quantity or frequency of alcohol consumption, leading to the chance that an adolescent could be heavily involved with alcohol but still not be eligible for a diagnosis of alcohol abuse or dependence.

Chassin, Flora, and King (2004) observed that there tends to be an age-related trajectory of substance use, leading some to consider substance abuse and dependence as developmental disorders. Substance use typically begins with the onset of early adolescence, continues with an escalation of substance use in late adolescence, followed by a decline in adult use. It should be noted, however, that both alcohol and other substance use have been observed to be more common in those who mature early (Susman & Rogol, 2004).

In adolescence the move from casual use to dependency can occur more quickly than among adults (Winters, 1999). Adolescents also exhibit more variable and heterogeneous patterns of substance use than do adults (McWhirter, 2008). Additionally, adolescents present more frequently with comorbid psychopathology that often precedes the commencement of substance use and frequently does not abate with abstinence (Kandel, Johnson, Bird, & Canino, 1997; Riggs, Baker, Mikulich, & Young, 1995; Rohde, Lewinsohn, & Seeley, 1996). Early onset substance use disorders, which begin in adolescence, are associated with greater psychiatric comorbidity and have a poorer prognosis than substance use disorders with an onset in adulthood (Wilson, 2010). Moreover, another difference between adolescent and adult substance use is that among adolescents there is a higher proportion of binge and opportunistic use, as well as lower recognition that their use is problematic (Brown, Anderson, Ramo, & Tomlinson, 2005; Godley & White, 2005). Adolescents are also subject to a different set of influences to abuse substances than are adults, including peers at school (Mark et al., 2006). Additionally, adolescents rarely self-refer themselves to treatment and instead are more likely to be referred by a parent, child welfare worker, or member of the juvenile justice system (Muck, Zempolich, Titus, Fishman, Godley, & Schwebel, 2001). Therefore, clinicians must be sensitive to the lesser degree of motivation for treatment held by adolescents (Winters, 1999). Finally,

adolescents receive treatment most frequently for abusing marijuana, which tends to pose an increased risk for abuse and dependence if first used during adolescence, as opposed to later in life (Dennis, Babor, Roebuck, & Donaldson, 2002; Dennis, Titus et al. 2002). In fact, the majority of adolescents who engage in substance use partake in marijuana and alcohol consumption (McWhirter, 2008).

It is crucial to note, however, that not all adolescents who abuse substances are, or will become, dependent (Shedler & Block, 1990). Therefore, clinicians should be wary of prematurely diagnosing adolescents, or of compelling them to acknowledge that they suffer from a chronic disorder that requires life-long abstinence (Winters, 1999). Nevertheless, even occasional substance use can lead to serious consequences, such as alcohol- and substance-related motor vehicle accidents. In 1995 the Center for Disease Control and Prevention estimated that 18% of drivers from 16- to 20-years-old drive while intoxicated by alcohol (Winters, 1999).

Treatment approaches. Some researchers have contended that recovery from adolescent substance use will most likely be typified by only partial treatment compliance, a significant chance of relapse following treatment, and, for the most severe cases, a long-term and chronic course of symptoms (Winters, 1999). Nevertheless, there exist a number of treatment options for adolescent substance use which have been noted to be at least somewhat efficacious.

The most common treatment model utilized for adolescent substance abuse is the 12-step approach, also known as the Minnesota Model or the Alcoholics Anonymous (AA)/Narcotics Anonymous (NA) approach (Muck et al., 2001). This model labels substance use as a disease

that has to be dealt with throughout the adolescent's life, with the goal being complete abstinence. The main mode of treatment in this approach is group therapy, but these programs also include components of lectures and psychoeducation, family counseling, individual counseling, written assignments, such as step work, attendance at AA/NA meetings in the community, recreational activities, and participation in aftercare. The counselors in these programs are frequently former substance users who are in recovery themselves. They, therefore, act as role models to the participants. Research has suggested that adolescent attendance at AA and NA meetings strengthens and broadens the benefits of community outpatient treatment (Kelly, Dow, Yeterian, & Kahler, 2010). However, the results at 1-year and 2-year follow-up periods are mixed (Muck et al., 2001). Moreover, participation in this treatment model is less common among less severe adolescent outpatients (Kelly, et al., 2010) so that only the most severe adolescent outpatients attend community AA/NA meetings. Additionally, compared with adults, fewer adolescents in general attend 12-step groups, and among those that do attend, they do so less intensively and they discontinue more quickly (Kelly, Yeterian, & Myers, 2008). Findings indicate that lower adolescent participation is due to factors other than a lack of clinical enthusiasm or referrals. Kelly, Myers, and Brown (2000) found modest beneficial effects of 12-step groups for adolescent substance use disorders, which were mediated by motivation, suggesting that attention be paid to motivational factors in treatment. One advantage to this model is the use of group therapy, which can be ideal for adolescents who are apt to rely on peer examples and approval. However, group counselors must be highly skilled to prevent disruptive adolescents from encouraging negative behavior in others (Winters, 1999). One downside to this model is that there is a paucity of youth-friendly AA/NA meetings in the community, presenting a barrier to posttreatment work.

Cognitive-behavioral therapy (CBT) has also been utilized to treat adolescent substance abuse. This model posits that substance abuse is a learned behavior that can be modified by using behavior modification interventions and addressing underlying cognitive processes, beliefs, and environmental cues, as well as by teaching coping skills (Muck et al., 2001). The aim of the CBT approach is for the adolescent to unlearn the use of substances as a coping mechanism and to instead learn different, prosocial ways in which to cope with distress. According to this model, adolescents who abuse substances have a variety of maladaptive thoughts and behaviors that place them at risk (Clayton, 1992), for instance, false beliefs regarding the effects of substances, elevated assessments of substance use among peers, and deficiencies in coping skills (Winters, 1999). These beliefs and behaviors are targeted in treatment while factors that defend against relapse are promoted, for instance, coping skills, creating a peer group that is substance-free, and academic achievement. Some of the skills that are typically taught in this model include substance refusal skills, how to resist peer pressure to engage in substance use, communication skills (e.g., conflict resolution, assertiveness training, nonverbal communication), problem-solving skills, anger management, relaxation techniques, how to develop a social network, and leisure time management (Muck et al., 2001; Winters, 1999). Role-plays are often utilized so that the adolescent can attempt new behaviors in a low-risk situation prior to trying out the behaviors in the real world. Parents and staff are encouraged to provide positive reinforcement when the adolescent displays new behaviors. Similar to the CBT approach in traditional individual psychotherapy, homework is often assigned. Group CBT has been established as an effective model for adolescent substance abuse treatment (Waldron & Turner, 2008; Vaughn & Howard, 2004), countering the contention that group treatment results in iatrogenic effects (Waldron & Kaminer, 2004). Moreover, individual CBT is associated with

clinically significant reductions in adolescent substance use. Kaminer, Burleson, and Goldberger (2002) compared CBT with psychoeducational therapy among adolescents and found that subjects in the CBT condition had fewer positive urinalysis tests than did subjects in the psychoeducational therapy condition. Mason and Posner (2009) conducted research with urban youth with substance use disorders that supports the efficacy of using a brief, manualized treatment, specifically Motivational Enhancement Therapy/Cognitive Behavioral Therapy (MET/CBT-5). Likewise, MET/CBT-5 has been demonstrated to be superior to standard community-based adolescent substance use treatment (Hunter, et al., 2012).

Family-based interventions are another common approach to treating adolescent substance use (Muck et al., 2001). This modality has the strongest evidence of comparative effectiveness (Tanner-Smith, Wilson, & Lipsey, 2013). This model views the family as an assortment of subsystems that each possess a variety of roles. When the boundaries or roles are unclear or inappropriate for a subsystem then adolescent substance use may occur. Therefore, this model teaches techniques that will clarify family roles and boundaries, so that the family no longer engages in maladaptive interaction patterns (Muck et al., 2001). This model applies treatment at multiple levels, including working with individual adolescents, parents, parent-adolescent combinations, as well as with whole families (Winters, 1999). Some engagement strategies include stressing the presenting problem, appraising stressors that contribute to the presenting problem, and targeting stressors most open to change (Liddle, 1994). One crucial factor in family therapy regards providing psychoeducation to the parents and older siblings, given the association between parental and older sibling substance use and use by younger children or adolescents (Brook, Cohen, Whiteman, & Gordon, 1992). One intervention demonstrated to be effective and often utilized is contingency contracting (Stanger & Budney,

2010). Moreover, when the therapist reframes or relabels behavior it helps the family to see the problem behavior in a new light, which can lead to novel insights as well as opportunities for the family to repair or develop relationships (Muck et al., 2001). Ozechowski and Liddle (2000) reported that strong empirical backing exists for this model's efficacy in tackling adolescent substance use, as well as internalizing and externalizing behavioral problems and psychiatric comorbidity. These researchers further reported that factors such as involvement in school, reductions in peer-associated delinquent behavior, and improved family functioning are all enhanced through this model. Slesnick, Bartle-Haring, and Gangamma (2006) found that among adolescents who participated in family therapy, their substance use decreased as their family cohesion increased over time. These researchers argue that increasing positive communication interactions should be a target of intervention. Participation in a preventive family-centered intervention by rural African American adolescents demonstrated that following completion, they evidenced lower increases in substance use, conduct problems, and depressive symptoms than adolescents in a control group (Brody, et al., 2012). Multidimensional family therapy has been shown to decrease marijuana use among adolescents with dependence as well as alcohol consumption, which continued at 12-month follow-up (Liddle, Dakof, Turner, Henderson, & Greenbaum, 2008). Multidimensional family therapy is effective (Vaughn & Howard, 2004) in part due to the improvement in parental monitoring (Henderson, Rowe, Dakof, Hawes, & Liddle, 2009).

Residential treatment programs, or therapeutic communities, are typically utilized with adolescents who have the most severe substance abuse issues (Muck et al., 2001). This model posits that substance abuse stems from an interruption in normal personality development as well as deficiencies in interpersonal skills and goal attainment. Therefore, therapeutic communities

exist so as to provide a structured and safe environment that the adolescent can inhabit while developing more adaptive attitudes, beliefs, and personal and social behaviors (Jainchill, 2006). One method by which therapeutic communities teach self-development is through the adolescent's involvement in chores, jobs, and facility management roles (Winters, 1999). Inpatient treatment for adolescents who abuse substances has many benefits, including the ability to control the adolescent's environment, which includes preventing exposure to substance-promoting influences like music, television, and substance-using peers. It also separates the adolescent from an often problematic family situation. Finally, it amplifies the intensity of treatment because every daily activity can take on a therapeutic role (Bukstein, 1995). Living in a therapeutic community is very structured. During the day adolescents attend classes and tutoring, as well as individual and group therapy, participate in recreation, group activities, seminars, chores, jobs, and occupational training (Muck et al., 2001; Winters, 1999). Frequently family members will participate in the treatment as well. Similar to 12-step programs, the counselors in residential therapeutic communities are often rehabilitated former substance abusers themselves (Muck et al., 2001). Research on adolescent residential therapeutic communities has demonstrated significant reductions in substance use and criminal activity among adolescents who complete treatment (Jainchill, Hawke, De Leon, & Yagelka, 2000). At 5-year follow-up, substance use other than alcohol and marijuana was infrequent and there was decreased involvement in criminal activities (Jainchill, Hawke, & Messina, 2005). When studying therapeutic communities, researchers found that halfway through the treatment positive changes were evident in terms of factors such as self-esteem, as well as behavioral indicators, specifically the ability to control aggressive behavior and decreased suicidal ideation (Jainchill, 1997). Approximately 44% of the adolescents in residential treatment completed their full

treatment program. Six months after that, researchers noted significant reductions in the use of methamphetamine, hallucinogens, and inhalants. Furthermore, over 66% reported either a significant decrease in alcohol use or reported that they were completely abstinent.

For adolescents who are willing to enter treatment but do not have abstinence as an immediate goal, Harm Reduction services provide an opportunity for treatment (MacMaster, et al., 2005). This method of treatment aims to remove the negative consequences of substance use without eradicating substance use entirely (Kilmer, Cronce, Hunt, & Lee, 2012). Those who practice under this model do not promote abstinence as the sole answer to the problem of substance abuse, but do aim to intervene so as to decrease drug-related harm. The Stages of Change model (Prochaska & DiClemente, 1982) indicates that total abstinence may be unreasonable to expect from an adolescent right away (MacMaster, et al., 2005). It is crucial to provide interventions that address the adolescent's current stage of change, while also attempting to increase their motivation to change. This allows adolescents who are not yet ready for abstinence to receive much-needed services. There exists some empirical support for the efficacy of Harm Reduction. This modality has been demonstrated to be effective in working with youth involved in risky and intravenous substance use (Toumbourou, et al., 2007).

The utilization of group therapy for treating adolescent substance abuse is a common approach (Khantzian, 2001). Its popularity is due in part to the significance of peers during this developmental stage (Erikson, 1968), which leads adolescents to appear to enjoy this particular therapeutic modality (Macgowan & Wagner, 2005). Group therapy is also cost-effective (Taylor, et al., 2001). French, et al. (2008) determined that among four types of interventions the least expensive intervention, group therapy, was the most cost-effective as demonstrated by

outcomes at 7-month follow-up. However, possible iatrogenic effects should be considered when group members include adolescents with conduct problems. Groups who have members that express disruptive behavior tend to show a weaker response to treatment than do groups with members who show lower degrees of this behavior.

Factors impacting treatment. Despite the great need for many adolescents to receive substance abuse treatment, only a small proportion who tend to have the most severe substance use disorders, comorbid psychiatric disorders, or legal issues, receive treatment (Kaminer, 2001). The Substance Abuse and Mental Health Services Administration (SAMHSA) reviewed adolescent substance abuse treatment programs and identified elements that were common among empirically grounded treatments that led to positive outcomes (MacMaster, et al., 2005). These elements include a structured curriculum that is clear and that provides simple directions, consistent messages delivered via a number of channels, and a concentration on personal strengths and assets as opposed to deficiencies. Additionally, these treatments provide content that speaks to life skills and skills associated with substances, given that substance-related psychoeducational content is not enough in and of itself. Moreover, these programs provide occasions to practice acquired knowledge, and emphasize the assimilation of the programs into the adolescent's day-to-day life. Relationship building prior to the provision of program content is emphasized in order to lead to positive outcomes. Furthermore, these programs highlight moving beyond change on an individual level and onto community building. Finally, these programs attempt to make use of social networks and parental involvement when possible, and underscore continuity through fidelity to the program.

Plant and Panzarella (2009) as well as Friedman and Beschner (1990) have identified features of treatment programs that are linked with increased rates of abstinence and fewer relapse episodes. The researchers contend that these features should be replicated amongst all treatment programs in order to lead to desired treatment effects. For one, programs should be rigorous and of adequate duration to attain attitude and behavior change. These researchers also assert that after-care or follow-up treatment is crucial. Furthermore, treatment methods should be comprehensive and pursue dysfunction that occurs within a variety of areas of the adolescent's life (e.g., comorbid psychiatric disorders, recreational activities, educational or vocational needs, birth control services, and education about substances and related medical issues). Per these researchers, treatment programs should also be responsive to multicultural issues, including socioeconomic status. Family involvement should be an element of a treatment program so as to improve communication within the family, to increase the parents' capabilities to provide consistent structure and limit-setting, and to speak to addiction patterns among the parents. Finally, a wide range of social services should be accessed by treatment programs, including child welfare, the juvenile justice system, Alcoholics Anonymous and Narcotics Anonymous, and recreational programs, so as to assist the adolescent and his or her family in arranging for a substance-free lifestyle. Mark et al. (2006) added additional elements of successful treatment programs such as proper assessment and treatment matching, creating a developmentally suitable program, and possessing qualified staff. Catalano, Hawkins, Wells, and Miller (1990-1991) maintain that the most critical element of treatment efficacy is the provision of a multimodal approach in which a number of different services are utilized. Research has implied that posttreatment monitoring and recovery support services can augment the stability and hardiness of recovery (Mark et al., 2006). Unfortunately, research has displayed

relatively low rates of formal continuing care for adolescents who complete their treatment and even poorer rates for those who leave treatment prematurely (Godley & Godley, 2011). Some have argued for assertive approaches to continuing care which may include shifting the responsibility for service linkage from the adolescent to a care advocate who assures continuity of care.

Research has outlined additional treatment factors for adolescent substance abuse that should be taken into account by treatment providers. Winters (1999) contends that due to the high comorbidity of learning disabilities with substance use disorders, as well as delays in typical cognitive and social-emotional development, treatment providers should be ready and able to assess for learning difficulties and other cognitive delays and adjust the provision of treatment accordingly. Another element in treatment is the similarity in age among treatment participants. Kelly, Myers, and Brown (2005) found that greater similarity in age among 12-step attendees positively influenced attendance rates and the perceived importance of attendance for adolescents. This suggests that directing youth to 12-step meetings where other youth are present may improve attendance and treatment results. Additionally, throughout intake, treatment, and recovery planning, family involvement is key (Feldstein & Miller, 2006; Hornberger & Smith, 2011) and has been demonstrated to improve outcomes (Matheson & Lukic, 2011). In fact, Castro, Brook, Brook, and Rubenstone (2006) argue that father-oriented treatment programs should include a focus on providing psychoeducation to fathers regarding how paternal behaviors, such as inadequate parenting skills, illicit substance use, and a poor father-child relationship, contribute to adolescent substance use. Finally, some argue that the integration of treatment modalities for co-occurring substance use and psychiatric disorders, as

opposed to serial or concurrent treatment, leads to the most positive treatment outcomes (Bukstein & Horner, 2010).

Some researchers contend that community- and school-based treatment approaches should be utilized in the treatment of adolescent substance abuse as they are more developmentally fitting than typical clinic-based treatments (Brown, Anderson, Ramo, & Tomlinson, 2005; Wagner, Swenson, & Henggeler, 2000; Wagner, Tubman, & Gil, 2004). These approaches may also be warranted given the high treatment dropout rates for adolescents, with an average of 40% for outpatient clients (James, 2011). Liddle and Dakof (1995) reviewed retention rates among outpatient and short-term residential settings, and found that the rates fell below 75%. Factors influencing retention include comorbid psychiatric disorders, such that adolescents with mood or adjustment disorders are more apt to complete treatment, whereas adolescents with ADHD or conduct disorder are more likely to terminate early (Adams & Wallace, 1994; Kaminer, Tarter, Bukstein, & Kabene, 1992). Additionally, Cummings, Wen, and Druss (2011) report low treatment rates for substance use disorders among adolescents in general, but particularly among African American and Hispanic youth.

Relapse is a major problem among adolescents who have received substance abuse treatment. Research has demonstrated that following the completion of outpatient treatment, 66% of adolescents relapsed within six months, with the median time to relapse being 54 days (Cornelius, et al., 2003). Within this sample the most common reasons for relapse were withdrawal, social pressure, and negative affect. Among adolescents who had completed inpatient treatment, 79% had used substances by 12-month follow-up (Brown, Tapert, Tate, & Abrantes, 2000). Although only 1% had reported alcohol was their substance of choice while

receiving inpatient treatment, alcohol was involved in 46% of post-treatment episodes of use. Latimer, Winters, Stinchfield, and Traver (2000) determined that risk factors for relapse into substance use included sibling use, peer use, and exhibiting deviant behavior prior to receiving treatment, and noted that shorter treatment length and being male were risk factors for relapse into alcohol use.

Simpson (2001) suggested that retention, or time in treatment, is the best predictor of positive results in adolescent substance abuse treatment. Additionally, a higher degree of engagement early on in the treatment process leads to longer retention rates (Joe, Simpson, & Broome, 1998). This engagement is characterized by participation and therapeutic involvement and includes commitment, treatment confidence, and rapport (Simpson, Joe, & Brown, 1997). Adolescents who are engaged in treatment have a higher likelihood of bonding with counselors, participating, and endorsing treatment goals (Broome, Joe, & Simpson, 2001). Affiliation has been associated with positive therapeutic results in the framework of the alliance between therapist and adolescent (Bachelor & Horvath, 1999). This may be because for both clients and clinicians, affiliation as a relationship dimension is most strongly related to the experience of a working alliance (Bachelor, 1995). The working alliance between adolescent clients and treatment providers represents a small but helpful predictor of relapse at both three and six months posttreatment (Tetzlaff, et al., 2005). Due to the fact that the majority of adolescents are coerced into treatment and do not enter of their own accord, it is a demonstration of the effectiveness of a robust therapeutic relationship that working alliance is a predictor of later substance abuse. Increased situational self-efficacy, or the confidence that one can abstain from substance use in high-risk situations, also predicted subsequent abstinence (Burleson & Kaminer, 2005).

Developmental and other considerations. Adolescence is a critical period of development and, therefore, it is crucial that treatment providers understand the developmental tasks and issues that adolescents undergo. These include negotiating degrees of self-sufficiency and dependence regarding their relationship with their parents or guardians, identity formation, the emergence of sexuality, academic performance, relationships with the peer group, and an alteration of physical appearance (Erikson, 1968). These developmental issues should be an open topic of conversation between the treatment provider and the adolescent so as to understand how these factors played a part in the adolescent's substance use and the role they will play in relapse prevention (Winters, 1999).

Developmental stages are important to consider when treating adolescent substance use as they affect the ability of adolescents to project the consequences of their substance use into the future (Erikson, 1968). Additionally, because the substance use of adolescents has not transpired for a lengthy period of time, the numerous and chronic negative consequences of use have not yet amassed and the potential long-term consequences of this risky behavior are, thus, minimized (Winters, 1999). Developmental levels sway patterns of risk, use, and an interaction between the two (Wagner, 2008).

One result of adolescent substance use is a developmental arrest or regression (Baumrind & Moselle, 1985; Rivinus, 1992). Adolescent substance use props up a false view of reality and blurs reality testing during a crucial period in one's life. It also hinders role definitions as well as transitions between leisure and work. Additionally, using substances in adolescence strengthens an egocentric worldview and endorses grandiose views, affecting the adolescent's locus of control so that the adolescent oscillates between a hypertrophied internal locus of control and a sense of complete external locus of control. Moreover, adolescent substance use provides

adolescents with the opportunity to circumvent confrontation with requests and responsibilities, such as environmental, academic, and vocational demands. Furthermore, using substances separates the adolescent from wider cultural goals and places them within a small subgroup. Substance abuse in adolescent provides an erroneous sense of liberation and freedom while actually leading to reliant and regressive interactions with parents, as well a reliance on social systems (Kaminer, 1994). Rivinus (1992) contends that substance use in adolescence represents a transitional object for the adolescent from which little separation is allowed throughout the many developmental stages and crises. Finally, a negative consequence of adolescent substance abuse is that engaging in a treatment program disrupts adolescents' typical educational and social development (McWhirter, 2008).

An important factor in the treatment of adolescent substance abuse, given that adolescents are frequently coerced into treatment, is the perception of choice. The degree to which an adolescent perceives that they possess choice at every level of treatment predicts treatment retention and positive treatment outcomes (McWhirter, 2008). Catalano, et al. (1990-1991) found that adolescents who feel as though they have choice at entry into a program, and throughout the program, experience more positive feelings toward treatment, display positive progress in treatment, and show decreased posttreatment substance use.

