

DEPRESSIVE SYMPTOMS AND SELF-ESTEEM IN CHILDREN:
CAN HORSES HELP?

KATHLEEN HALBACH SAUCIER

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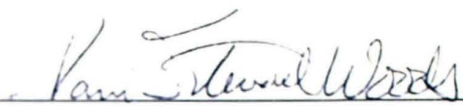
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Kathleen Halbach Saucier



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I am submitting herewith a thesis written by Kathleen Halbach Saucier entitled "Depressive Symptoms and Self-Esteem in Children: Can Horses Help?" I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Guidance and Counseling.


Dr. Nanci Stewart Woods, Major Professor

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DEDICATION

This thesis is dedicated to my parents

Edward and Ethel Halbach

for giving a child her wish- a horse,

and to my faithful supporters, for all their sacrifices

my husband Ken and my son Kris.

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ABSTRACT

Depression and low self-esteem are common problems facing adolescents today. Although there are currently many effective methods of intervention, new and innovative strategies are constantly being developed. This study was designed as a pilot study to evaluate the effectiveness of a recently designed therapy, equine experiential learning. Using an experimental design, sixteen middle school students were randomly divided into two groups. The students were assessed for depression and self-esteem at pre-test and post-test. The experimental group participated in a reading/free time activity. The results did not indicate that equine experiential learning significantly reduced depressive symptoms in typical middle school students. However, results did show the equine experiential learning program to be an effective intervention for improving self-esteem in the same population.

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CHAPTER I

INTRODUCTION

Today's youth face many different problems. Some of these include mental health issues. In 1995, the United States Department of Health and Human Services estimated that approximately 7.5 million children in the United States were afflicted with mental and emotional disturbances including depression (Albright, 1999).

Recent research has indicated prevalence rates of adolescent depression up to 48% in clinical studies and 2%-5.7% among school populations (Cicchetti & Toth, 1998; Kazdin, 1989; Kutcher, 1997; Moreau & Mufson, 1997). Depression can have a negative impact on the lives of adolescents, by impairing their ability to be successful academically as well as socially (Butler, Mieztis, Friedman & Cole, 1980; Cole & Carpentieri, 1990; Lewinsohn, Gotlib & Seeley, 1997). For example, in their 1990 study, Cole and Carpentieri established that children who were more rejected by their peers scored as experiencing significantly more depressive symptoms than non-rejected children on all measures of depression including self-report, peer nomination and teacher rating methods.

Another study was completed by Hecht, Inderbitzen and Buskowski (1998). They were also looking for a relationship between peer status and depressive symptoms in children and adolescents. Their results supported the previous study suggesting that children who had more difficulties with peer relations also exhibit higher levels of depressive symptoms. These depressive

They concluded that submissive-rejected children might experience depression as a result of their social withdrawal, they may not initiate interpersonal interactions, or if they did, those interactions might lead them to believe that they were inadequate. They stated that this might result in the youth avoiding and withdrawing from social interaction because of the negative experiences. The researchers argued that interventions focused on self-control and conflict resolution should be evaluated for effectiveness with different types of youth. Children that are assessed as aggressive-rejected might benefit from interventions that focus on making friends. Youths that are assessed as submissive or withdrawn-rejected might benefit from interventions that focus on social approach.

When a child or adolescent is depressed, they may exhibit low self-esteem, poor social interaction skills, be less accepted by peers, or act out in aggressive manners towards peers, teachers, family members and themselves. There are many programs available to treat depression in a variety of populations. Some of these methods include promoting self-esteem, conflict resolution programs, and social skills training. Traditionally they are implemented in a group or individual setting. Fine (2000) recommended using different strategies to counsel individuals, including activities that would get you out of the office to alleviate the boredom. Fine also states there are potential therapeutic benefits to utilizing innovative methods to expand traditional therapy, including making the therapeutic environment more emotionally and physically accessible to clients.

One of the more recent programs being implemented is Equine Experiential Learning (EEL). EEL is defined as an approach within the education classification of Therapeutic Riding that also branches into the therapy component (McDaniel, 1998). According to the Equine Facilitated Mental Health Association, EEL is believed to promote psychosocial growth through improving self-esteem and self-awareness, developing trust in a safe environment, providing social skills training, encouraging sensory stimulation and integration, combining body awareness exercises with motor planning and verbal communication, choice-making and goal-setting skills, developing sequencing and problem solving skills, encouraging responsibility, and promoting pro-social attitudes through care giving experiences (McDaniel, 1998; Simonson & Bonifay, 1999; Wolrab, 1998). The benefits of the Equine Experiential programs have not been adequately scientifically evaluated. The present study will utilize