The peer group is so central to adolescents that it is beneficial to utilize older adolescents as therapy role models within group sessions with younger adolescents, in part to assist the younger adolescents' resolution of self-sufficiency from adults (Winters, 1999). The importance of the peer group throughout adolescence has led to research that indicates that adolescents will have greater treatment engagement if the positive benefits of abstinence are tied to their concerns

about relations with their peer group and the formation of their identity (Brown, Anderson, Ramo, & Tomlinson, 2005). The formation of identity has a significant association with gender roles and, therefore, treatment programs should be responsive to these issues. For instance, adolescent boys and girls may feel uncomfortable disclosing personal information to group participants or treatment providers of the opposing sex (Mark et al., 2006).

Comorbid psychiatric disorders must be considered when treating adolescent substance use. Some research has suggested that as many as 67.7% of adolescents who abuse substances concurrently have another type of psychopathology (Langenbach, et al., 2010). Among the most common comorbid disorders are Attention-Deficit/Hyperactivity Disorder, Conduct Disorder (Winters, 1999), anxiety disorders, mood disorders, and somatoform disorders (Langenbach et al., 2010). This comorbidity has been associated with poorer treatment retention as well as earlier relapses that are more severe (Adams & Wallace, 1994; Moss, Kirisci, & Mezzich, 1994). Of note, there are ethnic differences in regards to treatment retention, with ethnic minority youth dropping out of treatment at a greater rate than Caucasian adolescents (Austin & Wagner, 2006). It is of the utmost importance to determine whether an adolescent who presents for substance abuse treatment has a co-occurring disorder. This necessitates a thorough assessment on the part of the treatment provider (Mark et al., 2006). A precise assessment of comorbid psychiatric conditions is critical in the development of interventions that will be efficacious (Winters & Fahnhorst, 2005) and so standardized assessment instruments should be employed (Mark et al., 2006). However, one study reported that only 10% of the treatment programs they reviewed reported utilizing both a standardized substance abuse instrument as well as a mental health instrument (Dusenbury, Brannigan, Falco, & Lake, 2004). In order to be sensitive to developmental stages, Brown (2004) recommends an informal and nonacademic approach to

questioning adolescents during their initial assessment, as well as later on, due to the high probability of academic or interpersonal difficulties among this population. Furthermore, treatment programs must take into account a possible need for medication for a comorbid condition (Winters, 1999).

Gender and age differences represent another factor that treatment providers must attend to. Adolescent girls, for instance, tend to exhibit a significantly higher risk for lifetime comorbid disorders, particularly for somatoform and anxiety disorders (Langenbach et al., 2010). Other research has found that female youth display more internalizing comorbid psychiatric disorders such as posttraumatic stress disorder (PTSD) and major depressive disorder, than do boys who are apt to exhibit externalizing disorders such as conduct disorder (Winters, 1999). An additional difference lies in the fact that adolescent girls may require more focused attention on family problems because they frequently experience intense parental rejection and physical or sexual abuse (Gross & McCaul, 1990-1991). Moreover, adolescent girls who are pregnant or parenting require female-specific specialized services (Winters, 1999).

It is extremely important for treatment programs to attempt to include the adolescent's family in the treatment process due to its potential role in the genesis of the problem behavior, as well as its importance as a mechanism of change in the adolescent's environment (Liddle & Dakof, 1995). However, the level of stability and commitment within the adolescent's family must be taken into account when considering the most appropriate treatment approach. For instance, the family is preferably involved in every phase of the adolescent's treatment; however, with families that are unstable, or in which conflict or abuse occurs, this would not be prudent (Winters, 1999). Family involvement is also important given that adolescents who return from

treatment do not have the choice or ability to change their environment. They return to the same family, neighborhood, and peers as before they entered treatment and, therefore, triggers for substance use continue to surround them.

Protective factors. Protective factors are those elements that buffer or moderate the connection between risk factors and substance abuse (Hersen & Ammerman, 1995). One protective factor is maternal affection and, in fact, the parent-child relationship can exert a strong protective force regarding adolescent substance abuse. The presence of a positive parent-child relationship or attachment, as well as parental involvement in their child's activities, appears to reduce or even discourage adolescent substance use (Pilgrim, et al., 2004). Family factors including cohesion, adaptability, and parental marital happiness greatly affect adolescent substance use (Malkus, 1994; Pilgrim, et al., 2004; Slesnick, et al., 2006). Research has demonstrated that among adolescent girls, having regular family meals has a long-term protective association against the development of substance use, including tobacco, alcohol, and marijuana (Eisenberg, Neumark-Sztainer, Fulkerson, & Story, 2008). Among Hungarian youth, an authoritative parenting style, especially the aspect of responsiveness, as well as positive identification with parents, serve as protective factors against later alcohol consumption and tobacco use (Piko & Balazs, 2012). Vucina and Becirevic (2007) have shown that among Croatian youth, components of an authoritative parenting style, including parental monitoring and support, served as protective factors against adolescent tobacco, alcohol, and illicit substance use.

Parental monitoring is a universal protective factor against adolescent substance abuse (Lee, 2012; Piko & Kovacs, 2010). Among male Latino adolescents, higher levels of parent-

child communication were associated with lower marijuana use (Lac, et al., 2011). Additionally, among African American youth, parental knowledge, defined as parental awareness regarding an adolescent's activities, associations, and whereabouts acquired through parental monitoring, was associated with lower substance use including alcohol, tobacco, and illicit substances (Tebes, et al., 2011). Coley, Votruba-Drzal, and Schindler (2008) found that adolescents who reported engaging in more regular family activities, as well as having greater parental knowledge of friends and teachers, reported engaging in less substance use through mid-adolescence. Conversely, adolescents who engaged in substance use more frequently reported experiencing fewer family activities and parental knowledge, suggesting a protective effect of family activities. Indeed, greater family cohesion at the commencement of middle school was related to negative attitudes toward substance use by adolescents one year later (Pilgrim, et al., 2004). Parental pressure to not use substances comprises a protective factor against adolescent substance use (Scull, et al., 2010). Additionally, an adolescent's respect for and acceptance of their parents' values protects against binge drinking (Piko & Kovacs, 2010).

Ethnic identification among Mexican American youth in the Southwest United States may function as a protective factor in conjunction with parental monitoring, in that parental monitoring displayed stronger effects in decreasing alcohol use among boys who scored low on ethnic identification, while for girls stronger parental monitoring along with high ethnic identification decreased substance use (Nagoshi, Marsiglia, Parsai, & Castro, 2011). Among Hispanic youth, an increase in parent-child acculturation discrepancy, that is, the difference between the adolescents' cultural expectations versus their perception of their parents' cultural expectations for them, was associated with increased substance use (Unger, Ritt-Olson, Wagner, Soto, & Baezconde-Garbanati, 2009).

Religiosity is a protective factor against adolescent substance use, and both religious salience and religious service attendance are negatively associated with adolescent substance use (Mason & Spoth, 2011; Vucina & Becirevic, 2007). Among rural African American adolescents, religious beliefs and practices, as well as traditional family practices, moderated the effect of community disorganization on substance abuse (Nasim, Fernander, Townsend, Corona, & Belgrave, 2011).

Among Asian American adolescents, academic achievement is a protective factor against substance use (Thai, Connell, & Tebes, 2010). Bisset, Markham, and Aveyard (2007) found that the culture of the adolescent's school impacts alcohol initiation, heavy alcohol consumption, and illicit drug use, and argue that understanding the manner in which a school can add value to the educational experience of students may contribute to effective prevention programs. In addition to a positive school climate, a positive sense of community is also associated with decreased adolescent substance use (Mayberry, Espelage, & Koenig, 2009).

Additional protective factors against illicit substance use, cigarette smoking, and alcohol consumption include the ability to manage and regulate emotions (Vucina & Becirevic, 2007). Griffin, Botvin, and Scheier (2006) found that self-management skills, consisting of decision-making, self-regulation, and self-reinforcement skills, were protective against adolescent substance use across racial and ethnic subgroups; however, they were more strongly protective for suburban Caucasian adolescents than for urban minority adolescents. Moreover, Dunn, Kitts, Lewis, Goodrow, and Scherzer (2011) found that having future aspirations, parental expectations, and positive peer influences decreased the likelihood of adolescent substance use and sexual behavior.

Different protective factors appear to be more salient at different stages of adolescent development (Cleveland, Feinberg, Bontempo, & Greenberg, 2008). For younger adolescents, family and community factors are more salient, whereas for older adolescents peer and school factors are stronger, suggesting that different domains of risk and protective factors should be emphasized to enhance the effectiveness of treatment programs.

Support for Equine Assisted Psychotherapy with Adolescents with Substance Use Disorders

The practice of EAP has been demonstrated to be effective with a multitude of populations, including adolescents with both externalizing and internalizing psychopathology, survivors of abuse, and those who have suffered a recent catastrophic loss. However, there is minimal information available on the utilization of EAP with adolescents with substance use disorders. Nevertheless, there is ample indication that EAP would be particularly effective with this population in terms of treatment engagement, decreased psychopathology, and overall outcome pertaining to maintaining sobriety.

Given that adolescents with substance use disorders are rarely self-referred to treatment, instead typically referred by a parent, child welfare worker, or member of the juvenile justice system (Muck, et al., 2001), working with horses can be a powerful motivating force and can promote active participation in treatment and engagement with the treatment provider (Karol, 2007). Tetzlaff, et al. (2005) found that the working alliance between clients and treatment providers offers a helpful predictor of relapse at three and six months posttreatment. Given the minimal motivation with which adolescents with substance use disorders tend to enter treatment, it is a testimony to the effectiveness of a robust therapeutic relationship that working alliance is a

predictor of relapse. Increased motivation in treatment also benefits the adolescent in that it increases retention, or time in treatment, which is the best predictor of positive results in adolescent substance abuse treatment (Simpson, 2001). Joe, et al. (1998) determined that a greater level of engagement early on in the treatment process results in longer retention rates. Engagement in treatment is characterized by participation and therapeutic involvement, as well as commitment, treatment confidence, and rapport (Simpson, et al., 1997). Adolescents who are engaged in treatment have an increased likelihood of bonding with their treatment providers, actively participating in treatment, and endorsing treatment goals (Broome, et al., 2001). The nature of EAP promotes a robust therapeutic alliance, increased motivation in treatment, and greater engagement in treatment. This is facilitated, in part, by the fact that horses can make the EAP practitioner appear friendlier, happier, more relaxed, and less threatening, resulting in clients' increased comfort in session (Kruger & Serpell, 2006; Vidrine, et al., 2002). Additionally, EAP provides clients with a great deal of choice, for example how the client participates in the activity with the horses is up to them, and the perception of choice among adolescents predicts treatment retention and positive treatment outcomes (McWhirter, 2008). Catalano, et al. (1990-1991) determined that adolescents who perceive they have choice at every stage of treatment experience increased positive feelings toward treatment, display positive progress, and demonstrate decreased posttreatment substance use.

Research has demonstrated that participation in EAP results in increased self-esteem, self-concept, self-efficacy, and a sense of mastery (Bizub, et al., 2003; Emory, 1992; Hayden, 2005; MacDonald, 2004; Trotter et al., 2008). Masten, et al. (1990) found that self-efficacy is a protective factor that encourages and permits adaptive and instrumental behavior that is required for successful development. The researchers also found that self-efficacy is developed through

experiences of mastery, also resulting in increased self-esteem. Given EAP's provision of opportunities to acquire skills in a supportive environment, the development of mastery and, therefore, self-efficacy occurs (Hayden, 2005). Increased situational self-efficacy, meaning having the confidence that one can maintain sobriety by abstaining from substance use in high-risk situations, is predictive of subsequent abstinence (Burleson & Kaminer, 2005). The aforementioned benefits of EAP develop in many ways, for example, through addressing one's fear head-on which leads to an increased sense of achievement and agency (Bizub, et al., 2003). The risk-taking behavior that is characteristic of EAP permits clients to test themselves and learn to control themselves and their surroundings (Trotter et al., 2008). The challenging nature of EAP activities leads to improved self-esteem upon the client achieving success at the task. This experience of success tends to generalize, thereby increasing self-confidence regarding clients' ability to overcome their problems, such as eating disorders and substance abuse (Christian, 2005). Additional research supports these important benefits of EAP. MacDonald (2004) found that adolescents between ages 13 and 16 demonstrated increased self-esteem and a greater internal locus of control following EAP treatment. Likewise, Iannone (2003) determined in an observational program evaluation/impact assessment, that there occurred increases in self-esteem among emotionally disturbed adolescents prior to and following EAP treatment, due in part to the opportunity to learn new skills, thereby contributing to a sense of mastery. Hayden (2005) found similar results when implementing EAP with adolescents regarding increased self-esteem and experiences of mastery, and noted that this therapeutic modality provided opportunities for success that the adolescents may not otherwise have had. Finally, Emory (1992) found a significant improvement in self-concept among 20 asocial adolescent boys following

participation in EAP. As noted above, these improvements may contribute to maintaining abstinence among adolescents with substance use disorders.

The provision of social support that is provided by the horses can function as a replacement for deficient social support from humans, and also provide an opportunity to seek social support without experiencing discomfort or embarrassment (McNicholas & Collis, 2006). Additionally, when among animals males can fulfill their need for touch in a socially acceptable fashion (Beck & Katcher, 1983). Vidrine, et al. (2002) studied boys participating in EAP and found that those who rarely engaged in any sort of physical affection were noted to hug and kiss their horse. Moreover, the ability to confide in the horse is important for adolescents who may experience feelings of alienation from others, including parents and peers, or who feel unable to share their innermost thoughts and feelings with another person (Beck & Katcher, 1983). Indeed, the relationship that clients form with the horses can decrease feelings of isolation (Bizub, et al., 2003). This suggests that adolescents who are lonely or confused about their identity, or who feel isolated from others, leading to substance use, may decrease their desire for illicit substances as they develop relationships with the horses.

Research suggests that adolescents often engage in substance use in order to further their identity formation. Indeed, Sanders (2011) determined that adolescent males often use substances so as to achieve a sense of masculinity. However, participation in EAP can contribute to a different, more adaptive, identity. Working with horses is a positive activity that many individuals experience as fun and exciting, and it is an activity that can replace substance abuse. Additionally, EAP typically occurs in a group format which allows for a focus on developing peer relationships within a positive environment (Karol, 2007). This is critical given

that adolescents experience a strong affiliation with peers which increases the peers' influence on the individual adolescent (MacMaster, et al., 2005). In fact, peer substance use is among the most powerful risk factors for substance use among adolescents (Beauvais, 1992). Using a group format when practicing EAP is popular among adolescents (Macgowan & Wagner, 2005) given the significance of peers during this developmental stage (Erikson, 1968). The importance of the peer group during adolescence has resulted in research that indicates that adolescents will engage in treatment to a higher degree if the positive benefits of abstinence are linked to their concerns regarding relations with their peer group and the formation of their identity (Brown, et al., 2005).

The experience of physical, sexual, or emotional abuse as an adolescent results in an increased risk of substance use (Moran, et al., 2004). EAP has been found to be particularly useful in the treatment of survivors of abuse, who obtain a sense of power and control when a large animal obeys their commands. This may empower clients to regain control over their own lives (Trotter et al., 2008).

Empathy is frequently deficient among youth with conduct or behavioral disorders (Ewing, et al., 2007) and, therefore, the instillation of empathy is particularly indicated for this population. EAP promotes the development of empathy for the horse, leading adolescents to learn socially appropriate behaviors which permit them to attach to people (Johnson, 2001; Kaminski, et al., 2002; Taylor & Signal, 2005). Additionally, gaining the trust and cooperation of a horse can result in other life challenges appearing diminished (Trotter et al., 2008). This trust can generalize outside of EAP sessions, and adolescents who have witnessed family violence may be guided toward healthier relationships due to the trust and communication skills they obtained through this therapeutic modality (Schultz, et al., 2007).

Research has demonstrated that psychopathology is a major risk factor for adolescent substance use (Rumpold, et al., 2006). As many as 67.7% of adolescents who abuse substances concurrently have another type of psychopathology (Langenbach, et al., 2010). Many adolescents who experience depression and anxiety have an increased risk of later substance use (Hersen & Ammerman, 1995). Additionally, substance use can aggravate preexisting psychopathology, predominantly depression, anxiety, and impulse dyscontrol (Galanter & Kleber, 2008). A critical concern regarding adolescent substance use is its association with suicidal behavior (Esposito-Smythers & Goldston, 2008). Given the relationship between substance use disorders and suicidal ideation and behaviors, it appears that they are frequently functionally interrelated (Esposito-Smythers, et al., 2012). Research indicates that EAP is effective at increasing overall psychosocial functioning and decreasing psychopathology, including depression, schizophrenia, conduct disorder, and other behavioral disorders (Burgon, 2003; Ewing, et al., 2007; Graham, 2007; Kaiser, et al., 2004; Trotter et al., 2008). A number of studies have focused on the therapeutic effects of EAP with at-risk and delinquent adolescents, finding that participation in this treatment modality increases positive, prosocial behaviors and decreases disruptive behaviors and intrapersonal distress (Ewing, et al., 2007; Foley, 2008; Whitely, 2009). Even children and adolescents without any form of psychopathology have demonstrated significant decreases in anger following participation in EAP. Given these findings, adolescents who abuse substances and who have a comorbid psychological disorder, would likely benefit from participation in an EAP program due to the ability of this treatment modality to decrease co-occurring disorders while also addressing the unique treatment needs of adolescents who abuse substances.

Summary and Implications of the Literature

The empirical literature on the practice of EAP has demonstrated the efficacy of this therapeutic modality with various populations, including at-risk and delinquent youth (Ewing, et al., 2007; Foley, 2008; Trotter et al., 2008; Whitely, 2009). Some of the benefits at-risk youth acquire from EAP include an increased ability to trust in themselves and others, which contributes to increased self-esteem and self-efficacy (Whitely, 2009). Additionally, the empathy they develop toward the horses generalizes to people in their outside lives. Both Foley (2008) and Whitely (2009) noted improved emotion management and regulation among at-risk youth as a direct result of participation in EAP. This likely contributed to the decrease in physical and verbal aggression, as well as depressive symptoms, noted by Trotter et al. (2008). Participation in EAP by at-risk youth also led them to be increasingly engaged in their treatment program and improved their ability to focus their attention (Foley, 2008).

However, within the research on EAP there is a lack of focus on the treatment of adolescents with substance use disorders. The findings related to the benefits derived by at-risk youth would likely also be obtained by adolescents with substance use disorders, yet, research demonstrating this is greatly needed to advance the field. Additionally, there is a dearth of information pertaining to interventions developed specifically for adolescents with substance use disorders, necessitating the creation of EAP interventions tailored to this population.

The research on adolescent substance abuse displays a high treatment dropout rate (James, 2011; Liddle & Dakof, 1995). Given that the amount of time spent in treatment is the best predictor of positive treatment outcomes (Simpson, 2001), treatment interventions are needed that increase adolescents' motivation to attend and engage in treatment. The current traditional forms of treatment, including 12-step programs, CBT, and family therapy, may not

provide sufficient motivation for adolescents to fully engage in treatment, or stay in treatment. This suggests the need for a therapeutic modality that will boost the motivation of adolescents to fully participate in their treatment. Given the motivating qualities of EAP (Trotter et al., 2008), the development of EAP interventions designed with this population in mind is indicated.

Purpose of the Proposed Project

The purpose of this project is to design an equine assisted psychotherapy (EAP) Intervention Guide that can be utilized by EAP practitioners who work with adolescents in residential substance abuse treatment facilities. The previous review of the literature indicates that EAP is an effective intervention and offers unique benefits to adolescents, particularly those with substance use disorders. This resource is designed to offer interventions that maximize the utility of EAP for use with this specific population. However, the interventions outlined in this guide are intended to serve as an adjunct to traditional forms of psychotherapy. In addition to outlining the distinctive benefits that adolescents who are recovering from substance use disorders can derive from EAP, specific interventions will be suggested that the EAP practitioner can utilize in their practice. The general goals of the guide are: 1) to provide information on the treatment needs of adolescents recovering from substance abuse, 2) to detail why EAP is particularly well-suited to an adolescent population, 3) to identify and describe EAP interventions that are recommended for adolescents in residential substance abuse treatment facilities. The specific objectives of this project include: 1) a review of the literature on EAP, adolescent development, and adolescent substance use, 2) a review of existing EAP interventions targeting substance abuse and/or adolescents, 3) the development of the Intervention Guide, 4) the development, implementation, and analysis of two brief EAP practitioner interviews to obtain

information regarding the perceived efficacy of the guide and relevance toward the target population, 5) an integration of the feedback and critiques derived from the interviews into a list of directions for future development.

Chapter 2: Methodology

The primary goal of this project was to develop an Intervention Guide for EAP practitioners who work with adolescents with substance use disorders in residential therapeutic communities. This chapter presents the methodology that was used in the creation of the guide. The initial stage of this project involved an extensive review of existing literature and research studies to inform the content of the Intervention Guide. The next stage involved the development of the content of the guide specifically tailored to the target population. Next, the guide was reviewed by two current EAP practitioners for feedback regarding the program's precision, utility, and the germaneness of its content. Finally, specific recommendations for modification were offered based upon the evaluation of the EAP practitioners.

Intervention Guide Development: Review of the Literature and Existing Resources

Data was gathered from a variety of sources, including internet databases such as PsychInfo, Scopus, The Dissertations and Theses Database, Books in Print, and internet resources. Furthermore, information from national organizations was considered, including the Equine Assisted Growth and Learning Association (EAGALA) and the Professional Association of Therapeutic Horsemanship International (PATH Intl.). The review of the literature primarily focused on topics related to EAP, adolescent development, adolescent substance abuse, and adolescent substance abuse treatment issues. Specifically, keyword searches included various combinations of the following terms: equine assisted psychotherapy, equine facilitated psychotherapy, equine therapy, adolescent development, adolescent substance use, adolescent substance abuse, adolescent substance abuse disorders, and adolescent substance abuse treatment. The search was initiated by a review of EAP empirical findings. Then, descriptive

information pertaining to normative adolescent development was gathered to assist in gaining a broad understanding of the developmental tasks of adolescence. Then additional descriptive information was attained regarding adolescent substance abuse issues. Information concerning various treatment approaches to adolescent substance use, their efficacy, and other related factors, such as retention rate, were reviewed. Finally, unique approaches to treating adolescent substance abuse were examined.

Additionally, a broad search of the literature published by EAGALA, popular media, online resources, and existing print resources was performed. This assessment of existing resources helped to identify and define the place of the proposed Intervention Guide in the EAP community and furthermore assisted in the creation of a unique resource.

Development of the Intervention Guide

Following the completion of a comprehensive literature search and review of existing resources, a written guide was developed for use with adolescents in residential substance abuse treatment facilities who participate in EAP. The guide is organized into sections, including: 1) introduction and purpose, 2) a review of why EAP would benefit adolescents, and particularly benefit adolescents recovering from substance abuse, 3) detailed interventions recommended for adolescents with substance use disorders who are entered into residential therapeutic communities.

Section I of the Intervention Guide is an introduction section. This section chiefly presents the basis for the development of the curriculum, in addition to reviewing the need for such a guide among EAP practitioners. The unique benefits that adolescents with substance use disorders can derive from participating in EAP are stated as a rationale for development of the

Intervention Guide. Section II describes why EAP would be of benefit to adolescents in general, and specifically to adolescents suffering from substance use disorders. Section III identifies a set of EAP intervention approaches suggested for this population. The guide is specifically designed for use by EAP practitioners who have an agreement with an adolescent residential therapeutic community regarding the adolescents' regular participation in EAP. The interventions are presented as suggestions for an EAP adjunctive treatment component in which the adolescents participate two times each week for four weeks. The interventions were generated by performing extensive research into existing substance abuse treatment, including the SAMHSA (2006) Matrix Model, and modifying the nature of this treatment as appropriate, elements of psychodrama, and by modifying existing equine assisted therapy activities to suit the needs of this population. Additionally, many interventions were independently developed uniquely for the Intervention Guide.

Manual Development: EAP Practitioner Input

Two EAP practitioners were recruited to critique the proposed curriculum. Criteria for inclusion in the study included: 1) the practitioner must have a minimum of two years experience utilizing EAP, 2) the practitioner must be EAGALA certified, 3) the practitioner must have worked with adolescents recovering from substance abuse either currently or in the past, and 4) the practitioner must be fluent in English.

Evaluation of the Intervention Guide

Feedback from two EAP clinicians who have worked with adolescents with substance use disorders was obtained. The practitioners were provided with a copy of the Intervention Guide

via email which they evaluated in terms of the design and content. A brief feedback survey/evaluation form was available online that included space for the practitioner to write additional suggestions and recommendations regarding the guide. The data collected from the practitioners was reviewed and their critiques were adapted into a list of future directions for improving the guide. Additionally, the resulting strengths and limitations of the guide are attended to in the discussion chapter.

The experts were two EAP clinicians who are active members of the Equine Assisted Growth and Learning Association (EAGALA), and who responded to the evaluation form that was emailed to them. These practitioners were located through recommendations to the researcher by an active EAP practitioner known to the researcher. The practitioner was contacted with an electronic copy of the Intervention Guide as well as a link to the online evaluation form. Additionally, the participating practitioners each received compensation in the form of a $20 gift card to Amazon.com.

Practitioner Input Questionnaire/Interview

The author created a brief interview questionnaire for the aforementioned purpose of seeking EAP practitioner input (see Appendix E – Evaluation Questionnaire). The questionnaire included items related to the quality and content of the guide, as well as the organization and ease of use. Open-ended questions regarding the treatment needs of adolescents with substance use disorders were also included, as well as space to write additional comments or critiques. The questionnaire was administered via an online survey website.

Recruitment Strategies and Procedures

Identified EAP practitioners were contacted via email and asked whether they would be willing to evaluate an Intervention Guide for EAP practitioners who treat adolescents in residential substance abuse treatment facilities. The email described the study and what participation involved (see Appendix A – Evaluator Email Script). The practitioner amenable to the task was sent an informed consent form via email outlining the nature of the study, its purpose, the author's affiliation, the associated risks and benefits of partaking in the study, and privacy and confidentiality issues (see Appendix D – Participant Consent Form). The practitioner returned the signed informed consent form by scanning it and emailing it to the investigator, and was provided with a link to the Intervention Guide and an online survey website where they completed a feedback survey/evaluation form (see Appendix E – Evaluation Questionnaire).

Chapter 3: Results

This chapter will provide an overview of the development and content of the Intervention Guide, as well as a summary of the evaluation process. First, a brief overview of the process of collecting data via a review of past and current literature will be presented. Next, the structure and content of the Intervention Guide (see Appendix G – Intervention Guide) will be discussed. Finally, feedback on the Intervention Guide from two evaluators will be reviewed and examined.

Brief Overview of the Development of the Intervention Guide

The initial phase of the study involved an extensive review of literature pertaining to animal assisted therapy, equine assisted psychotherapy, adolescent normative development, and adolescent substance use and substance use disorders, in an effort toward better understanding the therapeutic needs of adolescents with substance use disorders as well as to understand the manner in which the implementation of EAP may benefit this population.

Literature review. Despite the limited empirical information related to the utilization of EAP with adolescents with substance use disorders, ample indication exists that suggests EAP would be of particular benefit to this population, especially in regards to treatment engagement, decreased psychopathology, and overall outcome pertaining to maintaining sobriety (Burleson & Kaminer, 2005; Catalano, et al., 1990-1991; Karol, 2007; McWhirter, 2008; Simpson, 2001; Trotter et al., 2008). The literature suggests that this therapeutic modality offers unique opportunities for growth among participants, particularly for adolescents. For example, horses act as a motivating force, leading to active participation in treatment and increased engagement

with treatment providers (Karol, 2007). This is particularly beneficial for adolescents given that active participation in treatment leads to increased retention, or time in treatment, which is the strongest predictor of positive results in adolescent substance abuse treatment (Simpson, 2001). Adolescent engagement in treatment also leads to increased endorsement of treatment goals (Broome, et al., 2001). Additionally, the nature of EAP includes the provision of a great deal of choice to participants, and the perception of choice among adolescents also predicts treatment retention and treatment outcomes, including decreased posttreatment substance abuse (Catalano, et al., 1990-1991; McWhirter, 2008). Another benefit of EAP for adolescents is the increased mastery and self-efficacy that results from participation (Hayden, 2005), which increases adolescents' perception of situational self-efficacy, or the confidence that one can maintain their sobriety in high-risk situations, and is predictive of subsequent abstinence (Burleson & Kaminer, 2005). The feelings that accompany achieving success in EAP activities tend to generalize, increasing participants' self-confidence in regards to their ability to overcome their problems, such as substance abuse (Christian, 2005). Adolescents who feel lonely, isolated, or confused about their identity, which frequently results in substance use, form relationships with the horses and treatment provider that can reduce feelings of isolation and lead to a decreased desire for substance use (Bizub, et al., 2003). In fact, simply working with horses is typically experienced as a fun and exciting activity, which can replace an adolescent's desire for substances (Karol, 2007). Moreover, the fact that EAP is typically delivered in a group format allows for a focus on developing peer relationships within a positive environment, which is critical given adolescents' strong affiliation with peers and the robust influence the peer group has over adolescents (MacMaster, et al., 2005), which is the most powerful risk factor for adolescent substance abuse (Beauvais, 1992). Adolescents will engage in treatment to a higher degree if the benefits of

sobriety are tied to their relationships with their peer group, along with the formation of their identity (Brown, et al., 2005), which is a component of the group work performed in EAP. Experiencing physical, sexual, or emotional abuse as an adolescent increases the risk of substance abuse among adolescents (Moran, et al., 2004); however, EAP is particularly useful in the treatment of survivors of abuse due to the resulting increase in feelings of empowerment (Trotter et al., 2008). Additionally, the nature of EAP involves interventions that target many of the specific therapeutic needs of adolescents with substance use disorders, such as the instillation of empathy (Johnson, 2001; Kaminski, et al., 2002; Taylor & Signal, 2005), the resulting decreased comorbid psychopathology (Burgon, 2003; Ewing, et al., 2007; Graham, 2007; Trotter et al., 2008; Whitely, 2009), and decreased feelings of isolation and loneliness (Bizub, et al., 2003). Therefore, this form of therapeutic treatment is indicated for this population.

Integration of data and Intervention Guide content. The review of the literature and empirical support for EAP was amassed so as to inform the content of the Intervention Guide, *Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide* (hereafter referred to as the "Intervention Guide"). Specifically, the discussion points and activities developed and offered in the Intervention Guide were based on empirical studies that identified ways in which participating in EAP could address the therapeutic needs of adolescents with substance use disorders.

The Intervention Guide was created for EAP practitioners who currently work with, or are interested in learning more about working with, adolescents in residential substance abuse treatment facilities. However, it was also designed to be accessible to parents of adolescent

participants, and the participants themselves, so as to allow for their greater understanding of the rationale behind the program and what the program specifically entails.

The Intervention Guide is 48 pages in length, and is comprised in part by facilitator outlines of eight individual sessions which are designed to be three hours in length, and to occur two times every week for four weeks. The Intervention Guide begins with an exploration of why EAP is appropriate and indicated for this population, followed by suggestions regarding selecting participants, and a description of the sessions. Next a session-by-session outline is presented which lists the materials required for each session, offers discussion points to facilitate a group conversation regarding substance abuse, and proposes and outlines specific EAP activities designed to promote personal growth, diminish comorbid symptoms, and promote the maintenance of sobriety. Finally, a discussion regarding the termination process is offered.

Table 1.
A Session-by-Session Overview of the Intervention Guide

Session	**Discussion Points**	**EAP Activity**	**Objective of EAP Activity**
1	Introducing Equine Assisted Psychotherapy Safety Instructions Typical Trials of Early Recovery	*Managing Common Challenges of Early Recovery*: Group members label horses with challenges faced in early recovery, then attempt to maneuver the "challenges" (i.e., horses) to an appropriate solution, taped on the arena posts.	Group members' identification of challenges they may face in early recovery, as well as how to appropriately address them to maintain sobriety.

(continued)

Session	Discussion Points	EAP Activity	Objective of EAP Activity
2	Identifying Personal Triggers	*Traversing Triggers to Drug Use*: Each group member creates an individualized obstacle course in which each obstacle represents a trigger for substance use, and leads a horse through it attempting to avoid or overcome obstacles.	Group members' identification of personal triggers to substance use and consideration regarding how to avoid them.
3	Meeting Our Needs Without Drugs	*The Faces of Drug Use*: Group members label horses with the roles that substance use has served in their lives. Members speak for those roles while one member, representing a person in early recovery, responds and counters members with the truths of substance use and healthier, adaptive ways to meet their needs.	Group members' development of ways to challenge the allure of substance use, and opportunity to generate more adaptive ways to meet their needs.
4	Drug Use Rationalizations	*Defying Drug Use Rationalizations*: Group members label jumps with justifications for relapsing, then lead horses over the jumps while responding to each relapse justification with a rational and adaptive response regarding substance use.	Group members' recognition of justifications they may generate to relapse, and practice challenging these justifications with healthy responses.

(continued)

Session	Discussion Points	EAP Activity	Objective of EAP Activity
5	Remaining Anchored	*Dropping Anchors*: A group member labels themselves with their strongest anchor, then attempts to prevent a horse from reaching "relapse" (i.e., a bucket of carrots) without touching it. Additional "anchors" (i.e., group members) join and work together to prevent the horse from reaching "relapse."	Group members' recognition that having strong anchors will help them maintain abstinence, and that the more anchors they have, the greater their ability to maintain sobriety will be. Group members' identification of personal anchors.
6	Intelligence Versus Willpower	*Charades*: Group members form two teams and each team is given a horse, with which they act out situations that may lead to relapse. Teammates attempt to guess what the situation is.	Group members' identification of high-risk situations that may promote relapse.
7	Relationship Ruptures	*Repairing Relationships*: Group members label characteristics of healthy relationships onto barrels/buckets and place ground poles as boundary lines. Two members stand on opposing sides of the horse and guide it through the boundaries over characteristics of healthy relationships.	Group members' recognition of characteristics of healthy relationships and consideration of how they may promote these characteristics in personal relationships.

(continued)

Session	Discussion Points	EAP Activity	Objective of EAP Activity
8	Moving Forward	*Managing Fears for the Future*: Members individually halter a horse representing a concern they have regarding the future, race through an obstacle course, and prior to attempting each obstacle state a time in their lives when they had the same fear or concern they presently have which worked out for the best.	Group members' acknowledgement of past successes and recognition that they continue to possess the qualities that will allow them to successfully address their fears and concerns regarding the future.

Overview of Evaluators' Feedback

Two evaluators for the Intervention Guide were recruited in April 2013 through recommendations by an active EAP clinician known to the researcher (see Appendix A – Evaluator Email Script). The purpose of the evaluation was to assess the Guide in terms of design, content, and applicability to the specified population. Both evaluators met the eligibility criteria (see Appendix B – Evaluator Eligibility Form) of having a minimum of two years experience utilizing EAP, being EAGALA certified, having worked with adolescents recovering from substance abuse currently or in the past, and being fluent in English. The evaluators included a 35-year-old Caucasian American male who had worked in the field of EAP for three years, in addition to a 50-year-old Caucasian American female who has implemented EAP for 25 years. Evaluators were provided with an informed consent form (see Appendix D – Participant Consent Form), the Intervention Guide (see Appendix G – Intervention Guide), and the

Evaluation Questionnaire (see Appendix E – Evaluator Questionnaire). The informed consent form was reviewed, signed, and returned by both evaluators prior to their examination of the program. Both evaluators reviewed the Intervention Guide and completed the Evaluation Questionnaire form in approximately one week.

The evaluators completed the Evaluation Questionnaire and provided additional feedback on open-ended items. Following the evaluators' completion of the Evaluation Questionnaire, it was returned to the researcher for review and consideration. The evaluators' feedback on the Evaluation Questionnaire was then reviewed and limitations of the Intervention Guide, areas for improvement, and strengths of the guide were identified.

Summary of the Results

Overall, on a scale of one to five, one being "Strongly Disagree" and five being "Strongly Agree," the average of the participant's responses to all items on the Evaluation Questionnaire regarding the quality of the Intervention Guide was 4.1. The average of the first participant's responses was 3.92, while the second participant's rating average for all items was 4.28. *Figure #1* presents the ratings for each of the evaluators on the seven Likert-scale items.

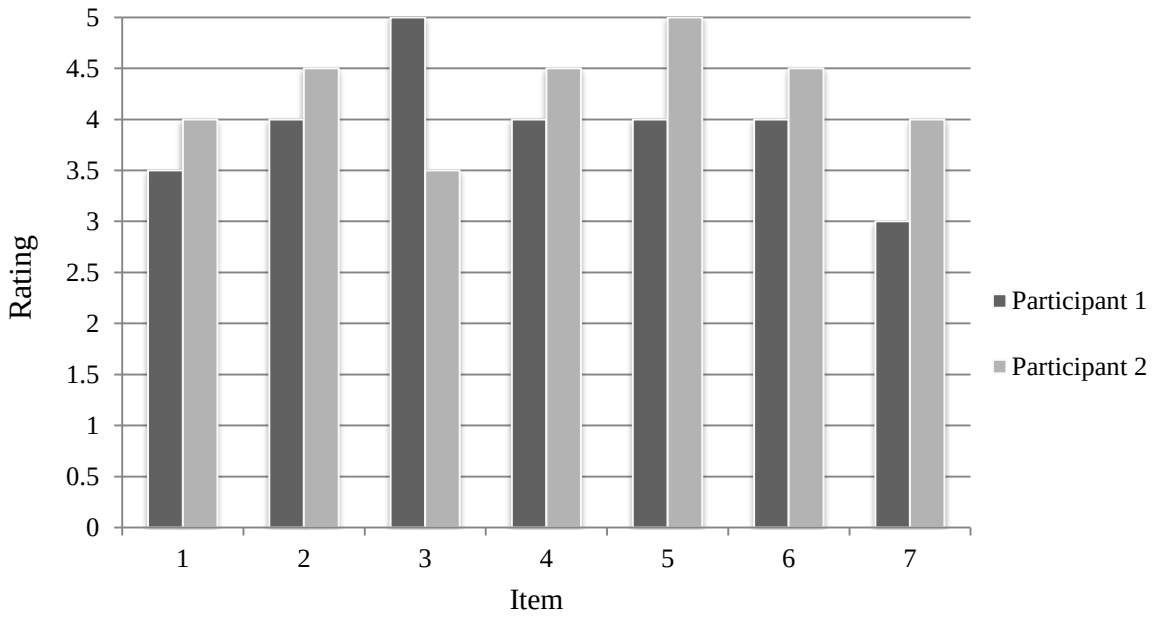

Figure #1. Evaluators' responses to seven Likert-scale items

In general, the two evaluators were in agreement in their assessment of the Intervention Guide in regards to item number 3 ("easy to read and understand"), rated 1.5 points higher by the less experienced male participant and item number 7 ("practical and easily applicable") rated 1 point higher by the more experienced female participant. The average of the participant's responses to item 1, "The Intervention Guide is thorough and provides adequate information regarding EAP," was 3.75. For item 2, "The Intervention Guide is thorough and provides adequate information regarding adolescent substance use," the average of the participant's responses was 4.25. On item 3, "The Intervention Guide is easy to read and understand," the participant's averaged 4.25 in their responses. Likewise, on item 4, "The Intervention Guide is well organized," the average of the participant's responses was 4.25. Additionally, for item 5, "The interventions are appropriate for the treatment of adolescent substance use disorders," the participants averaged 4.5 in their responses. Regarding item 6, "The interventions are

developmentally appropriate," the average of the participant's responses was 4.25. Finally, regarding item 7, "The interventions are practical and readily applicable for EAP with substance abusing adolescents," the participants averaged 3.5 in their responses. *Figure #2* presents the average of the evaluators' ratings on the seven Likert-scale items.

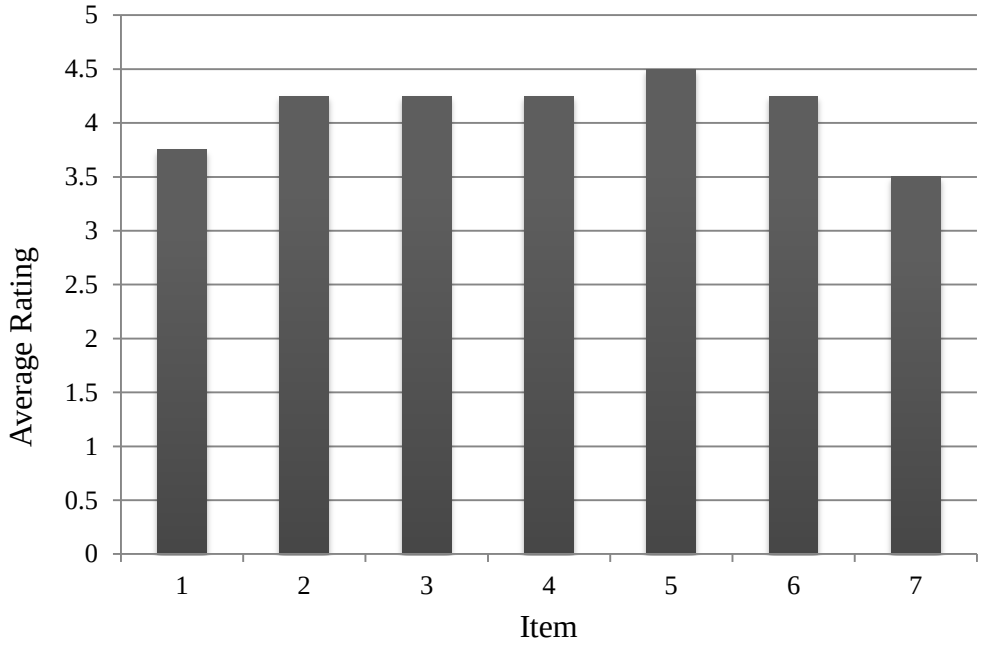

Figure #2. Average of evaluators' responses to seven Likert-scale items

Both participants noted strengths of the Intervention Guide, particularly that the interventions are appropriate for the treatment of adolescent substance use disorders. Additionally, both participants identified other strengths, such as that thorough and adequate information was presented regarding adolescent substance abuse, the Guide was well organized and easy to read, and that the interventions were developmentally appropriate. However, results indicate that the participants perceived the information presented on EAP was only moderately

thorough and adequate and that the interventions were not necessarily as practical and readily applicable to this population as intended.

Written feedback regarding the strengths of the Intervention Guide provided by the first participant included mention of the planning behind the Guide, the research performed concerning substance abuse treatment, and the "well-drafted" and "comprehensive" nature of the schedule. Additionally, the Intervention Guide was noted in the first participant's written feedback to be well written and well organized. The second participant indicated that the strengths of the Intervention Guide included the "outstanding" use of metaphors regarding the connection between EAP and adolescent substance abuse treatment which allows each session's discussion points and activities to connect in a "natural" manner. Additionally, this participant stated that "the program does a good job of integrating education, activity, and process." Moreover, the second participant asserted that the experiential nature of the program would likely be "far more effective" for treating adolescent substance abuse than a purely process or educational group alone. Finally, the second participant provided positive feedback regarding the sessions' "thought provoking questions, which allow for introspection and group learning."

Weaknesses of the Intervention Guide were noted by the first participant to include a lack of "relational interaction" with the horse, causing the horse to appear to be a "tool rather than a part of the triadic therapeutic relationship." Moreover, the first participant provided suggestions for improving the Intervention Guide, stating that it currently "negates the power of utilizing the horse as a part of the therapeutic triad," and also mentioned that additional time spent on safety would be beneficial for the group members and horses. The second participant also critiqued the Intervention Guide and considered its weaknesses to include a paucity of "strengths-based

reflective questions," and suggested that group members would benefit from "exploring positive supports and growth from challenges." Additionally, the second participant commented that the Intervention Guide was written using professional language which "may not be accessible to all who wish to read it (e.g., parents)" and suggested using "more layman's terms to facilitate ease of comprehension."

Tables 2 through 5 present the evaluators' responses to the open-ended questions included in the Evaluation Questionnaire.

Table 2.
Evaluators' Responses to Item Eight

What do you consider to be the strengths of the Intervention Guide?
Evaluator 1: "There is a lot of planning present. The student has done her research concerning substance abuse treatment. Moreover, the weekly schedule is well-drafted and comprehensive!"
Evaluator 2: "The use of metaphors in connecting EAP to substance abuse treatment is outstanding. Each discussion point connects to each activity in a way that seems very natural. Overall the program is creative, interesting, and original. The activities seem like they would be fun, and the experiential nature of the program would likely be far more effective for treating substance abuse than a purely process or educational group alone. The program does a good job of integrating education, activity, and process! The use of thought-provoking questions allows for introspection and group learning. The sessions seem to be a good length and there is a natural progression of activities in each session… but you may want to consider offering more breaks, as adolescents with substance abuse issues may get restless and irritable."

Table 3.
Evaluators' Responses to Item Nine

What do you consider to be the weaknesses of the Intervention Guide?
Evaluator 1: "There seems to be no relational interaction with the horse and as such the horse appears to be a tool rather than a part of the triadic therapeutic relationship."
Evaluator 2: "The main critique I have is regarding the format and professional language chosen. The introduction is a bit lengthy and the language may not be accessible to all who wish to read it (e.g., parents). You may want to consider using more layman's terms to facilitate ease of comprehension. Additionally, is it possible to include more strengths-based reflective questions?"

Table 4.
Evaluators' Responses to First Open-Ended Item

Please provide any suggestions for improving this Intervention Guide.
Evaluator 1: "Though I believe the Guide is comprehensive, it negates the power of utilizing the horse as a part of the therapeutic triad (which is the crux of equine type therapies). More time spent on safety would be beneficial for horses and clients."
Evaluator 2: "Offer more breaks, consider rewording materials in more layman's terms, and explore group member positive supports and personal growth from challenges."

Table 5.
Evaluators' Responses to Second Open-Ended Item

Additional comments.
Evaluator 1: "Well written. The sessions were well organized!"
Evaluator 2: "This manual is great and really offers a lot! Well organized and creative. Great work!"

Chapter 4: Discussion

The current project involved the creation of an EAP Intervention Guide designed to inform EAP practitioners who work with adolescents in residential substance abuse treatment facilities. Through the evaluation of the Intervention Guide by two EAP practitioners who met all eligibility criteria, information was gathered via an Evaluation Questionnaire regarding limitations, areas for improvement, and strengths of the Intervention Guide.

Identified Strengths of the Intervention Guide

The two participants critiqued the Intervention Guide and, as assessed by their responses to the Evaluation Questionnaire, reported that strengths of the Guide included the research base that informed the discussion of why EAP is applicable to the specified population, in addition to the Guide being well-written and organized. The use of metaphors that connected each session's discussions to the coupled activities was noted to be a strength, consistent with research supporting the use of metaphors in EAP (Hayden, 2005; Karol, 2007; Trotter et al., 2008; Vidrine, et al., 2002). Another identified strength was the integration of education, activity, and process within the program, as also suggested by research regarding characteristics of effective treatments for adolescent substance abuse (Plant & Panzarella, 2009; Friedman & Beschner, 1990). Additionally, the experiential nature of the program, along with the inclusion of thought-provoking questions, were reported to represent strengths of the Intervention Guide, which aligns with research regarding the benefits of experiential therapies (Karol, 2007; Vidrine, et al., 2002).

Identified Weaknesses of the Intervention Guide

The participants noted that a limitation of the Intervention Guide was that the activities lacked adequate group member "relational interaction" with the horses. This weakness counteracts the horses' potential as members of the therapeutic triad, as group members are denied the opportunity to more fully engage and connect with the horses, which research emphasizes is beneficial for participants (Bizub, et al., 2003; Mallon, 1994; Walsh & Mertin, 1994). An additional limitation of the Intervention Guide that the participants noted was insufficient time spent on explaining to group members how to remain safe while in the presence of horses, critical for EAP programs to address (EAGALA, 2012). Other limitations included a lack of strength-based questions to utilize in each session, and too few opportunities to explore group member personal growth related to overcoming challenges, a key component of this therapeutic modality (EAGALA, 2012; Trotter et al., 2008). Finally, the language that the Intervention Guide was written in was stated to be too professional and, therefore, not accessible to everyone who may explore the Guide. Suggestions for improvement were offered which addressed each limitation.

Limitations and Recommendations for Future Steps in Program Development

Apart from the weaknesses of the Intervention Guide noted by the evaluators, there exist additional limitations of the program which impact the practicality and appropriateness of its implementation with adolescents in residential substance abuse treatment facilities. First, not all adolescents with substance abuse disorders would be appropriate for this program. As noted in the Guide, contraindications include allergies to horses, dust, hay, or other barn materials, as well as if the potential group member is fearful of horses to an excessive and distressing degree, and if

the adolescent has a history of perpetrating animal abuse or otherwise inevitably becomes physically aggressive when faced with challenges and frustration.

Residential substance abuse treatment facilities for adolescents may have their own hesitancies or problematic logistical issues regarding utilizing this program. For example, a great number of facilities are not located near a barn, stable, or ranch appropriate for the implementation of this program and, thus, may be unable to transport residents due to issues associated with transportation time and cost. Some residential facilities may also adhere to a different model of treatment, which does not include adjunctive therapies such as EAP.

Another limitation of the program as it currently stands is that it does not include the administration of standardized measures to group members prior to their first session and following their last session. Measures such as the Behavior Assessment System for Children (BASC) would assess group members on numerous domains, allowing the EAP practitioner to note in which areas participants tend to improve the most and which areas participants are not improving in, or are even worsening. Additionally, measures regarding self-efficacy, mastery, self-esteem, and urges to use substances would provide valuable information regarding the program. This information could inform the EAP practitioner in regards to possibly emphasizing certain components of the program more strongly, such as certain discussion points or specific activities, or minimizing other elements. The aforementioned measures would additionally be administered to members of the same population who do not participate in EAP in an effort to determine whether any changes on the measures are a result of EAP participation.

The results of the evaluation suggest that the following modifications to the next version of the Intervention Guide would strengthen the program:

1) Increased opportunity for group members to fully engage and connect with the horses in an effort toward promoting strong relationships with the horses, so as to enhance the efficacy of the therapeutic triad. For example, the provision of time at the commencement of treatment for group members to spend time alone with the horses, as well as at the beginning of each session thereafter, would likely increase the bond and strengthen the relationship between the group members and the horses.

2) Increased education and group discussion pertaining to maintaining safety in the presence of horses. It may even enhance the safety of the group members if safety precautions were reviewed for the first few sessions rather than just the initial session.

3) The addition of more strengths-based questions in the Discussion Points of each session, such as "When was a time in the past that you faced this challenge and were successful in overcoming it?"

4) The provision of additional discussion time related to exploring the personal growth group members attain through overcoming the challenges presented in EAP. This may necessitate the extension of time spent on group processing following completion of the EAP activity.

5) Altering the language to be more accessible to all consumers of the Intervention Guide. Using terms easily understood by those outside the field of psychology would strengthen the accessibility of the Guide.

6) The administration of standardized measures both prior to and following participation in EAP, such as the Behavior Assessment System for Children (BASC), as well as measures of self efficacy, mastery, self esteem, and urges to use substances, would assess which areas of

functioning participants tend to improve in the most, and which are unaffected by EAP. Identifying those unaffected areas of functioning would allow for an alteration of the program in an effort toward addressing those areas as well.

Future steps for this program include conducting a pilot program, in which the content and structure of the program could be refined based upon feedback from group members, parents, EAP practitioners, and residential facility treatment providers. The feedback already obtained through the completion of the Evaluation Questionnaire by two EAP practitioners would be carefully considered and likely incorporated into the pilot program. The use of a pilot program would allow for additional identification of program strengths, weaknesses, and areas for improvement. Following conducting a pilot program the Intervention Guide would be refined prior to its distribution to EAP practitioners.

Conclusion and Implications of this Study

The Intervention Guide was developed as a potential adjunctive treatment of substance abusing adolescents in residential treatment, based on existing literature suggesting that such a program would be beneficial to the recovery and personal development of the youth. EAP practitioners who work with adolescents could ideally partner with residential substance abuse treatment facilities to offer the 4-week program. The guide was critiqued by two current EAP practitioners who offered strengths and weaknesses, as well as suggestions for improvement. All responses and comments were thoroughly reviewed and considered in terms of inclusion in future drafts of the Intervention Guide. It is hoped that the rationale for utilizing this therapeutic modality with adolescents with substance use disorders, as discussed in the Guide, may inspire EAP practitioners to implement this type of mental health treatment with this

particular population. One intention behind creating this program was that an increasing number of EAP practitioners would feel comfortable working with adolescents with substance use disorders, who so critically need mental health treatment in order to overcome their substance abuse. Additionally, the activities and discussion points proposed in the Guide may be considered by EAP practitioners who work with adolescents or with substance abuse alone, and may enhance their practice.

REFERENCES

Adams, L., & Wallace, J.L. (1994). Residential treatment for the ADHD adolescent substance abuser. *Journal of Child & Adolescent Substance Abuse, 4*(1), 35-44.

Allen, K., Blascovich, J., & Mendes, W.B. (2002). Cardiovascular reactivity and the presence of pets, friends, and spouses: The truth about cats and dogs. *Psychosomatic Medicine, 64*(5), 727-739.

Allen, K.M. & Blascovich, J. (1991). Presence of human friends and pet dogs as moderators of autonomic responses to stress in women. *Journal of Personality and Social Psychology, 61*(4), 582-589.

Allen, K.M. & Shykoff, B.E. (2001). Pet ownership, but not Ace Inhibitor Therapy, blunts human blood pressure responses to mental stress. *Hypertension, 38*, 815-820.

American Hippotherapy Association (2012). Hippotherapy as a treatment strategy. Retrieved from http://www.americanhippotherapyassociation.org/hippotherapy/hippotherapy-as-a-treatment-strategy/

Anderson, P.E. (2008). The powerful bond between people and pets: Our boundless connections to companion animals. Westport, CT: Praeger.

Anderson, W.P., Reid, C.M., & Jennings, G.L. (1992). Pet ownership and risk factors for cardiovascular disease. *Medical Journal of Australia, 157*(5), 298-301.

Ascione, F.R. & Weber, C.V. (1996). Children's attitudes about the humane treatment of animals and empathy: One-year follow up of a school-based intervention. *Anthrozoos, 9*(4), 188-195.

Austin, A., & Wagner, E.F. (2006). Correlates of treatment retention among multi-ethnic youth with substance use problems: Initial examination of ethnic group differences. *Journal of Child &Adolescent Substance Abuse, 15*(3), 105-128.

Bachelor, A. (1995). Clients' perception of the therapeutic alliance: A qualitative analysis. *Journal of Counseling Psychology, 42*(3), 323-337.

Bachelor, A., & Horvath, A. (1999). The therapeutic relationship. In M.A. Hubble, B.L. Duncan, & S.D. Miller (Eds.). *The Heart and Soul of Change: What Works in Therapy* (pp. 133-178). Washington, DC: American Psychological Association.

Bailey, S.L., Martin, C.S., Lynch, K.G., & Pollock, N.K. (2000). Reliability and concurrent validity of DSM-IV subclinical symptom ratings for alcohol use disorders among adolescents. *Alcoholism: Clinical and Experimental Research, 24*(12), 1795-1802.

Barak, Y., Savorai, O., Mavashev, S., & Beni, A. (2001). Animal-assisted therapy for elderly schizophrenic patients: A one-year controlled trial. *The American Journal of Geriatric Psychiatry, 9(4),* 439-442.

Barker, S.B. & Dawson, K.S. (1998). The effects of animal-assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services, 49*(6), 797-802.

Barker, S.B., Kniseley, J.S., McCain, N.L., & Best, A.M. (2005). Measuring stress and immune response in healthcare professionals following interaction with a therapy dog: A pilot study. *Psychological Reports, 96*(3), 713-729.

Barker, S.B., Pandurangi, A.K., & Best, A.M. (2003). Effects of animal-assisted therapy on patients' anxiety, fear, and depression before ECT. *The Journal of ECT, 19*(1), 38-44.

Bauman, A., Russell, S.J., Furber, S.E., & Dobson, A.J. (2001). The epidemiology of dog walking: An unmet need for human and canine health. *The Medical Journal of Australia, 175*(11-12), 632-634.

Baumrind, D., & Moselle, K.A. (1985). A developmental perspective on adolescent drug abuse. *Advances in Alcohol & Substance Abuse, 4*(3-4), 41-67.

Beauvais, F. (1992). Drug use of friends: A comparison of reservation and non-reservation Indian youth. *American Indian and Alaska Native Mental Health Research, 5*(1), 43-50.

Beck, A., & Katcher, A. (1983). Between people and pets: The importance of animal companionship. New York, NY: G.P. Putnam's Sons.

Beck, C. & Peacock, P. (1988). Nursing interventions for patients with Alzheimer's disease. *Nursing Clinics of North America, 23*(1), 95-124.

Becker, S.J., Curry, J.F., & Yang, C. (2011). Factors that influence trajectories of change in frequency of substance use and quality of life among adolescents receiving a brief intervention. *Journal of Substance Abuse Treatment, 41*(3), 294-304.

Benda, W., McGibbon, N.H., & Grant, K.L. (2003). Improvements in muscle symmetry in children with cerebral palsy after equine-assisted therapy (hippotherapy). *Journal of Alternative And Complementary Medicine, 9*(6), 817-825.

Bisset, S., Markham, W.A., & Aveyard, P. (2007). School culture as an influencing factor on youth substance use. *Journal of Epidemiology and Community Health, 61*(6), 485-490.

Bizub, A.L., Joy, A., & Davidson, L. (2003). "It's like being in another world": Demonstrating the benefits of therapeutic horseback riding for individuals with psychiatric disability. *Psychiatric Rehabilitation Journal, 26*(4), 377-384.

Boldt, M.A., & Dellman-Jenkins, M. (1992). The impact of companion animals in later life and considerations for practice. *Journal of Applied Gerontology, 11*(2), 228-239.

Brent, D.A. (1987). Correlates of the medical lethality of suicide attempts in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 26*(1), 87-91.

Brody, G.H., Chen, Y., Kogan, S.M., Yu, T., Molgaard, V.K., DiClemente, R.J., & Wingood, G.M. (2012). Family-centered program deters substance use, conduct problems, and depressive symptoms in black adolescents. *Pediatrics, 129*(1), 108-115.

Brook, J.S., Cohen, P., Whiteman, M., & Gordon, A.S. (1992). Psychosocial risk factors in the transition from moderate to heavy use or abuse of drugs. In Glantz, M.D., & Pickens, R.W. (Eds.). *Vulnerability to Drug Abuse* (p. 359-388). Washington, DC: American Psychological Association.

Brook, J.S., Lukoff, I.F., & Whiteman, M. (1980). Initiation into adolescent marijuana use. *The Journal of Genetic Psychology, 137*(1), 133-142.

Broome, K.M., Joe, G.W., & Simpson, D.D. (2001). Engagement models for adolescents in DATOS-A. *Journal of Adolescent Research, 16*(6), 608-623.

Brouillette, M.A. (2006). The psychological impact of equine-assisted therapy on special education students. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3215057).

Brown, S.A. (2004). Measuring youth outcomes from alcohol and drug treatment. *Addiction, 99*(Suppl2), 38-46.

Brown, S.A., Anderson, K.G., Ramo, D.E., & Tomlinson, K.L. (2005). Treatment of adolescent alcohol-related problems. In Galanter, M. (Ed.). *Recent developments in alcoholism: Volume 17. Alcohol problems in adolescents and young adults* (p.327-348). New York, NY: Kluwer Academic/Plenum.

Brown, S.A., Tapert, S.F., Tate, S.R., & Abrantes, A.M. (2000). The role of alcohol in adolescent relapse and outcome. *Journal of Psychoactive Drugs, 32*(1), 107-115.

Bryant, B.K. (1985). The neighborhood walk: Sources of support in middle childhood. *Monographs of the Society for Research in Child Development, 50*(3), 122.

Bukstein, O.G. (1995). Adolescent Substance Abuse: Assessment, Prevention, and Treatment. New York, NY: John Wiley & Sons.

Bukstein, O.G. & Horner, M.S. (2010). Management of the adolescent with substance use disorders and comorbid psychopathology. *Child and Adolescent Psychiatric Clinics of North America, 19*(3), 609-623.

Burgon, H. (2003). Case studies of adults receiving horse-riding therapy. *Anthrozoos, 16*(3), 263-276.

Burleson, J.A., & Kaminer, Y. (2005). Self-efficacy as a predictor of treatment outcome in adolescent substance use disorders. *Addictive Behaviors, 30*(9), 1751-1764.

Burlew, A.K., Johnson, C.S., Flowers, A.M., Peteet, B.J., Griffith-Henry, K.D., & Buchanan, N.D. (2009). Neighborhood risk, parental supervision and the onset of substance use among African American adolescents. *Journal of Child and Family Studies, 18*(6), 680-689.

Buu, A., DiPiazza, C., Wang, J., Puttler, L.I., Fitzgerald, H.E., & Zucker, R.A. (2009). Parent, family, and neighborhood effects on the development of child substance use and other psychopathology from preschool to the start of adulthood. *Journal of Studies on Alcohol and Drugs, 70*(4), 489-498.

Castelli, P., Hart, L.A., & Zasloff, R.L. (2001). Companion cats and the social support system of men with AIDS. *Psychological Reports, 89*(1), 177-187.

Castro, F.G., Brook, J.S., Brook, D.W., & Rubenstone, E. (2006). Paternal, perceived maternal, and youth risk factors as predictors of youth stage of substance use: A longitudinal study. *Journal of Addictive Diseases, 25*(2), 65-75.

Catalano, R.F., Hawkins, J.D., Wells, E.A., & Miller, J.L. (1990-1991). Evaluation of the effectiveness of adolescent drug abuse treatment, assessment of risks for relapse, and promising approaches for relapse prevention. *International Journal of the Addictions, 25*(9A-10A), 1085-1140.

Catanzaro, T.E. (2003). Human-animal bond and primary prevention. *American Behavioral Scientist, 47*(1), 29-30.

Chambers, R.A., Taylor, J.R., & Potenza, M.N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *The American Journal of Psychiatry, 160*(6), 1041-1052.

Chandler, C.K. (2005). Animal assisted therapy in counseling. New York, NY: Routledge.

Chassin, L., Flora, D.B., & King, K.M. (2004). Trajectories of alcohol and drug use and dependence from adolescence to adulthood: The effects of familial alcoholism and personality. *Journal of Abnormal Psychology, 113*(4), 483-498.

Chen, P. & Jacobson, K.C. (2012). Developmental trajectories of substance use from early adolescence to young adulthood: Gender and racial/ethnic differences. *Journal of Adolescent Health, 50*(2), 154-163.

Christian, J.E. (2005). All creatures great and small: Utilizing equine-assisted therapy to treat eating disorders. *Journal of Psychology and Christianity, 24*(1), 65-67.

Christie, K.A., Burke, J.D., Regier, D.A., Rae, D.S., Boyd, J.H., & Locke, B.Z. (1988). Epidemiologic evidence for early onset of mental disorders and higher risk of drug abuse in young adults. *The American Journal of Psychiatry, 145*(8), 971- 975.

Chung, T., Colby, S.M., Barnett, N.P., Rohsenow, D.K., Spirito, A., & Monti, P.M. (2000). Screening adolescents for problem drinking: Performance of brief screens against DSM-IV alcohol diagnoses. *Journal of Studies on Alcohol, 61*(4), 579-587.

Chur-Hansen, A., Winefield, H., & Beckwith, M. (2008). Reasons given by elderly men and women for not owning a pet, and the implications for clinical practices and research. *Journal of Health Psychology, 13*(8), 988-995.

Clark, D.B., Cornelius, J.R., Kirisci, L., & Tarter, R.E. (2005). Childhood risk categories for adolescent substance involvement: A general liability typology. *Drug and Alcohol Dependence, 77*(1), 13-21.

Clark, H.W., Horton, A.M., Dennis, M., & Babor, T.F. (2002). Moving from research to practice just in time: The treatment of cannabis use disorders comes of age. *Addiction, 97*(1), 1-3.

Clayton, R.R. (1992). Transitions in drug use: Risk and protective factors. In Glantz, M.D., & Pickens, R.W. (Eds.). *Vulnerability to Drug Abuse* (p. 15-51). Washington, DC: American Psychological Association.

Cleveland, M.J., Feinberg, M.E., Bontempo, D.E., & Greenberg, M.T. (2008). The role of risk and protective factors in substance use across adolescence. *Journal of Adolescent Health, 43*(2), 157-164.

Cole, K.M., Gawlinkski, A., Steers, N., & Kotlerman, J. (2007). Animal-assisted therapy in patients hospitalized with heart failure. *American Journal of Critical Care, 16*(6), 575-585.

Coley, R.L., Votruba-Drzal, E., & Schindler, H.S. (2008). Trajectories of parenting processes and adolescent substance use: Reciprocal effects. *Journal of Abnormal Child Psychology, 36*(4), 613-625.

Colsman, M. & Wulfert, E. (2002). Conflict resolution style as an indicator of adolescents' substance use and other problem behaviors. *Addictive Behaviors, 27*(4), 633-648.

Cornelius, J.R., Maisto, S.A., Pollock, N.K., Martin, C.S., Salloum, I.M., Lynch, K.G., Clark, D.B. (2003). Rapid relapse generally follows treatment for substance use disorders among adolescents. *Addictive Behaviors, 28*(2), 381-386.

Crawford, A.M., Pentz, M.A., Chou, C., Li, C., & Dwyer, J.H. (2003). Parallel developmental trajectories of sensation seeking and regular substance use in adolescents. *Psychology of Addictive Behaviors, 17*(3), 179-192.

Cummings, J.R., Wen, H., & Druss, B.G. (2011). Racial/ethnic differences in treatment for substance use disorders among U.S. adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 50*(12), 1265-1274.

Cutt, H., Giles-Corti, B., Knuiman, M., Timperio, A., & Bull, F. (2008). Understanding dog owners' increased levels of physical activity: Results from RESIDE. *American Journal of Public Health, 98*(1), 66-69.

Dashnaw Stiles, L.A. (2001). Animal-assisted therapy with children and the elderly: A critical review. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAI3014937).

DeLoache, J.S., Pickard, M.B., & LoBue, V. (2011). How very young children think about animals. In P. McCardle, S. McCune, J.A. Griffin, & V. Maholmes (Eds.), How animals affect us: Examining the influence of human-animal interaction on child development and health (85-99). Washington, DC: American Psychological Association.

Delta Society (2012a). Animal-assisted activities. Retrieved from http://www.deltasociety.org/page.aspx?pid=319

Delta Society (2012b). Animal-assisted therapy. Retrieved from http://www.deltasociety.org/page.aspx?pid=320

Dennis, M., Babor, T.F., Roebuck, M.C., & Donaldson, J. (2002). Changing the focus: The case for recognizing and treating cannabis use disorders. *Addiction, 97*(Suppl1), 4-15.

Dennis, M., Titus, J.C., Diamond, G., Donaldson, J., Godley, S.H., Tims, F.M., Webb, C., Kaminer, Y., Babor, T., Roebuck, M.C., Godley, M.D., Hamilton, N., Liddle, H., & Scott, C.K. (2002). The Cannabis Youth Treatment (CYT) experiment: Rationale, study design and analysis plans. *Addiction, 97*(Suppl1), 16-34.

DePauw, K.P. (1986). Horseback riding for individuals with disabilities: Programs, philosophy, and research. *Adapted Physical Activity Quarterly, 3*(3), 217-226.

Dimitrijevic, I. (2009). Animal-assisted therapy – A new trend in the treatment of children and adults. *Psychiatria Danubina, 21*(2), 236-241.

Dunn, M.S., Kitts, C., Lewis, S., Goodrow, B., & Scherzer, G.D. (2011). Effects of youth assets on adolescent alcohol, tobacco, marijuana use, and sexual behavior. *Journal of Alcohol and Drug Education, 55*(3), 23-40.

Dusenbury, L., Brannigan, R., Falco, M., & Lake, A. (2004). An exploration of fidelity of implementation in drug abuse prevention among five professional groups. *Journal of Alcohol and Drug Education, 47*(3), 4-19.

Edwards, N.E. & Beck, A.M. (2002). Animal assisted therapy and nutrition in Alzheimer's disease. *Western Journal of Nursing Research, 24*(6), 697-712.

Eisenberg, M.E., Neumark-Sztainer, D., Fulkerson, J.A., & Story, M. (2008). Family meals and substance use: Is there a long-term protective association? *Journal of Adolescent Health, 43*(2), 151-156.

Elliot, V. & Milne, D. (1991). Patients' best friend? *Nursing Times, 87*(6), 34-35.

Emory, D.K. (1992). Effects of therapeutic horsemanship on the self-concepts and behavior of asocial adolescents. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 9227979).

Engberg, J. & Morral, A.R. (2006). Reducing substance use improves adolescents' school attendance. *Addiction, 101*(12), 1741-1751.

Equine Assisted Growth and Learning Association (2012). What is EAP and EAL? Retrieved from http://www.eagala.org/Information/What_Is_EAP_EAL

Erikson, E.H. (1968). Identity: Youth and crisis. Oxford, England: Norton & Co.

Esbjorn, R.J. (2006). When horses heal: A qualitative inquiry into equine facilitated psychotherapy. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3213087).

Esposito-Smythers, C. & Goldston, D.B. (2008). Challenges and opportunities in the treatment of adolescents with substance use disorder and suicidal behavior. *Substance Abuse, 29*(2), 5-17.

Esposito-Smythers, C., Walsh, A., Spirito, A., Rizzo, C., Goldston, D.B., & Kaminer, Y. (2012). Working with the suicidal client who also abuses substances. *Cognitive and Behavioral Practice, 19*(2), 245-255.

Ewing, C.A., MacDonald, P.M., Taylor, M., & Bowers, M.J. (2007). Equine-facilitated learning for youths with severe emotional disorders: A quantitative and qualitative study. *Child Youth Care Forum, 36*, 59-72.

Fang, L., Barnes-Ceeney, K., & Schinke, S. (2011). Substance use behavior among early-adolescent Asian American girls: The impact of psychological and family factors. *Women & Health, 51*(7), 623-642.

Feldstein, S.W., & Miller, W.R. (2006). Substance use and risk-taking among adolescents. *Journal of Mental Health, 15*(6), 633-643.

Foley, A.J. (2008). Conflict and connection: A theoretical and evaluative study of an equine-assisted psychotherapy program for at-risk and delinquent girls. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3315784).

Folse, E.B., Minder, C.C., Aycock, M.J., & Santana, R.T. (1994). Animal-assisted therapy and depression in adult college students. *Anthrozoos, 7*(3), 188-194.

Frame, D. L. (2006). Practices of therapists using equine facilitated/assisted psychotherapy in the treatment of adolescents diagnosed with depression: A qualitative study. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3204151).

French, M.T., Zavala, S.K., McCollister, K.E., Waldron, H.B., Turner, C.W., & Ozechowski, T.J. (2008). Cost-effectiveness analysis of four interventions for adolescents with a substance use disorder. *Journal of Substance Abuse Treatment, 34*(3), 272-281.

Freund, L.S., Brown, O.J., & Buff, P.R. (2011). Equine-assisted activities and therapy for individuals with physical and developmental disabilities: An overview of research findings and the types of research currently being conducted. In P. McCardle, S. McCune, J.A. Griffin, L. Esposito, & L.S. Freund (Eds.), Animals in our lives: Human-animal interaction in family, community, & therapeutic settings (165-182). Baltimore, MD: Paul H. Brookes.

Frewin, K. & Gardiner, B. (2005). New age or old sage? A review of equine assisted psychotherapy. *The Australian Journal of Counseling Psychology*, *6*, 13-17.

Friedman, A.S., & Beschner, G.M. (1990). Treatment needs and services for adolescent drug abusers. In A.S. Friedman & S. Granick (Eds.). Family Therapy for Adolescent Drug Abuse (pp. 23-45). Lexington, MA: Lexington Books.

Fritz, C.L., Farver, T.B., Hart, L.A., & Kass, P.H. (1996). Companion animals and the psychological health of Alzheimer patients' caregivers. *Psychological Reports, 78*(2), 467-481.

Galanter, M. & Kleber, H. (2008). The American Psychiatric Publishing Textbook of Substance Abuse Treatment. Washington, DC: American Psychiatric.

Geisler, A.M. (2004). Companion animals in palliative care: Stories from the bedside. *American Journal of Hospice & Palliative Medicine, 21*(4), 285-288.

Giagazoglou, P., Arabatzi, F., Dipla, K., Liga, M., & Kellis, E. (2012). Effect of a hippotherapy intervention program on static balance and strength in adolescents with intellectual disabilities. *Research in Developmental Disabilities,33*(6), 2265-2270.

Gibbons, F.X., Pomery, E.A., & Gerrard, M. (2010). Racial discrimination and substance abuse: Risk and protective factors in African American adolescents. In Scheier, L. (Ed.), Handbook of Drug Use Etiology: Theory, Methods, and Empirical Findings (p. 341-361). Washington, DC: American Psychological Association.

Gil, A.G., Wagner, E.F., & Tubman, J.G. (2004). Associations between early-adolescent substance use and subsequent young-adult substance use disorders and psychiatric disorders among a multiethnic male sample in South Florida. *American Journal of Public Health, 94*(9), 1603-1609.

Godley, M.D. & Godley, S.H. (2011). Assertive continuing care for adolescents. In Kelly, J.F. & White, W.L. (Eds.). *Addiction Recovery Management: Theory, Research and Practice* (p. 103-126). Totowa, NJ: Humana Press.

Godley, M.D., & White, W.L. (2005). A brief history and some current dimensions of adolescent treatment in the United States. In Galanter, M. (Ed.).*Recent Developments in Alcoholism: Volume 17. Alcohol Problems in Adolescents and Young Adults* (p. 367-382). New York, NY: Kluwer Academic/Plenum.

Godley, S.H., Garner, B.R., Passetti, L.L., Funk, R.R., Dennis, M.L., & Godley, M.D. (2010). Adolescent outpatient treatment and continuing care: Main findings from a randomized clinical trial. *Drug and Alcohol Dependence, 110*(1-2), 44-54.

Graham, J.R. (2007). An evaluation of equine-assisted wellness in those suffering from catastrophic loss and emotional fluctuations. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3255567).

Granger, B.P. & Kogan, L.R. (2006). Characteristics of animal-assisted therapy/activity in specialized settings. In A.H. Fine (Ed.), Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd ed.) (263-285). San Francisco, CA: Elsevier.

Greenwald, A.J. (2001). The effect of a therapeutic horsemanship program on emotionally disturbed boys. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3005664).

Griffin, K.W., Botvin, G.J., & Scheier, L.M. (2006). Racial/ethnic differences in the protective effects of self-management skills on adolescent substance use. *Substance Abuse, 27*(1-2), 47-52.

Gross, J., & McCaul, M.E. (1990-1991). A comparison of drug use and adjustment in urban adolescent children of substance abusers. *International Journal of the Addictions, 25*(4-A), 495-511.

Hart, L.A. (2006). Community context and psychosocial benefits of animal companionship. In A.H. Fine (Ed.), Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd ed.) (73-94). San Francisco, CA: Elsevier.

Hartup, W.W. (1970). Early childhood education and research: Significance and needs. *Journal of Teacher Education, 21*(1), 23-33.

Hassan, A., Harris, S.K., Sherritt, L., Van Hook, S., Brooks, T., Carey, P., Kossack, R., Kulig, J., & Knight, J.R. (2009). Primary care follow-up plans for adolescents with substance use problems. *Pediatrics, 124*(1), 144-150.

Hawkins, J.D., Catalano, R.F., & Miller, J.Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*(1), 64-105.

Hayden, A.J. (2005). An exploration of the experiences of adolescents who participated in equine-facilitated psychotherapy: A resiliency perspective. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3156902).

Headey, B., Na, F., & Zheng, R. (2008). Pet dogs benefit owners' health: A 'natural experiment' in China. *Social Indicators Research, 87*(3), 481-493.

Helm, K. (2009). The effects of equine assisted psychotherapy on women with eating disorders: A multiple case study. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3344785).

Henderson, C.E., Rowe, C.L., Dakof, G.A., Hawes, S.W., & Liddle, H.A. (2009). Parenting practices as mediators of treatment effects in an early-intervention trial of multidimensional family therapy. *The American Journal of Drug and Alcohol Abuse, 35*(4), 220-226.

Hersen, M. & Ammerman, R.T. (1995). Advanced Abnormal Child Psychology. Hillsdale, NJ: Lawrence Erlbaum Associates.

Hornberger, S., & Smith, S.L. (2011). Family involvement in adolescent substance abuse treatment and recovery: What do we know? What lies ahead? *Children and Youth Services Review, 33*(Suppl 1), S70-S76.

Hunter, S.B., Ramchand, R., Griffin, B.A., Suttorp, M.J., McCaffrey, D., & Morral, A. (2012). The effectiveness of community-based delivery of an evidence-based treatment for adolescent substance use. *Journal of Substance Abuse Treatment, 43*(2), 211-220.

Iannone, V.N. (2003). Evaluation of a vocational and therapeutic riding program for severely emotionally disturbed adolescents. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3084421).

Jainchill, N. (1997). Therapeutic communities for adolescents: The same and not the same. In G. De Leon (Ed.), Community as Method: Therapeutic Communities for Special Populations and Special Settings (pp. 161-177). Westport, CT: Praeger Publishers/Greenwood.

Jainchill, N. (2006). Adolescent therapeutic communities: Future directions for practice and research. In H.A. Liddle & C.L. Rowe (Eds.), Adolescent Substance Abuse: Research and Clinical Advances (pp. 313-332). New York, NY: Cambridge University Press.

Jainchill, N., Hawke, J., & Messina, M. (2005). Post-treatment outcomes among adjudicated adolescent males and females in modified therapeutic community treatment. *Substance Use & Misuse, 40*(7), 975-996.

Jainchill, N., Hawke, J., De Leon, G., & Yagelka, J. (2000). Adolescents in therapeutic communities: One-year posttreatment outcomes. *Journal of Psychoactive Drugs, 32*(1), 81-94.

James, W.H. (2011). Characteristics of treatment completers versus treatment noncompleters in a targeted capacity expansion and HIV/AIDS education program for adolescents with substance use disorders. *Alcoholism Treatment Quarterly, 29*(1), 64-74.

Joe, G.W., Simpson, D.D., & Broome, K.M. (1998). Effects of readiness for drug abuse treatment on client retention and assessment of process. *Addiction, 93*(8), 1177-1190.

Johnson, C.M. (2001). Relationships with animals as a component of the healing process: A study of child abuse survivors. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3016187).

Johnson, R.A. (2011). Animal-assisted interventions in health care contexts. In P. McCardle, S. McCune, J.A. Griffin, & V. Malhomes (Eds.), How animals affect us: Examining the influence of human-animal interaction on child development and human health (pp. 183-192). Washington, DC: American Psychological Association.

Kaiser, L., Spence, L.J., Lavergne, A.G., & Bosch, K.L.V. (2004). Can a week of therapeutic riding make a difference? – A pilot study. *Anthrozoos, 17*(1), 63-72.

Kaminer, Y. (1994). Adolescent Substance Abuse: A Comprehensive Guide to Theory and Practice. New York, NY: Plenum.

Kaminer, Y. (2001). Adolescent substance abuse treatment: Where do we go from here? *Psychiatric Services, 52*(2), 147-149.

Kaminer, Y., Burleson, J.A., & Goldberger, R. (2002). Cognitive-behavioral coping skills and psychoeducation therapies for adolescent substance abuse. *Journal of Nervous and Mental Disease, 190*(11), 737-745.

Kaminer, Y., Tarter, R.E., Bukstein, O.G., & Kabene, M. (1992). Comparison between treatment completers and noncompleters among dually diagnosed substance-abusing adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*(6), 1046-1049.

Kaminski, M., Pellino, T., & Wish, J. (2002). Play and pets: The physical and emotional impact of child-life and pet therapy on hospitalized children. *Children's Health Care, 31*(4), 321-335.

Kamon, J.L., Stranger, C., Budney, A.J., & Dumenci, L. (2006). Relations between parent and adolescent problems among adolescents presenting for family-based marijuana abuse treatment. *Drug and Alcohol Dependence, 85*(3), 244-254.

Kandel, D.B. (1978). Homophily, selection, and socialization in adolescent friendships. *American Journal of Sociology, 84*(2), 427-436.

Kandel, D.B., Johnson, J.G., Bird, H.R., & Canino, G. (1997). Psychiatric disorders associated with substance use among children and adolescents: Findings from the Methods for the Epidemiology of Child and Adolescent Mental Disorders (MECA) Study. *Journal of Abnormal Child Psychology, 25*(2), 121-132.

Kandel, D.B., Kessler, R.C., & Margulies, R.Z. (1978). Antecedents of adolescent initiation into stages of drug use: A developmental analysis. *Journal of Youth and Adolescence, 7*(1), 13-40.

Kaplow, J.B., Curran, P.J., & Dodge, K.A. (2002). Child, parent, and peer predictors of early-onset substance use: A multisite longitudinal study. *Journal of Abnormal Child Psychology, 30*(3), 199-216.

Karol, J. (2007). Applying a traditional individual psychotherapy model to equine-facilitated psychotherapy (EFP): Theory and method. *Clinical Child Psychology and Psychiatry, 12*(1), 77-90.

Katcher, A. & Wilkins, G.G. (1998). Animal-assisted therapy in the treatment of disruptive behavior disorders in children. In A. Lundberg (Ed.), The environment and mental health: A guide for clinicians (193-204). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Katcher, A.H. & Beck, A.M. (2006). New and old perspectives on the therapeutic effects of animals and nature. In A.H. Fine (Ed.), Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd ed.) (39-48). San Francisco, CA: Elsevier.

Kelly, J.F., Dow, S.J., Yeterian, J.D., & Kahler, C.W. (2010). Can 12-step group participation strengthen and extend the benefits of adolescent addiction treatment? A prospective analysis. *Drug and Alcohol Dependence, 110*(1-2), 117-125.

Kelly, J.F., Myers, M.G., & Brown, S.A. (2000). A multivariate process model of adolescent 12-step attendance and substance use outcome following inpatient treatment. *Psychology of Addictive Behaviors, 14*(4), 376-389.

Kelly, J.F., Myers, M.G., & Brown, S.A. (2005). The effects of age composition of 12-step groups on adolescent 12-step participation and substance use outcome. *Journal of Child & Adolescent Substance Abuse, 15*(1), 63-72.

Kelly, J.F., Yeterian, J.D., & Myers, M.G. (2008). Treatment staff referrals, participation expectations, and perceived benefits and barriers to adolescent involvement in twelve-step groups. *Alcoholism Treatment Quarterly, 26*(4), 427-449.

Kersten, G. (1997). *Therapy tip March 1997 "The call of the wild."* Retrieved October 1, 2011 from http://www.eagala.org/march97TT.html

Khantzian, E.J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *The American Journal of Psychiatry, 142*(11), 1259-1264.

Khantzian, E.J. (2001). Reflections on group treatments as corrective experiences for addictive vulnerability. *International Journal of Group Psychotherapy, 51*(1), 11-20.

Killeen, T.K., McRae-Clark, A.L., Waldrop, A.E., Upadhyaya, H., & Brady, K.T. (2012). Contingency management in community programs treating adolescent substance abuse: A feasibility study. *Journal of Child and Adolescent Psychiatric Nursing, 25*(1), 33-41.

Kilmer, J.R., Cronce, J.M., Hunt, S.B., & Lee, C.M. (2012). Reducing harm associated with illicit drug use: Opiates, amphetamines, cocaine, steroids, and other substances. In G.A. Marlatt, M.E.Larimer,& K. Witkiewitz (Eds.). Harm Reduction: Pragmatic Strategies for Managing High-Risk Behaviors (pp. 170-200). New York, NY: Guilford Press.

Klontz, B.T., Bivens, A., Leinart, D., & Klontz, T. (2007). The effectiveness of equine-assisted experiential therapy: Results of an open clinical trial. *Society and Animals, 15*(3), 257-267.

Krause-Parello, C.A. (2008). The mediating effect of pet attachment support between loneliness and general health in older females living in the community. *Journal of Community Health Nursing, 25*(1), 1-14.

Kruger, K.A. & Serpell, J.A. (2006). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In A.H. Fine (Ed.), Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd ed.) (21-38). San Francisco, CA: Elsevier.

Labouvie, E. (1996). Maturing out of substance use: Selection and self-correction. *Journal of Drug Issues, 26*(2), 457-476.

Lac, A., Unger, J.B., Basanez, T., Ritt-Olson, A., Soto, D.W., & Baezconde-Garbanati, L. (2011). Marijuana use among Latino adolescents: Gender differences in protective familial factors. *Substance Use & Misuse, 46*(5), 644-655.

Lajoie, K.R. (2003). An evaluation of the effectiveness of using animals in therapy. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAI3077675).

Langenbach, T., Sponlein, A., Overfeld, E., Wiltfang, G., Quecke, N., Scherbaum, N., Melchers, P., & Hebebrand, J. (2010). Axis I comorbidity in adolescent inpatients referred for treatment of substance use disorders. *Child and Adolescent Psychiatry and Mental Health, 4*, 25.

Latimer, W.W., Winters, K.C., Stinchfield, R., & Traver, R.E. (2000). Demographic, individual, and interpersonal predictors of adolescent alcohol and marijuana use following treatment. *Psychology of Addictive Behaviors, 14*(2), 162-173.

Lee, R. (2012). Community violence exposure and adolescent substance use: Does monitoring and positive parenting moderate risk in urban communities? *Journal of Community Psychology, 40*(4), 406-421.

Lessick, M., Shinaver, R., Post, K.M., Rivera, J.E., & Lemon, B. (2004). Therapeutic horseback riding. Exploring this alternative therapy for women with disabilities. *AWHONN Lifelines/Association of Women's Health, Obstetric and Neonatal Nurses, 8*(1), 46-53.

Levinson, B.M. (1962). The dog as a "co-therapist." *Mental Hygiene, 46*(1), 59-65.

Liddle, H.A. (1994). The anatomy of emotions in family therapy with adolescents. *Journal of Adolescent Research, 9*(1), 120-157.

Liddle, H.A., & Dakof, G.A. (1995). Efficacy of family therapy for drug abuse: Promising but not definitive. *Journal of Marital and Family Therapy, 21*(4), 511-543.

Liddle, H.A., Dakof, G.A., Turner, R.M., Henderson, C.E., & Greenbaum, P.E. (2008). Treating adolescent drug abuse: A randomized trial comparing multidimensional family therapy and cognitive behavior therapy. *Addiction, 103*(10), 1660-1670.

Lipton, L. (2001). Some patients petting their way to improved mental health. *PsychiatricNews, 36*(3), 17.

LoBue, V. & DeLoache, J.S. (2008). Detecting the snake in the grass: Attention to fear-relevant stimuli by adults and young children. *Psychological Science, 19*(3), 284-289.

LoBue, V. (2010). And along came a spider: Superior detection of spiders in children and adults. *Journal of Experimental Child Psychology, 107*, 59-66.

Lutter, C.B. (2008). Equine assisted therapy and exercise with eating disorders: A retrospective chart review and mixed method analysis. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 1456577).

Macauley, B.L. & Gutierrez, K.M. (2004). The effectiveness of hippotherapy for children with language-learning disabilities. *Communication Disorders Quarterly, 25*(4), 205-217.

Macauley, B.L. (2006). Animal-assisted therapy for persons with aphasia: A pilot study. *Journal of Rehabilitation Research and Development, 43*(3), 357-366.

MacDonald, P.M. (2004). *The effects of equine-facilitated therapy with at-risk adolescents: A summary of empirical research across multiple centers and programs.* The Center for the Interaction of Animals and Society (CIAS). Philadelphia: University of Pennsylvania School of Veterinary Medicine. Available: www2.vet.upenn.edu/research/centers/cias/pdf/CIAS_AAI_white_paper.pdf

Macgowan, M. & Wagner, E. (2005). Iatrogenic effects of group treatment on adolescents with conduct and substance use problems: A review of the literature and a presentation of a model. In C. Hilarski (Ed.), Addiction, Assessment, and Treatment with Adolescents, Adults, and Families (79-90). New York, NY: The Haworth Press.

MacMaster, S., Holleran, L., & Chaffin, K. (2005). Empirical and theoretical support for the inclusion of non-abstinence-based perspectives in prevention services for substance using adolescents. In C. Hilarski (Ed.), Addition, Assessment, and Treatment with Adolescents, Adults, and Families (91-111). New York, NY: The Haworth Press.

Malkus, B.M. (1994). Family dynamic and structural correlates of adolescent substance abuse: A comparison of families of non-substance abusers and substance abusers. *Journal of Child & Adolescent Substance Abuse*, *3*(4), 39-52.

Mallon, G.P. (1994). Cow as co-therapist: Utilization of farm animals as therapeutic aides with children in residential treatment. *Child & Adolescent Social Work Journal,11*(6), 455-474.

Manor, W. (1991). Alzheimer's patients and their caregivers: The role of the human animal bond. *Holistic Nursing Practice, 5*(2), 32-37.

Margulies, R.Z., Kessler, R.C., & Kandel, D.B. (1977). A longitudinal study of onset of drinking among high-school students. *Journal of Studies on Alcohol, 38*(5), 897-912.

Marino, L. (2012). Construct validity of animal-assisted therapy and activities: How important is the animal in AAT? *Anthrozoos, 25*(Suppl), S139-S151.

Mark, T.L., Song, X., Vandivort, R., Duffy, S., Butler, J., Coffey, R., & Schabert, V.F. (2006). Characterizing substance abuse programs that treat adolescents. *Journal of Substance Abuse Treatment, 31*(1), 59-65.

Marshal, M.P., Friedman, M.S., Stall, R., & Thompson, A.L. (2009). Individual trajectories of substance use in lesbian, gay and bisexual youth and heterosexual youth. *Addiction, 104*(6), 974-981.

Marshal, M.P., Friedman, M.S., Stall, R., King, K.M., Miles, J., Gold, M.A., Bukstein, O.G., & Morse, J.Q. (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction, 103*(4), 546-556.

Martin, C.S., & Winters, K.C. (1998). Diagnosis and assessment of alcohol use disorders among adolescents. *Alcohol Health & Research World, 22*(2), 95-105.

Marx, R.D., & Cumella, E.J. (2003). Question: Is equine therapy useful in the treatment of eating disorders? *Eating Disorders: The Journal of Treatment & Prevention*,*11*(2), 143-147.

Mason, M.J., & Collison, B.B. (1995). Adolescent substance abuse treatment incorporating "rites of passage." *Alcoholism Treatment Quarterly, 13*(3), 69-79.

Mason, M.J., & Posner, M.A. (2009). Brief substance abuse treatment with urban adolescents: A translational research study. *Journal of Child & Adolescent Substance Abuse*, *18*(2), 193-206.

Mason, W.A., & Spoth, R.L. (2011). Thrill seeking and religiosity in relation to adolescent substance use: Tests of joint, interactive, and indirect influences. *Psychology of Addictive Behaviors*, *25*(4), 683-696.

Masten, A.S., Best, K.M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology*, *2*(4), 425-444.

Matheson, J.L., & Lukic, L. (2011). Family treatment of adolescents and young adults recovering from substance abuse. *Journal of Family Psychotherapy*, *22*(3), 232-246.

Mayberry, M.L., Espelage, D.L., & Koenig, B. (2009). Multilevel modeling of direct effects and interactions of peers, parents, school, and community influences on adolescent substance use. *Journal of Youth and Adolescence, 38*(8), 1038-1049.

McCardle, P., McCune, S., Netting, F.E., Berger, A., & Maholmes, V. (2011). Therapeutic human-animal interaction: An overview. In P. McCardle, S. McCune, J.A. Griffin, L. Esposito, & L.S. Freund (Eds.), Animals in our lives: Human-animal interaction in family, community, & therapeutic settings (107-115). Baltimore, MD: Paul H. Brookes Publishing Co.

McNicholas, J. & Collis, G.M. (2006). Animals as social supports: Insights for understanding animal-assisted therapy. In A.H. Fine (Ed.), Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice (2nd ed.) (49-71). San Francisco, CA: Elsevier.

McWhirter, P.T. (2008). Enhancing adolescent substance abuse treatment engagement. *Journal of Psychoactive Drugs, 40*(2), 173-182.

Meinersmann, K.M., Bradberry, J., & Roberts, F.B. (2008). Equine-facilitated psychotherapy with adult female survivors of abuse. *Journal of Psychosocial Nursing, 46*(12), 36-42.

Messent, P. (1983). Social facilitation of contact with other people by pet dogs. In A. Katcher & A.M. Beck (Eds.), New perspectives on our lives with companion animals, Philadelphia, PA: University of Pennsylvania Press.

Miller, J. & Ingram, L. (2000). Preoperative nursing and animal-assisted therapy. *AORN Journal, 72,* 477-483.

Miyajima, T., & Naito, M. (2008). Conformity under indirect group pressure in junior high school students: Effects of normative and informational social influences and task importance. *Japanese Journal of Developmental Psychology, 19*(4), 364-374.

Molina, B.S.G., Chassin, L., & Curran, P.J. (1994). A comparison of mechanisms underlying substance use for early adolescent children of alcoholics and controls. *Journal of Studies on Alcohol, 55*(3), 269-275.

Moran, P.B., Vuchinich, S., & Hall, N.K. (2004). Associations between types of maltreatment and substance use during adolescence. *Child Abuse & Neglect, 28*(5), 565-574.

Moss, H.B., Kirisci, L., & Mezzich, A.C. (1994). Psychiatric comorbidity and self-efficacy to resist heavy drinking in alcoholic and nonalcoholic adolescents. *The American Journal on Addictions, 3*(3), 204-212.

Motooka, M., Koike, H., Yokoyama, T., & Kennedy, N.L. (2006). Effect of dog-walking on autonomic nervous activity in senior citizens. *Medical Journal of Australia, 184*(2), 60-63.

Muck, R., Zempolich, K.A., Titus, J.C., Fishman, M., Godley, M.D., & Schwebel, R. (2001). An overview of the effectiveness of adolescent substance abuse treatment models. *Youth & Society, 33*(2), 143-168.

Munoz-Lasa, S., Ferriero, G., Valero, R., Gomez-Muniz, F., Rabini, A., & Varela, E. (2011). Effect of therapeutic horseback riding on balance and gait of people with multiple sclerosis. *Giornale Italiano Di Medicina Del Lavoro Ed Ergonomia, 33*(4), 462-467.

Mussen, P.H., Conger, J.J., & Kagan, J. (1974). Child Development and Personality (4th ed.). Oxford, England: Harper & Row.

Myers, L. (2004). Using a horse to develop recovery skills. Retrieved from http://www.stonefoxfarms.net/kickball.html

Nagoshi, J.L., Marsiglia, F.F., Parsai, M., & Castro, F.G. (2011). The moderating effects of ethnic identification on the relationship between parental monitoring and substance use in Mexican heritage adolescents in the Southwest United States. *Journal of Community Psychology, 39*(5), 520-533.

Nasim, A., Fernander, A., Townsend, T.G., Corona, R., & Belgrave, F.Z. (2011). Cultural protective factors for community risks and substance use among rural African American adolescents. *Journal of Ethnicity in Substance Abuse, 10*(4), 316-336.

New, J., Cosmides, L., & Tooby, J. (2007). Category-specific attention for animals reflects ancestral priorities, not expertise. *Proceedings of the National Academy of Sciences,104*(42), 6598-6603.

Newcomb, M.D. & Bentler, P.M. (1988). Impact of adolescent drug use and social support on problems of young adults: A longitudinal study. *Journal of Abnormal Psychology, 97*(1), 64-75.

Newcomb, M.D. & Harlow, L.L. (1986). Life events and substance use among adolescents: Mediating effects of perceived loss of control and meaninglessness in life. *Journal of Personality and Social Psychology, 51*(3), 564-577.

Nimer, J. & Lundahl, B. (2007). Animal-assisted therapy: A metal-analysis. *Anthrozoos, 20*(3), 225-238.

Ozechowski, T.J., & Liddle, H.A. (2000). Family-based therapy for adolescent drug abuse: Knowns and unknowns. *Clinical Child and Family Psychology Review, 3*(4), 269-298.

Peterson, C. (2010). Phenomenological narratology understanding of clients' experiences and perceptions of equine facilitated psychotherapy. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3412067).

Piaget, J. (1969). Collected Psychological Works. Oxford, England: Prosveshchenie.

Pichot, T. & Coulter, M. (2007). Animal-assisted brief therapy: A solution-focused approach. New York, NY: The Haworth Press.

Piko, B.F. & Balazs, M.A. (2012). Authoritative parenting style and adolescent smoking and drinking. *Addictive Behaviors, 37*(3), 353-356.

Piko, B.F. & Kovacs, E. (2010). Do parents and school matter? Protective factors for adolescent substance use. *Addictive Behaviors, 35*(1), 53-56.

Pilgrim, C., Abbey, A., & Kershaw, T. (2004). The direct and indirect effects of mothers' and adolescents' family cohesion on young adolescents' attitudes toward substance use. *The Journal of Primary Prevention, 24*(3), 263-283.

Plant, R.W. & Panzarella, P. (2009). Residential treatment of adolescents with substance use disorders: Evidence-based approaches and best practice recommendations. In Leukefeld, C.G., Gullotta, T.P., & Staton-Tindall, M. (Eds.), *Adolescent Substance Abuse: Evidence-Based Approaches to Prevention and Treatment* (p. 135-154). New York, NY: Springer Science + Business Media.

Poikolainen, K. (2002). Antecedents of substance use in adolescence. *Current Opinion in Psychiatry, 15*(3), 241-245.

Poresky, R.H. (1996). Companion animals and other factors affection young children's development. *Anthrozoos, 9*(4), 159-168.

Porter-Wenzlaff, L. (2007). Finding their voice: Developing emotional, cognitive, and behavioral congruence in female abuse survivors through equine facilitated therapy. *Explore, 3*(5), 529-534.

Prochaska, J.O. & DiClemente, C.C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research & Practice, 19*(3), 276-288.

Professional Association of Therapeutic Horsemanship International (2012). Learn about therapeutic driving. Retrieved from http://www.pathintl.org/resources-education/resources/eaat/199-learn-about-therapeutic-driving

Raina, P., Bonnett, B., & Waltner-Toews, D. (1998). *Relationship between pet ownership and health care use among seniors*, 8th Conference of the International Association of Human-Animal Interaction Organisations, Prague, September 10-11.

Raina, P., Waltner-Toews, D., Bonnett, B., Woodward, C., & Abernathy, T. (1999). Influence of companion animals on the physical and psychological health of older people: An analysis of a one-year longitudinal study. *Journal of the American Geriatrics Society, 47*(3), 323-329.

Richeson, N.E. (2003). Effects of animal-assisted therapy on agitated behaviors and social interactions of older adults with dementia. *American Journal of Alzheimer's Disease and Other Dementias, 18*(6), 353-358.

Riggs, P.D., Baker, S., Mikulich, S.K., & Young, S.E. (1995). Depression in substance-dependent delinquents. *Journal of the American Academy of Child & Adolescent Psychiatry, 34*(6), 764-771.

Rivinus, T.M. (1992). College age substance abuse as a developmental arrest. *Journal of College Student Psychotherapy, 6*(3-4), 141-166.

Rohde, P., Lewinsohn, P.M., & Seeley, J.R. (1996). Psychiatric comorbidity with problematic alcohol use in high school students. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*(1), 101-109.

Rothe, E.Q., Vega, B.J., Torres, R.M., Soler, S.M.C., & Pazos, R.M.M. (2005). From kids and horses: Equine facilitated psychotherapy for children. *International Journal of Clinical and Health Psychology, 5*(2), 373-383.

Rumpold, G., Klingseis, M., Dornauer, K., Kopp, M., Doering, S., Hofer, S., Mumelter, B., & Schubler, G. (2006). Psychotropic substance abuse among adolescents: A structural equation model on risk and protective factors. *Substance Use & Misuse, 41*(8), 1155-1169.

Russell-Martin, L.A. (2006). Equine facilitated couples therapy and solution focused couples therapy: A comparison study. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3234094).

Sale, E., Sambrano, S., Springer, J.F., & Turner, C.W. (2003). Risk, protection, and substance use in adolescents: A multi-site model. *Journal of Drug Education,33*(1), 91-105.

Salmon, J., Timperio, A., Chu, B., & Veitch, J. (2010). Dog ownership, dog walking and children's and parents' physical activity. *Research Quarterly for Exercise & Sport, 81*(3), 264-271.

Sanders, C.R. (2003). Actions speak louder than words: Close relationships between human and nonhuman animals. *Symbolic Interaction, 26*(3), 405-436.

Sanders, J.M. (2011). Coming of age: How adolescent boys construct masculinities via substance use, juvenile delinquency, and recreation. *Journal of Ethnicity in Substance Abuse, 10*(1), 48-70.

Santor, D.A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence 29*(2), 163-182.

Sarason, B.R., Levine, H.M., Basham, R.B., & Sarason, B.R. (1983). Assessing social support: The social support questionnaire. *Journal of Personality and Social Psychology, 44*(1), 127-139.

Savin-Williams, R.C. & Berndt, T.J. (1990). Friendships and peer relations. In S.S. Feldman (Ed.), At the threshold: The developing adolescent (277-307). Cambridge, MA: Harvard University Press.

Scheier, L.M. & Newcomb, M.D. (1991). Differentiation of early adolescent predictors of drug use versus abuse: A developmental risk-factor model. *Journal of Substance Abuse, 3*(3), 277-299.

Schinke, S.P., Botvin, G., & Orlandi, M. (1991). Substance Abuse in Children and Adolescents. London, UK: Sage.

Schinke, S.P., Fang, L., & Cole, K.C.A. (2008). Substance use among early adolescent girls: Risk and protective factors. *Journal of Adolescent Health, 43*(2), 191-194.

Schultz, P.N., Remick-Barlow, G.A., & Robbins, L. (2007). Equine-assisted psychotherapy: A mental health promotion/intervention modality for children who have experienced intra-family violence. *Health and Social Care in the Community, 15*(3), 265-271.

Scialli, A.L. (2002). Parent perceptions of the effectiveness of therapeutic horseback riding for children with varying disabilities. (Doctoral dissertation). Retrieved from ProQuest Dissertation and Theses Database. (AAT 3059032).

Scull, T.M., Kupersmidt, J.B., Parker, A.E., Elmore, K.C., & Benson, J.W. (2010). Adolescents' media-related cognitions and substance use in the context of parental and peer influences. *Journal of Youth and Adolescence, 39*(9), 981-998.

Serpell, J.A. (1991). Beneficial aspects of pet ownership on some aspects of human health and behavior. *Journal of the Royal Society of Medicine, 84*(2), 717-720.

Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*(5), 612-630.

Shin, S.H., Hong, H.G., & Hazen, A.L. (2010). Childhood sexual abuse and adolescent substance use: A latent class analysis. *Drug and Alcohol Dependence, 109*(1-3), 226-235.

Simion, F., Regolin, L., & Buff, H. (2008). A predisposition for biological motion in the newborn baby. *Proceedings of the National Academy of Sciences, 105*(2), 809-813.

Simons-Morton, B. & Chen, R.S. (2006). Over time relationships between early adolescent and peer substance use. *Addictive Behaviors, 31*(7), 1211-1223.

Simpson, D.D. (2001). Modeling treatment process and outcomes. *Addiction, 96*(2), 207-211.

Simpson, D.D., Joe, G.W., & Brown, B.S. (1997). Treatment retention and follow-up outcomes in the Drug Abuse Treatment Outcome Study (DATOS). *Psychology of Addictive Behaviors, 11*(4), 294-307.

Simpson, T.L. & Miller, W.R. (2002). Concomitance between childhood sexual and physical abuse and substance use problems: A review. *Clinical Psychology Review, 22*(1), 27-77.

Skeer, M.R., McCormick, M.C., Normand, S.T., Mimiaga, M.J., Buka, S.L., & Gilman, S.E. (2011). Gender differences in the association between family conflict and adolescent substance use disorders. *Journal of Adolescent Health, 49*(2), 187-192.

Slesnick, N., Bartle-Haring, S., & Gangamma, R. (2006). Predictors of substance use and family therapy outcome among physically and sexually abused runaway adolescents. *Journal of Marital and Family Therapy, 32*(3), 261-281.

Smith-Osborne, A. & Selby, A. (2010). Implications of the literature on equine-assisted activities for use as a complementary intervention in social work practice with children and adolescents. *Child & Adolescent Social Work Journal, 27*(4), 291-307.

Sobo, E.J., Eng, B., & Kassity-Krich, N. (2006). Canine visitation (pet) therapy: Pilot data on decreases in child pain perception. *Journal of Holistic Nursing, 24*(1), 51-57.

Souter, M.A., & Miller, M.D. (2007). Do animal-assisted activities effectively treat depression? A meta-analysis. *Anthrozoos, 20*(2), 167-180.

Stanger, C., & Budney, A.J. (2010). Contingency management approaches for adolescent substance use disorders. *Child and Adolescent Psychiatric Clinics of North America, 19*(3), 547-562.

Stoffel, J. & Braun, C. (2006). Animal-assisted therapy: An analysis of patient testimonials. *Journal of Undergraduate Nursing Scholarship, 8*(1), Retrieved September 26, 2012, from http://juns.nursing.arizona.edu/

Substance Abuse and Mental Health Services Administration (2006). *Matrix Intensive Outpatient Treatment for People with Stimulant Use Disorders.* Rockville, MD: U.S. Department of Health and Human Services.

Substance Abuse and Mental Health Services Administration, *Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings*, NSDUH Series H-44, HHS Publication No. (SMA) 12-4713. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

Susman, E.J., & Rogol, A. (2004). Handbook of adolescent psychology (2nd ed.). Hoboken, NJ: John Wiley & Sons.

Swendsen, J., Burstein, M., Case, B., Conway, K.P., Dierker, L., He, J., & Merikangas, K.R. (2012). Use and abuse of alcohol and illicit drugs in US adolescents: Results of the National Comorbidity Survey-Adolescent Supplement. *Archives of General Psychiatry, 69*(4), 390-398.

Tanner-Smith, E.E., Wilson, S.J., & Lipsey, M.W. (2013). The comparative effectiveness of outpatient treatment for adolescent substance abuse: A meta-analysis. *Journal of Substance Abuse Treatment, 44*(2), 145-158.

Taylor, N. & Signal, T.D. (2005). Empathy and attitudes to animals. *Anthrozoos, 18*(1), 18-27.

Taylor, N.T., Burlingame, G.M., Kristensen, K.B., Fuhriman, A., Johansen, J., & Dahl, D. (2001). A survey of mental health care provider's and managed care organization attitudes toward, familiarity with, and use of group interventions. *International Journal of Group Psychotherapy, 51*(2), 243-263.

Tebes, J.K., Cook, E.C., Vanderploeg, J.J., Feinn, R., Chinman, M.J. Shepard, J.K., Brabham, T., & Connell, C.M. (2011). Parental knowledge and substance use among African American adolescents: Influence of gender and grade level. *Journal of Child and Family Studies, 20*(4), 406-413.

Tetzlaff, B.T., Kahn, J.H., Godley, S.H., Godley, M.D., Diamond, G.S., & Funk, R.R. (2005). Working alliance, treatment satisfaction, and patterns of posttreatment use among adolescent substance users. *Psychology of Addictive Behaviors, 19*(2), 199-207.

Teunissen, H.A., Spijkerman, R., Prinstein, M.J., Cohen, G.L., Engels, R.C.M.E., & Scholte, R.H.J. (2012). Adolescents' conformity to their peers' pro-alcohol and anti-alcohol norms: The power of popularity. *Alcoholism: Clinical and Experimental Research, 36*(7), 1257-1267.

Thai, N.D., Connell, C.M., & Tebes, J.K. (2010). Substance use among Asian American adolescents: Influence of race, ethnicity, and acculturation in the context of key risk and protective factors. *Asian American Journal of Psychology, 1*(4), 261-274.

Thomas, L. (2002). Horse-play can be therapeutic: Equine assisted psychotherapy. Retrieved from http://www.strugglingteens.com/opinion/horseplay.html

Timperio, A., Salmon, J., Chu, B., & Andrianopoulos, N. (2008). Is dog ownership or dog walking associated with weight status in children and their parents? *Health Promotion Journal of Australia, 19*(1), 60-63.

Toumbourou, J.W., Stockwell, T., Neighbors, C., Marlatt, G.A., Sturge, J. & Rehm, J. (2007). Interventions to reduce harm associated with adolescent substance use. *The Lancet, 369*(9570), 1391-1401.

Trotter, K.S., Chandler, C.K., Goodwin-Bond, D., & Casey, J. (2008). A comparative study of the efficacy of group equine assisted counseling with at-risk children and adolescents. *Journal of Creativity in Mental Health, 3*(3), 254-284.

Unger, J.B., Ritt-Olson, A., Wagner, K.D., Soto, D.W., & Baezconde-Garbanati, L. (2009). Parent-child acculturation patterns and substance use among Hispanic adolescents: A longitudinal analysis. *The Journal of Primary Prevention, 30*(3-4), 293-313.

Vaughn, M.G., & Howard, M.O. (2004). Adolescent substance abuse treatment: A synthesis of controlled evaluations. *Research on Social Work Practice, 14*(5), 325-335.

Vidrine, M., Owen-Smith, P., & Faulkner, P. (2002). Equine-facilitated group psychotherapy: Applications for therapeutic vaulting. *Issues in Mental Health Nursing, 23*, 587-603.

Vucina, T. & Becirevic, I.Z. (2007). Risk factors and protective factors for adolescent substance use. *Review of Psychology, 14*(1), 59-72.

Wagner, E.F. (2008). Developmentally informed research on the effectiveness of clinical trials: A primer for assessing how developmental issues may influence treatment responses among adolescents with alcohol use problems. *Pediatrics, 121*(4), 337-347.

Wagner, E.F., Lloyd, D.A., & Gil, A.G. (2002). Racial/ethnic and gender differences in the incidence and onset age of DSM-IV alcohol use disorder symptoms among adolescents. *Journal of Studies on Alcohol, 63*(5), 609-619.

Wagner, E.F., Swenson, C.C., & Henggeler, S.W. (2000). Practical and methodological challenges in validating community-based interventions. *Children's Services: Social Policy, Research, & Practice, 3*(4), 211-231.

Wagner, E.F., Tubman, J.G., & Gil, A.G. (2004). Implementing school-based substance abuse interventions: Methodological dilemmas and recommended solutions. *Addiction, 99*(Suppl2), 106-119.

Waldron, H.B., & Kaminer, Y. (2004). On the learning curve: The emerging evidence supporting cognitive-behavioral therapies for adolescent substance abuse. *Addiction, 99*(Suppl 2), 93-105.

Waldron, H.B., & Turner, C.W. (2008). Evidence-based psychosocial treatments for adolescent substance abuse. *Journal of Clinical Child & Adolescent Psychology, 37*(1), 238-261.

Walsh, P.G. & Mertin, P.G. (1994). The training of pets as therapy dogs in a women's prison: A pilot study. *Anthrozoos, 7*(2), 124-128.

Weise, E. (September 11, 2007). We really love – and spend on – our pets. *USA Today.*

Wells, D.L. (2005). The effect of videotapes of animals on cardiovascular responses to stress. *Stress and Health: Journal of the International Society for the Investigation of Stress, 21*(3), 209-213.

Whalen, C.N., & Case-Smith, J. (2012). Therapeutic effects of horseback riding therapy on gross motor function in children with cerebral palsy: A systematic review. *Physical & Occupational Therapy in Pediatrics, 32*(3), 229-242.

Whitely, R. (2009). Therapeutic benefits of equine assisted psychotherapy for at-risk adolescents. (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses Database. (AAT 3405795).

Wilson, C. (1991). The pet as an anxiolytic intervention. *Journal of Mental and Nervous Disease, 179*(8), 482-489.

Wilson, J.J. (2010). Substance abuse during adolescence. In Nunes, E.V., Selzer, J., Levounis, P., & Davies, C.A. (Eds.). *Substance Dependence and Co-Occurring Psychiatric Disorders: Best Practices for Diagnosis and Treatment* (p. 1-22). Kingston, NJ: Civic Research Institute.

Winters, K., & Fahnhorst, T. (2005). Assessment issues in adolescent drug abuse treatment research. In Galanter, M. (Ed.). *Recent Developments in Alcoholism: Volume 17. Alcohol Problems in Adolescents and Young Adults* (p. 407-425). New York, NY: Kluwer Academic/Plenum.

Winters, K.C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse*, *20*(4), 203-225.

Winters, K.C., Newcomb, M.D., & Fahnhorst, T. (2004). Substance-use disorders. In Hersen, M. (Ed.). *Psychological Assessment in Clinical Practice: A Pragmatic Guide* (p. 393-408). New York, NY: Brunner-Routledge.

Wu, N.S., Lu, Y., Sterling, S., & Weisner, C. (2004). Family environment factors and substance abuse severity in an HMO adolescent treatment population. *Clinical Pediatrics*, *43*(4), 323-333.

Wuang, Y.P., Wang, C.C., Huang, M.H., Su, C.Y. (2010). The effectiveness of simulated developmental horse-riding program in children with autism. *Adapted Physical Activity Quarterly: APAQ, 27*(2), 113-126.

Zinzow, H.M., Ruggiero, K.J., Hanson, R.F., Smith, D.W., Saunders, B.E., & Kilpatrick, D.G. (2009). Witnessed community and parental violence in relation to substance use and delinquency in a national sample of adolescents. *Journal of Traumatic Stress, 22*(6), 535-533.

APPENDIX A

Evaluator Email Script

Dear (Potential Participant):

My name is Elizabeth Ledbetter and I am a doctoral student of clinical psychology at Pepperdine University. I am contacting you to determine whether you would be willing to review an intervention guide I am creating for practitioners of equine assisted psychotherapy who work with adolescents with substance abuse disorders, as well as answer a few questions regarding the guide. This intervention guide is part of my dissertation research.

I am conducting my dissertation research under the supervision of Shelly Harrell, Ph.D. a professor at Pepperdine University. The overall purpose of this research project is to develop an intervention guide for practitioners of equine assisted psychotherapy to utilize with adolescents in residential substance abuse treatment facilities. At this point in the project, I am seeking an expert in the field to review the intervention guide and respond to a brief questionnaire regarding their perceptions of the guide.

If you decide to participate in this study, I will provide you with a link to the intervention guide as well as a link to an online questionnaire regarding your perceptions of the guide. Your input in this project will be strictly confidential and you are under no obligation to complete the study at any time. If this is something that you are interested in doing, please complete the attached form (Appendix B) and reply to this email. You may also respond to the questions within the body of the email if that is more convenient. Participating practitioners will receive compensation in the form of a $20 gift card to Amazon.com, which be provided via an email from Amazon.com, following completion of the online questionnaire.

Thank you sincerely for taking the time to read this email and consider my request. If you have any additional questions regarding my research project, feel free to contact me, Elizabeth Ledbetter, M.A., or Shelly Harrell, Ph.D.

Sincerely,
Elizabeth Ledbetter, M.A.
Elizabeth.Ledbetter@Pepperdine.edu
(818) 632-2082

APPENDIX B

Evaluator Eligibility Form

1. What is the highest degree you have earned? ❑Masters ❑ Doctorate

2. What discipline is your degree in?
   _____

3. Are you EAGALA certified in equine assisted psychotherapy?
   ❑Yes❑ No

4. How many years have you practiced equine assisted psychotherapy?
   _____

5. Have you worked with adolescents with substance use disorders currently or in the past?
   ❑Yes❑ No

6. Are you fluent in English?
   ❑Yes❑ No

APPENDIX C

Evaluation Email Cover Letter

Dear (Name of Evaluator),

Thank you for volunteering to evaluate the proposed intervention guide for my dissertation titled *Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide.* Attached to this email is an informed consent form. Please scan and email the signed informed consent form to Elizabeth.Ledbetter@Pepperdine.edu. Upon receipt of the signed informed consent form, the proposed intervention guide, and a link to an online survey which includes the intervention guide evaluation form, will be emailed to you. You may complete the evaluation of the intervention guide in as many sessions as are comfortable for you.

Your input is valued and appreciated in this project, however, please be aware that you may discontinue your participation at any point. If you decide not to participate in this study for any reason, please delete all materials attached to this email.

The time you are investing in this project is valued and much appreciated.

With gratitude,

Elizabeth Ledbetter, M.A.

Pepperdine University
Graduate School of Education and Psychology

APPENDIX D

Participant Consent Form

I authorize Elizabeth Ledbetter, M.A., a doctoral student in clinical psychology at Pepperdine University, Graduate School of Education and Psychology, working under the supervision of Shelly Harrell, Ph.D., to include me in the research project entitled "Maintaining Adolescent Sobriety With Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide." I understand that my participation in this study is strictly voluntary.

I have been asked to participate in this study that will include the development of an intervention guide for practitioners of equine assisted psychotherapy who work with adolescents in residential substance abuse treatment facilities. I have been asked to volunteer to participate in this study based upon my expertise in practicing equine assisted psychotherapy and my experience working with adolescents with substance use disorders. My participation in this study will consist of approximately one hour of my time, in which I will review the intervention guide and respond to a questionnaire. I further understand that I will receive a $20 gift certificate to Amazon.com as compensation for my review and evaluation of the intervention guide.

I understand that all information obtained in this study will be kept confidential. I understand that any comments submitted may be published or presented to a professional audience but that no personal identifying information will be released.

Participation in the evaluation of this intervention guide benefits the practice of equine assisted psychotherapy by adding to the literature regarding how to utilize this theoretical modality with adolescents with substance abuse disorders in residential treatment facilities. I understand that participation in the evaluation of this intervention guide will not provide me with any direct benefits, although I may derive a feeling of satisfaction from participation in this research project.

I understand that possible risks for participating in the study are minimal, but may include mild levels of boredom during review of the intervention guide and completion of the questionnaire. In addition, I understand that I have the right to not answer any particular question and may withdraw from the study at any time without penalty.

I understand that all information obtained from myself will be confidential with no identifying information associated with the evaluation form or subsequent analysis of the evaluation form. I understand that my evaluation will be obtained through an online survey website and, thus, will be separate from consent forms and maintained securely by

the investigator. I understand that participant names, agency affiliation, or other identifying information will not be discussed in any oral or written presentation of the results. All data will be stored in a secure file cabinet at the investigator's residence for at least five years. After that time all information will be confidentially shredded and disposed.

I understand that if I have any questions regarding the study procedures, I can contact Elizabeth Ledbetter, M.A. or Shelly Harrell, Ph.D., Dissertation Chairperson, at Pepperdine University, Graduate School of Education and Psychology, 6100 Center Drive, Los Angeles, CA 90045, (310)568-5600, to obtain answers to any of my questions. Additionally, I may contact Dr. Doug Leigh, Chairperson of the Graduate and Professional Schools Institutional Review Board (GPS IRB), at (310)568-5753 or at gpsirb@pepperdine.edu.

_____

Printed name

_____ _____

Signature Date

APPENDIX E

Evaluation Questionnaire

1. The Intervention Guide is thorough and provides adequate information regarding EAP.

1	2	3	4	5
Strongly Disagree				Strongly Agree

2. The Intervention Guide is thorough and provides adequate information regarding adolescent substance use.

1	2	3	4	5
Strongly Disagree				Strongly Agree

3. The Intervention Guide is easy to read and understand.

1	2	3	4	5
Strongly Disagree				Strongly Agree

4. The Intervention Guide is well organized.

1	2	3	4	5
Strongly Disagree				Strongly Agree

5. The interventions are appropriate for the treatment of adolescent substance use disorders.

1	2	3	4	5
Strongly Disagree				Strongly Agree

6. The interventions are developmentally appropriate.

1	2	3	4	5
Strongly Disagree				Strongly Agree

7. The interventions are practical and readily applicable for EAP with substance abusing adolescents.

1	2	3	4	5
Strongly Disagree				Strongly Agree

8. What do you consider to be the strengths of the Intervention Guide?

_____

_____

9. What do you consider to be the weaknesses of the Intervention Guide?

_____

_____

Please provide any suggestions for improving this Intervention Guide.

_____

Additional comments:

Thank you for your time!

APPENDIX F

IRB Approval Notice

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

April 16, 2013

Elizabeth Ledbetter
130 Oberlin Street
Colorado Springs, CO 80904

Protocol #: P0313D02
Project Title: Maintaining Sobriety with Equine Assisted Psychotherapy: An Experimental Learning Intervention Guide

Dear Ms. Ledbetter,

Thank you for submitting your revised IRB application, *Maintaining Sobriety with Equine Assisted Psychotherapy: An Experimental Learning Intervention Guide*, to Pepperdine's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB has reviewed your revised submitted IRB application and all ancillary materials. As the nature of the research met the requirements for expedited review under provision Title 45 CFR 46.110 (research category 7) of the federal Protection of Human Subjects Act, the IRB conducted a formal, but expedited, review of your application materials.

I am pleased to inform you that your application for your study was granted **Full Approval**. The IRB approval begins today, **April 16, 2013** and terminates on **April 16, 2014**.

Your research documents have been stamped by the IRB to indicate the expiration date of study approval. One copy of the stamped documents is enclosed with this letter and one copy will be retained for our records. **You can only use copies that have been stamped with the GPS IRB expiration date for your research.**

Please note that your research must be conducted according to the proposal that was submitted to the GPS IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For ***any*** proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Please be aware that changes to your protocol may prevent the research from qualifying for expedited review and require submission of a new IRB application or other materials to the GPS IRB. If contact with subjects will extend beyond **April 16, 2014**, a **Continuation or Completion of Review Form** must be submitted at least **one month prior** to the expiration date of study approval to avoid a lapse in approval. These forms can be found on the IRB website at http://services.pepperdine.edu/irb/irbforms/#Apps.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to 'policy material' at http://www.pepperdine.edu/irb/graduate/).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact me. On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

6100 Center Drive, Los Angeles, California 90045 ▪ 310-568-5600

Sincerely,

Doug Leigh, Ph.D.
Chair, Graduate and Professional Schools IRB
Pepperdine University
Graduate School of Education & Psychology
6100 Center Dr. 5th Floor
Los Angeles, CA 90045
Doug.Leigh@pepperdine.edu
W: 310-568-2389
F: 310-568-5755

cc Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives
Ms. Alexandra Roosa, Director Research and Sponsored Programs
Dr. Doug Leigh, Graduate School of Education & Psychology
Dr. Shelly Harrell, Graduate School of Education and Psychology

APPENDIX G

Intervention Guide

Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide

A Session-by-Session Instructional Manual for the EAP Mental Health Professional

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Introduction

Thank you for your interest in *Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide*. This guide includes eight session-by-session outlines developed specifically to treat adolescents with substance use disorders utilizing equine assisted psychotherapy. It is organized into three sections. First, a very brief summary of empirical support for the implementation of equine assisted psychotherapy with adolescents with substance use disorders. Next, considerations for selecting participants and obtaining assent are reviewed. Finally, a breakdown of each of the eight sessions is outlined, including discussion points and activity outlines.

Support for Equine Assisted Psychotherapy with Adolescents with Substance Use Disorders

The practice of EAP has been demonstrated to be effective with a multitude of populations, including adolescents with both externalizing and internalizing psychopathology, survivors of abuse, and those who have suffered a recent catastrophic loss. However, there is minimal information available on the utilization of EAP with adolescents with substance use disorders. Nevertheless, there is ample indication that EAP would be particularly effective with this population in terms of treatment engagement, decreased psychopathology, and overall outcome pertaining to maintaining sobriety.

Given that adolescents with substance use disorders are rarely self-referred to treatment, instead typically referred by a parent, child welfare worker, or member of the juvenile justice system (Muck, et al., 2001), working with horses can be a powerful motivating force and can

promote active participation in treatment and engagement with the treatment provider (Karol, 2007). Tetzlaff, et al. (2005) found that the working alliance between clients and treatment providers offers a helpful predictor of relapse at three and six months posttreatment. Given the minimal motivation with which adolescents with substance use disorders tend to enter treatment, it is a testimony to the effectiveness of a robust therapeutic relationship that working alliance is a predictor of relapse. Increased motivation in treatment also benefits the adolescent in that it increases retention, or time in treatment, which is the best predictor of positive results in adolescent substance abuse treatment (Simpson, 2001). Joe, et al. (1998) determined that a greater level of engagement early on in the treatment process results in longer retention rates. Engagement in treatment is characterized by participation and therapeutic involvement, as well as commitment, treatment confidence, and rapport (Simpson, et al., 1997). Adolescents who are engaged in treatment have an increased likelihood of bonding with their treatment providers, actively participating in treatment, and endorsing treatment goals (Broome, et al., 2001). The nature of EAP promotes a robust therapeutic alliance, increased motivation in treatment, and greater engagement in treatment. This is facilitated, in part, by the fact that horses can make the EAP practitioner appear friendlier, happier, more relaxed, and less threatening, resulting in clients' increased comfort in session (Kruger & Serpell, 2006; Vidrine, et al., 2002). Additionally, EAP provides clients with a great deal of choice, for example how the client participates in the activity with the horses is up to them, and the perception of choice among adolescents predicts treatment retention and positive treatment outcomes (McWhirter, 2008). Catalano et al. (1990-1991) determined that adolescents who perceive they have choice at every stage of treatment experience increased positive feelings toward treatment, display positive progress, and demonstrate decreased posttreatment substance use.

Research has demonstrated that participation in EAP results in increased self-esteem, self-concept, self-efficacy, and a sense of mastery (Bizub, et al., 2003; Emory, 1992; Hayden, 2005; MacDonald, 2004; Trotter et al., 2008). Masten, et al. (1990) found that self-efficacy is a protective factor that encourages and permits adaptive and instrumental behavior that is required for successful development. The researchers also found that self-efficacy is developed through experiences of mastery, also resulting in increased self-esteem. Given EAP's provision of opportunities to acquire skills in a supportive environment, the development of mastery and, therefore, self-efficacy occurs (Hayden, 2005). Increased situational self-efficacy, meaning having the confidence that one can maintain sobriety by abstaining from substance use in high-risk situations, is predictive of subsequent abstinence (Burleson & Kaminer, 2005). The aforementioned benefits of EAP develop in many ways, for example, through addressing one's fear head-on which leads to an increased sense of achievement and agency (Bizub, et al., 2003). The risk-taking behavior that is characteristic of EAP permits clients to test themselves and learn to control themselves and their surroundings (Trotter et al., 2008). The challenging nature of EAP activities leads to improved self-esteem upon the client achieving success at the task. This experience of success tends to generalize, thereby increasing self-confidence regarding clients' ability to overcome their problems, such as eating disorders and substance abuse (Christian, 2005). Additional research supports these important benefits of EAP. MacDonald (2004) found that adolescents between ages 13 and 16 demonstrated increased self-esteem and a greater internal locus of control following EAP treatment. Likewise, Iannone (2003) determined in an observational program evaluation/impact assessment, that there occurred increases in self-esteem among emotionally disturbed adolescents prior to and following EAP treatment, due in part to the opportunity to learn new skills, thereby contributing to a sense of mastery. Hayden (2005)

found similar results when implementing EAP with adolescents regarding increased self-esteem and experiences of mastery, and noted that this therapeutic modality provided opportunities for success that the adolescents may not otherwise have had. Finally, Emory (1992) found a significant improvement in self-concept among 20 asocial adolescent boys following participation in EAP. As noted above, these improvements may contribute to maintaining abstinence among adolescents with substance use disorders.

The provision of social support that is provided by the horses can function as a replacement for deficient social support from humans, and also provide an opportunity to seek social support without experiencing discomfort or embarrassment (McNicholas & Collis, 2006). Additionally, when among animals males can fulfill their need for touch in a socially acceptable fashion (Beck & Katcher, 1983). Vidrine, et al. (2002) studied boys participating in EAP and found that those who rarely engaged in any sort of physical affection were noted to hug and kiss their horse. Moreover, the ability to confide in the horse is important for adolescents who may experience feelings of alienation from others, including parents and peers, or who feel unable to share their innermost thoughts and feelings with another person (Beck & Katcher, 1983). Indeed, the relationship that clients form with the horses can decrease feelings of isolation (Bizub, et al., 2003). This suggests that adolescents who are lonely or confused about their identity, or who feel isolated from others, leading to substance use, may decrease their desire for illicit substances as they develop relationships with the horses.

Research suggests that adolescents often engage in substance use in order to further their identity formation. Indeed, Sanders (2011) determined that adolescent males often use substances so as to achieve a sense of masculinity. However, participation in EAP can

contribute to a different, more adaptive, identity. Working with horses is a positive activity that many individuals experience as fun and exciting, and it is an activity that can replace substance abuse. Additionally, EAP typically occurs in a group format which allows for a focus on developing peer relationships within a positive environment (Karol, 2007). This is critical given that adolescents experience a strong affiliation with peers which increases the peers' influence on the individual adolescent (MacMaster, et al., 2005). In fact, peer substance use is among the most powerful risk factors for substance use among adolescents (Beauvais, 1992). Using a group format when practicing EAP is popular among adolescents (Macgowan & Wagner, 2005) given the significance of peers during this developmental stage (Erikson, 1968). The importance of the peer group during adolescence has resulted in research that indicates that adolescents will engage in treatment to a higher degree if the positive benefits of abstinence are linked to their concerns regarding relations with their peer group and the formation of their identity (Brown, et al., 2005).

The experience of physical, sexual, or emotional abuse as an adolescent results in an increased risk of substance use (Moran, et al., 2004). EAP has been found to be particularly useful in the treatment of survivors of abuse, who obtain a sense of control and power when a large animal obeys their commands. This may empower clients to regain control over their own lives (Trotter et al., 2008).

Empathy is frequently deficient among youth with conduct or behavioral disorders (Ewing, et al., 2007) and, therefore, the instillation of empathy is particularly indicated for this population. EAP promotes the development of empathy for the horse, leading adolescents to learn socially appropriate behaviors which permit them to attach to people (Johnson, 2001; Kaminski, et al., 2002; Taylor & Signal, 2005). Additionally, gaining the trust and cooperation

of a horse can result in other life challenges appearing diminished (Trotter et al., 2008). This trust can generalize outside of EAP sessions, and adolescents who have witnessed family violence may be guided toward healthier relationships due to the trust and communication skills they obtained through this therapeutic modality (Schultz, et al., 2007).

Research has demonstrated that psychopathology is a major risk factor for adolescent substance use (Rumpold, et al., 2006). As many as 67.7% of adolescents who abuse substances concurrently have another type of psychopathology (Langenbach, et al., 2010). Many adolescents who experience depression and anxiety have an increased risk of later substance use (Hersen & Ammerman, 1995). Additionally, substance use can aggravate preexisting psychopathology, predominantly depression, anxiety, and impulse dyscontrol (Galanter & Kleber, 2008). A critical concern regarding adolescent substance use is its association with suicidal behavior (Esposito-Smythers & Goldston, 2008). Given the relationship between substance use disorders and suicidal ideation and behaviors, it appears that they are frequently functionally interrelated (Esposito-Smythers, et al., 2012). Research indicates that EAP is effective at increasing overall psychosocial functioning and decreasing psychopathology, including depression, schizophrenia, conduct disorder, and other behavioral disorders (Burgon, 2003; Ewing, et al., 2007; Graham, 2007; Kaiser, et al., 2004; Trotter et al., 2008). A number of studies have focused on the therapeutic effects of EAP with at-risk and delinquent adolescents, finding that participation in this treatment modality increases positive, prosocial behaviors and decreases disruptive behaviors and intrapersonal distress (Ewing, et al., 2007; Foley, 2008; Whitely, 2009). Even children and adolescents without any form of psychopathology have demonstrated significant decreases in anger following participation in EAP. Given these findings, adolescents who abuse substances and who have a comorbid psychological disorder,

would likely benefit from participation in an EAP program due to the ability of this treatment modality to decrease co-occurring disorders while also addressing the unique treatment needs of adolescents who abuse substances.

Selecting Participants and Obtaining Consent to Participate in the EAP Program

An assent form for participation in this program is outlined in Appendix A, which may be altered by the reader to more accurately reflect the priorities and needs of individual programs. A consent form signed by a parent or guardian should also be developed and utilized by programs that require them. A formal written agreement may also be necessary when partnering with certain residential treatment facilities. It should be noted that not all adolescents are appropriate for this therapeutic modality. For example, adolescents with severe allergies to horses, dust, hay, or other barn materials, as well as adolescents who are fearful of horses to an excessive and distressing degree. Additionally, adolescents with a history of perpetrating animal abuse, or who otherwise inevitably become physically aggressive when faced with challenges or frustration, are not appropriate for participation in EAP.

Description of Sessions

The program consists of eight equine assisted psychotherapy sessions lasting three hours each, designed specifically for use with adolescents with substance use disorders in residential treatment facilities on a biweekly basis. The Intervention Guide focuses on maintaining complete sobriety so as to be consistent with the goals of residential treatment facilities. For each session, this guide will provide you with the materials needed, along with discussion points to guide a group conversation related to substance abuse among the adolescents and Mental

Health Professional, and activity outlines which detail the specific equine assisted psychotherapy activities that align with the discussion points of that session.

Description of EAGALA Model

This Intervention Guide utilizes the EAP model developed and implemented by members of the Equine Assisted Growth and Learning Association (EAGALA). This particular EAP model is implemented by a mental health professional (MH) along with an equine specialist (ES), the latter of which manages the horses and assists in creating the activities. The MH and ES act as role models for participants who observe the communication and respect displayed between them. The EAGALA model does not incorporate mounted work, due to the richer therapeutic experience typical of ground work as well as for safety reasons. Characteristics of the EAGALA model include the lack of directive teaching in order that the participant may experience the problem-solving process and find success on their own, observation statements, reflective listening, question asking, and a focus on process rather than the end result. This model offers guidelines for the MH regarding the observation and processing aspects of EAP. The acronym "SPUD'S" is utilized by the MH as he or she observes the group members interact with the horses, and is presented in this Intervention Guide to provide guidance in the observation process. This system of observation includes attending to shifts in the behavior of both horses and participants (S), recognizing patterns in behavior (P), noting moments consisting of unique behavior (U), attending to discrepancies between participants' verbal and nonverbal communication (D), and the MH tracking their personal countertransference (S). The MH holds the information obtained through observation and processes it with group members by presenting observations of their interactions with the horses without judgment, biases, beliefs, or

assessments about what their behavior meant. The MH begins by inviting group members to share their own perceptions of what happened during the activity, followed by providing observational statements free of judgment, blame, or meaning. Asking questions of the participant is a large component of the EAGALA model, as well reflective listening that emphasizes, dramatizes, or enhances aspects of the group member's communication. Clarification statements are commonly utilized, and metaphors play a large part in this model in order to connect the participant's relationships and interactions with deeper meaning.

Session #1

Required Materials:

- Watch (for Mental Health Professional [MH] to monitor time)
- Markers
- Adhesive nametags
- Discussion Points #1: Introducing Equine Assisted Psychotherapy
- Assent Form to Participate in Group Program
- Discussion Points #2: Safety Instructions
- Discussion Points #3: Typical Trials of Early Recovery
- Nontoxic paint
- Paintbrushes
- 6 Sheets of plain paper
- Tape
- Activity Outline #1: Managing Common Challenges of Early Recovery

Time	Activity	Handout/Materials
0-25’	**Individual introductions and introduction to the program** <Ask group members to write their first name on an adhesive nametag, to be worn in a visible place. Ask group members to sit in a prearranged circle, provide their first name, and a brief statement regarding their previous experience with horses. Read Discussion Points #1 to group members and allow Q&A as needed.>	Markers Adhesive nametags Discussion Points #1: Introducing Equine Assisted Psychotherapy
25-35’	**Re-familiarize group members with structure, format, and purpose of program activities.** <Briefly review Assent Form. Allow time for questions as needed during review.>	Assent Form to Participate in Group Program
35-50’	**Introduction to horses and safety instructions** <Walk with members to pasture/arena	Discussion Points #2: Safety Instructions

	with multiple loose horses in it. Ask members to observe the horses and do not provide the horses' names. Ask for members' close attention and Read Discussion Points #2.)	
50-70'	**Discuss Typical Trials of Early Recovery** <Facilitate a discussion regarding three common challenges in early recovery by reading Discussion Points #3.>	Discussion Points #3: Typical Trials of Early Recovery
70-130'	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #1: Managing Typical Trials of Early Recovery.>	Nontoxic paint Paintbrushes 6 sheets of plain paper Marker Tape Activity Outline #1: Managing Typical Trials of Early Recovery
130-175'	**Process members' experiences of the activity** <Provide EAGALA "SPUD'S" observations to facilitate the members' processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180'	**Closing words** <Thank group members for their participation and hard work. Express enthusiasm for their return. Answer any remaining questions.>	

Discussion Points #1: Introducing Equine Assisted Psychotherapy

<Begin introducing EAP by reviewing the following discussion points in your own words.>

1. Equine assisted psychotherapy, or EAP, utilizes horses as partners in the therapeutic process.
2. EAP represents a collaborative effort between a licensed therapist and a horse professional incorporating horses experientially for emotional growth and learning.
    a. EAP is experiential in that participants learn about themselves and others by participating in activities with the horses and then processing thoughts, beliefs, behaviors, and related patterns.
3. *Discussion Point*: *Why do you think horses make good therapeutic partners?*
4. *Discussion Point: What do you think we can learn from horses?*

Discussion Points #2: Safety Instructions

<Review basic safety precautions to take in the presence of horses by reviewing the following discussion points in your own words.>

1. Given their large size, horses have the potential to injure us when we neglect to follow basic safety precautions.
2. *Discussion Point*: *As horses are prey animals, what do you think are some basic safety precautions that we should take around them?*
3. A few ground rules for safety when in the presence of horses include:
    a. Do not make sudden movements, run, or create loud noises, but rather walk and speak as you normally would. Running around horses can trigger their instincts as prey animals and cause them to bolt, while sudden movements and loud noises can lead a horse to shy or kick out because they feel threatened.
    b. Avoid being kicked by never standing directly behind a horse and by staying out of kicking range when walking around a horse. Horses have powerful hind legs that they will use to defend themselves if you inadvertently surprise or frighten them.
    c. As prey animals, horses' eyes are placed on the sides of their heads, which creates a "blind spot" approximately two feet directly in front of their face. Due to their inability to see in front of them, do not approach directly in front of a horse but rather approach them at their shoulder so that they may easily see you coming.
    d. Always wear study close-toed shoes or boots that will protect your feet in the event that a horse steps on them.
4. Include additional rules specific to your facility.
5. Address questions and concerns.

Discussion Points #3: Typical Trials of Early Recovery

<Discuss three challenges commonly faced in early recovery by reviewing the following discussion points in your own words.>

1. Those who work to achieve and maintain sobriety eventually, but inevitably, encounter situations that make maintaining abstinence more challenging and which increase the likelihood of relapse into drug use.
2. *Discussion Point*: *What are some situations you have encountered that have made it challenging to remain sober?*
3. The desire to continue to spend time with old friends who still use drugs can be strong; however, this is one situation that can readily lead to relapse.
4. *Discussion Point*: *Why might spending time with friends who use drugs make your own recovery problematic? What can you do to address this problem?*
5. Another pathway to relapse in early recovery is the experience of anger, irritability, and other strong moods. The nature of recovery is one in which even small events can engender strong moods, such as anger, which can be experienced as overwhelming and contribute to a desire to use drugs.
6. *Discussion Point*: *Why do you think anger so readily leads to relapse? How can we avoid being overwhelmed with anger?*
7. The experience of boredom and/or loneliness comprises an additional challenge common amongst individuals in early recovery from drug use. To maintain abstinence frequently means that individuals must avoid activities they previously engaged in for fun, as well as those with whom they did them, resulting in feelings of boredom and/or loneliness.
8. *Discussion Point*: *What can you do when faced with boredom or loneliness to prevent a relapse?*

Activity Outline #1: Managing Typical Trials of Early Recovery

Rules:

1. Introduce members to three tied horses and present nontoxic paint and paintbrushes.
2. Explain that the horses represent common challenges faced by people in early recovery, and that each horse will be labeled with paint with one of the three main challenges discussed: friends, anger, and boredom. Elicit from the group which horse should represent which challenge and vote.
3. Observe group members as they determine who will label the horses with paint and what the label looks like. Observe as members label the horses.
4. Lead all three horses to an arena and turn them loose inside. Explain that now the challenges members face have "free rein" and are "running wild" in their lives, but that there are ways to successfully and productively address each challenge, as discussed earlier.
5. Elicit six different ideas about how to deal with the challenges from group members and write each one on a plain piece of paper. Tape one "solution" (e.g., join a new club or team, exercise, talk to a counselor/friend) to each of the four corner posts in the arena and each of the two midsection posts.
6. Explain that in groups of two or three, members will enter the arena, choose one "challenge" (i.e., horse), and address that "challenge" by moving it to the solution that they feel is most appropriate. State that members may not touch the "challenge" nor bribe it with food in order to move it.
7. Facilitate the division of group members into dyads or triads. Observe as members attempt to make a horse move next to the post on which the solution they have chosen is taped.

Session #2

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #4: Identifying Personal Triggers
3. Poles, buckets, hay bales, and other barn items
4. Plain paper
5. Markers
6. Activity Outline #2: Traversing Triggers to Drug Use

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss triggers to substance use and cravings** <Facilitate a discussion regarding the triggers to substance use by reading Discussion Points #4: Identifying Personal Triggers.>	Discussion Points #4: Identifying Personal Triggers
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #2: Traversing Triggers to Drug Use.>	Poles, buckets, hay bales, and other barn items Plain paper Black marker Activity Outline #2: Traversing Triggers to Drug Use
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group	

	members for their participation and hard work. Express enthusiasm for their return. Answer any remaining questions.>	

Discussion Points #4: Identifying Personal Triggers

<Discuss individualized triggers to substance use and cravings by reviewing the following discussion points in your own words.>

1. The longer one uses drugs the more that particular people, places, things, situations, and even emotions become associated with drug use. These then become triggers which can elicit cravings, enhancing the likelihood of a relapse.
2. *Discussion Point*: *Are there people, places, things, situations, or emotions that you associate with drug use?*
3. Despite one's decision to maintain sobriety, drug cravings may nevertheless occur. To manage these cravings, one must avoid triggers that can lead to cravings by changing one's behavior.
4. *Discussion Point: How can you avoid the triggers to drug use in your own life?*

Activity Outline #2: Traversing Triggers to Drug Use

Rules:

1. Explain that members will be creating individualized obstacle courses using poles, buckets, hay bales, and other barn items.
2. Have members write down their triggers to substance use on plain paper and then affix them to the obstacles one person at a time.
3. Have members set up a personalized obstacle course in which each obstacle represents a trigger for substance use for that individual. Encourage members to make the course meaningful to them, for example by placing obstacles representing their strongest triggers closest to the horse's path.
4. Observe as the member guides a horse along a predetermined path using a lead rope, attempting to avoid or overcome obstacles.

Session #3

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #5: Meeting Our Needs Without Drugs
3. Nontoxic paint
4. Paintbrushes
5. Poster with role suggestions
6. Activity Outline #3: The Faces of Drug Use

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss** <Facilitate a discussion regarding members’ relationship with drugs by reading Discussion Points #5: Meeting Our Needs Without Drugs>	Discussion Points #5: Meeting Our Needs Without Drugs
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #3: The Faces of Drug Use.>	Nontoxic paint Paintbrushes Poster with role suggestions Activity Outline #3: The Faces of Drug Use
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work. Express enthusiasm for their	

	return. Answer any remaining questions.>	

Discussion Points #5: Meeting Our Needs without Drugs

<Discuss how members can meet their needs while maintaining sobriety by reviewing the following discussion points in your own words.>

1. Initially members may feel as though drug use provides them with a feeling of intimacy, strength, and companionship.
2. *Discussion Point: In what ways have your different needs been met by using drugs?*
3. When members started using drugs they may have believed that drugs could offer them many things and meet many of their needs, which members later learn they cannot.
4. *Discussion Point: What promises has drug use offered you that have since been broken?*
5. Drug use may appear to answer all of members' problems but eventually only leads to increased chaos in their lives.
6. Due to the destruction that drug use causes within members' lives, they must find new ways to meet their needs while maintaining their sobriety.

Activity Outline #3: The Faces of Drug Use

Rules:

1. Introduce members to four tied horses and present nontoxic paint and paintbrushes.
2. Explain that as drug use serves many roles in our lives, these horses will represent the different roles that members may have experienced drugs having in their lives.
3. Display a poster listing suggestions for roles that members might want to assign to the horses and explain each role:
    a. Offers a false sense of positive feelings, particularly happiness.
    b. Offers a sense of never being alone and always having someone/thing who is there for you.
    c. Offers a sense of grandiosity and false perception of personal courage and strength. May induce unrealistic thoughts of superiority over others.
    d. Offers an unrealistic, positive interpretation of a situation without reflecting the negative aspects. Assures you that certain ideas are good and encourages you to ignore everything but the voice in your head telling you to go ahead with the idea.
4. Challenge members to give names to the above "faces" of drug use (e.g., "Superiority Complex"), and develop additional roles that drug use has served in their lives. Request that group members vote upon which roles the four horses will represent.
5. Observe as group members vote upon the roles, and paint a label on each horse that refers to a role that drugs have played in their lives.
6. Lead the horses and members into an arena and release the horses.
7. Explain that all but one member will stand next to a "role" (i.e., horse) and speak for that role. If there are more members than horses, members may double up next to a "role." The remaining member will stand in the middle of the arena and speak for people in early recovery.
8. Observe as group members decide upon while "role" they wish to speak for, including the person speaking for those in early recovery, and stand next to the appropriate horse or in the middle of the arena.
9. Ask the member who speaks for those in early recovery to decide upon the position of the horses based upon the strength that "role" has played in their own drug use, so that the most prevalent "roles" are located closest to the member and the least relevant "roles" are located farther away.
10. Observe as members use whatever means they choose to move their horses to the appropriate location.
11. Invite the member who speaks for those in early recovery to individually ask the other members, or "roles," what they can offer him or her. For example, he or she may ask "Superiority Complex" what they will provide in regards to using drugs.

12. Challenge the member who speaks for those in early recovery to respond to the offers by countering them with the truths of substance use, and stating healthier, adaptive ways to meet their needs while maintaining sobriety.
13. As the member who speaks for those in early recovery responds to each "role," challenge the "roles" to counter those responses with statements asserting why the member should continue their drug use.
14. Observe as the member who speaks for those in early recovery responds to each challenge from the "roles." End the activity following a positive response from the member who speaks for those in early recovery.

Session #4

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #6: Drug Use Rationalizations
3. Jumping poles
4. Nontoxic paint
5. Paintbrushes
6. Nametags
7. Pens
8. Activity Outline #4: Defying Drug Use Rationalizations

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss** <Facilitate a discussion regarding psychological defenses by reading Discussion Points #6: Drug Use Rationalizations>	Discussion Points # 6: Drug Use Rationalizations
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #4: Defying Drug Use Rationalizations.>	Jumping poles Nontoxic paint Paintbrushes Nametags Pens Activity Outline #4: Defying Drug Use Rationalizations
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories,	

	emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work. Express enthusiasm for their return. Answer any remaining questions.>	

Discussion Points #6: Drug Use Rationalizations

<Discuss members' drug use rationalizations by reviewing the following discussion points in your own words.>

1. Unconsciously, some people in early recovery rationalize drug use to make it appear reasonable. For example, experiencing a stressor may allow some people to justify returning to drug use.
2. Some people readily invent excuses to get close to relapse triggers, leading them to expose themselves to these triggers which can prompt a relapse. Provide examples of the following drug use rationalizations:
    a. Someone else's fault (e.g., spending time with an old friend)
    b. Catastrophic events (e.g., the end of a romantic relationship)
    c. For a specific purpose (e.g., using drugs to be more extroverted at parties)
    d. Depression, Anger, Loneliness, and Fear (e.g., assuming that when angry enough one cannot control what one does)
3. *Discussion Point*: *How have these and other drug use rationalizations played a role in members' substance use?*
4. *Discussion Point: What are other examples of drug use rationalizations that members have experienced?*
5. *Discussion Point: What specific catastrophic events and negative emotions make members more likely to use drugs?*

Activity Outline #4: Defying Drug Use Rationalizations

Rules:

1. Lead members into an arena and present them with four wooden pole jumps and nontoxic paint and paintbrushes.
2. Explain that each jump represents a different relapse rationalization.
3. Observe as members vote upon which drug use rationalizations are most relevant to their drug use and should be represented by the jumps.
4. Invite members to paint the name of the drug use rationalization on each of the four jumps.
5. With members' help, position the four small jumps in a straight line.
6. Invite members to identify personal strengths which they then write on a name tag and affix to themselves.
7. Invite members to divide into dyads. Provide each dyad with a horse led by two thin pieces of string.
8. Explain that as each member of the dyad leads the horse over the "drug use rationalizations" with their strings they must respond to each relapse justification with a rational and adaptive response regarding substance use that incorporates their identified personal strengths. Explain that if either member's strings should break while leading the horse over the jumps, the dyad must return to the beginning of the line of "drug use rationalizations" and begin again.
9. Observe as dyads of members lead their horses over the jumps and respond to each defense with a healthy and rational response regarding substance use that utilizes their personal strengths.

Session #5

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #7: Remaining Anchored
3. Bucket of carrots
4. Adhesive nametags
5. Markers
6. Activity Outline #5: Dropping Anchors

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-60’	**Discuss** <Facilitate a discussion regarding relapse drift by reading Discussion Points #7: Remaining Anchored.>	Discussion Points #7: Remaining Anchored
60-70’	**Break**	
70-130’	**Introduce EAP activity and provide guidelines. Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #6: Dropping Anchors.>	Bucket of carrots Adhesive nametags Markers Activity Outline #5: Dropping Anchors
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work. Express enthusiasm for	

	their return. Answer any remaining questions.>	

Discussion Points #7: Remaining Anchored

<Discuss relapse slide by reviewing the following discussion points in your own words.>

1. Relapse slide describes the process in which people in recovery slide from abstinence to relapse without conscious realization of what is happening. Although relapse may appear to occur suddenly, oftentimes it results from a gradual movement away from sobriety which is so subtle that members can readily explain it away or deny responsibility for it.
2. Relapse typically occurs following warning signs; therefore, members must be vigilant for signs of relapse.
3. To maintain recovery is it crucial for members to engage in recovery-supporting behaviors, which represent "anchors" for people in recovery. They keep one anchored in recovery and also serve to alert members to the initial warning signs of relapse slide.
4. *Discussion Point*: *What activities, behaviors, and people are anchors in your recovery?*
5. *Discussion Point: How do these anchors keep you abstinent and secure in your recovery?*
6. *Discussion Point*: *What activities, behaviors, and people must you avoid if your recovery is to remain anchored?*

Activity Outline #5: Dropping Anchors

Rules:

1. Place a bucket of carrots or other enticing horse treat in the middle of an empty arena.
2. Explain to the members that the carrots represent drug use and, therefore, relapse.
3. Invite each member to consider what their strongest "anchor" is, then ask them to write it down on an adhesive nametag and apply it to their shirts.
4. Ask for one member to stand in the arena, then lead a horse into the arena and turn it loose.
5. Encourage the member in the arena to keep the horse away from "relapse" (i.e., the carrots) without touching the horse, bribing it, talking to it, or throwing things.
6. Observe with the other members as the member in the arena, or the "anchor," attempts to prevent the horse from getting to the carrots.
7. Ask another member, or "anchor," to enter the arena and assist the first member.
8. Keep adding additional "anchors" until they are able to prevent the horse from reaching the carrots, or "relapse."

Session #6

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #8: Intelligence Versus Willpower
3. Activity Outline #6: Charades

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss** <Facilitate a discussion regarding avoiding relapse triggers by reading Discussion Points #8: Intelligence Versus Willpower>	Discussion Points #8: Intelligence Versus Willpower
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #6: Charades.>	Activity Outline #6: Charades
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work. Express enthusiasm for their return. Answer any remaining questions.>	

Discussion Points #8: Intelligence versus Willpower

<Discuss avoiding relapse triggers by reviewing the following discussion points in your own words.>

1. While willpower is essential to avoiding relapse, it is crucial for members to rely upon their intelligence as well. Members must be smart, not merely strong.
2. Members' overconfidence in their willpower can be perilous as members may perceive that they are in control of their addiction and, therefore, may attempt to test the strength of their recovery by purposefully placing themselves within triggering situations. At this point members' willpower may falter whereas if they had followed a smart plan (e.g., stay away from friends who use drugs) to maintain sobriety they would be less likely to relapse.
3. *Discussion Point: How much of members' recovery results from personal strength? How much results from intelligent decisions?*
4. *Discussion Point: How do members balance being strong with being smart?*

Activity Outline #6: Charades

Rules:

1. Enter an arena and invite members to divide into two teams. Provide each team with a horse on a lead line.
2. Explain that the group will be playing charades with each member acting out a situation with their team's horse that might lead to relapse. As the member performs, their teammates will observe and attempt to guess what the situation is.
3. Allow each member 1-2 minutes to depict a situation that might lead to relapse utilizing their team's horse.
4. Observe as member's teammates guess out loud what the situation being depicted is.

Session #7

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #9: Relationship Ruptures
3. Four or more barrels or buckets
4. Nontoxic paint
5. Paintbrushes
6. Ground poles
7. Activity Outline #7: Repairing Relationships

Time	Activity	Handout/Materials
0-15’	**Check-In** <Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss** <Facilitate a discussion regarding damage done to relationships by reading Discussion Points #9: Relationship Ruptures.>	Discussion Points #9: Relationship Ruptures
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #7: Repairing Relationships.>	Four or more barrels or buckets Nontoxic paint Paintbrushes Activity Outline #7: Repairing Relationships
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work.	

	Express enthusiasm for their return. Answer any remaining questions.>	

Discussion Points #9: Relationship Ruptures

<Discuss damage done to relationships through substance use by reviewing the following discussion points in your own words.>

1. Members may experience both guilt and shame related to their drug use and its associated consequences. Guilt means feeling bad about one's actions or lack of action, while shame consists of feeling bad about whom one is.
2. In recovery guilt can represent a useful tool due to its capacity to demonstrate to members that they have behaved in a way which conflicts with their value system, consequently motivating them to make amends and seek forgiveness.
3. However, if overcome with shame then members may perceive that they are unworthy of recovery and, therefore, may believe that they should simply revert to drug use.
4. Both guilt and shame can corrode members' self-confidence and self-esteem. Members must remember that it is alright to have made mistakes in the past, and that the past cannot be changed.
5. *Discussion Point: What is the difference between forgiving yourself and simply letting yourself off the hook?*
6. Using drugs required members to lie and continually make excuses. However, the trust of others, once violated, can be difficult to regain. To rebuild trusting relationships with those members have wronged, members should maintain abstinence and make amends for the harm caused. Yet, members must keep in mind that regaining someone's trust can be a frustrating process.
7. *Discussion Point: What might be the most frustrating part of trying to earn back someone's trust?*
8. Members may wish to receive forgiveness from others who they have wronged in the past. To do so they must talk to these people and acknowledge their actions and the resulting harm. While some may readily forgive, members must be aware that others may not forgive so quickly.
9. On the other hand, members should be prepared to forgive friends and loved ones who have hurt them, even if those people do not acknowledge the damage they caused to the relationship or apologize for it. Given that bitterness is a dangerous emotion that can trigger a relapse, members should be prepared to let go of grudges and resentment.
10. *Discussion Point: In what ways can you go about repairing relationships that have been damaged?*

Activity Outline #7: Repairing Relationships

Rules:

1. Place four or more barrels or buckets in a straight line, approximately four feet apart, within an arena. Place ground poles to each side of the barrels or buckets, approximately four feet to the side, to act as boundary lines.
2. Challenge members to generate characteristics of healthy relationships (e.g., honesty, trust, empathy, etc.) and explain that members will vote upon the characteristics that will be painted onto the barrels or buckets.
3. Observe as members vote upon the characteristics and then provide members with nontoxic paint and paintbrushes to label the barrels or buckets so that they each represent a characteristic of a healthy relationship.
4. Ask members to pair up into dyads and bring in a horse attached to two lead lines.
5. Explain that each member of a dyad will hold onto a lead line, stand on opposing sides of the horse, and walk on the outside of the boundary lines (i.e., ground poles) as they attempt to weave the horse through the "characteristics of healthy relationships."
6. Observe as dyads maneuver the horse through the "characteristics."

Session #8

Required Materials:

1. Watch (for MH to monitor time)
2. Discussion Points #10: Moving Forward
3. Poles, buckets, hay bales, and other barn items
4. Activity Outline #8: Managing Fears for the Future

Time	Activity	Handout/Materials
0-15’	**Check-In**<Welcome group members and facilitate individual check-ins regarding current mood.>	
15-45’	**Discuss** <Facilitate a discussion regarding moving on by reading Discussion Points #10: Moving Forward.>	Discussion Points #10: Moving Forward
45-55’	**Break**	
55-130’	**Introduce EAP activity and provide guidelines.** **Facilitate activity** <Introduce and prepare members for the activity, then implement the activity, by reading Activity Outline #8: Managing Fears for the Future.>	Poles, buckets, hay bales, and other barn items Activity Outline #8: Managing Fears for the Future
130-175’	**Process members’ experiences of the activity** <Provide EAGALA “SPUD’S” observations to facilitate the members’ processing of their experience, including thoughts, memories, emotions, and behaviors.>	
175-180’	**Closing words** <Thank group members for their participation and hard work. Answer any remaining questions.>	

Discussion Points #10: Moving Forward

<Discuss moving on from substance use by reviewing the following discussion points in your own words.>

1. The future is determined by the individual and not by past behavior.
2. *Discussion Point: Do thoughts from the past affect your current behavior? What kind of thoughts about the past do you have?*
3. *Discussion Point: Do you tend to focus on negative thoughts about the past? What positive aspects of the past could you recall instead?*
4. *Discussion Point: When in your life have you previously decided to change your behavior and succeeded?*
5. *Discussion Point: What fears do you have about the future?*

Activity Outline #8: Managing Fears for the Future

1. Ask members to use poles, buckets, hay bales, and other barn items to create an obstacle course within an arena.
2. Explain that individual members will choose a fear or concern they have regarding the future and will be provided with a horse that represents that fear or concern.
3. All members will then race to halter their horse and maneuver them through the obstacle course, but must stop before attempting each obstacle to state another time in their lives when they have encountered their chosen fear or concern and everything worked out for the best.
4. Provide each member with a loose horse and a halter with a lead rope attached. Instruct members to begin attempting to halter their horse and make their way through the obstacle course on your command.
5. Observe as members go through the steps of haltering their horse and leading it through the obstacle course, stopping before each obstacle to state another time in their lives when they had the same fear or concern that they now have about the future, which worked out for the best.

Description of the Termination Process

Following completion of the eight EAP sessions, the adolescents must say goodbye to their EAP practitioner and part with the horses they've worked with over the course of four weeks. Given the strong connection that tends to develop between participants and the horses, it is recommended that the EAP practitioner process the meaning of the parting with the participant. Additionally, the provision of at least five minutes of time alone with the horses would assist the participant in meeting their personal needs in relation to saying goodbye. Moreover, providing a token of participation to group members, such as a horseshoe, provides them with a transitional object which may remind them of lessons learned in the program as well as comfort them if they experience feelings of loss after parting from the horses and EAP practitioner.

APPENDIX H

Assent Form to Participate in Group Program

Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy: An Experiential Learning Intervention Guide

Introduction

Thank you for your interest in the "Maintaining Adolescent Sobriety with Equine Assisted Psychotherapy" group program! The purpose of this program is to provide an opportunity for experiential learning about issues related to drug use and sobriety while utilizing horses as partners in the therapeutic process. You may need a parent or guardian to provide consent to participate in this group. Please note that the equestrian center management, horse owners, and participating mental health professionals may have informed consent and assent documents of their own that require incorporation prior to beginning treatment.

Program Overview

In this program you will be a member of a group of 4 to 6 adolescents receiving substance abuse treatment in residential facilities. Sessions will occur twice per week for four weeks and will last about 3 hours each. It is expected that you attend each session if you are able, since you will get the most benefit from the program if you are consistent with your attendance.

Each session of the program will consist of interactive activities with horses and fellow group members to achieve treatment goals, specifically achieving recovery from substance use. Following every activity the group will process the experience of each individual.

Potential Benefits and Risks of Participation

You may find that this program helps you to maintain sobriety more effectively. The activities in this program have been specifically designed for adolescents in residential substance abuse treatment facilities.

There is an inherent physical risk when working with horses which may include serious injury or death. Following safety precautions minimizes this risk and is a requirement of the program.

Confidentiality Agreement

Group members, as well as the EAP Mental Health Professional and Equine Specialist, are not permitted to share personal information to others who do not belong to the program. It is

expected that each group member will respect the privacy and dignity of other members, and it must be emphasized that trust is crucial to having fruitful group discussions.

_____	_____
Participant	Date
_____	_____
Witness/EAP Mental Health Professional	Date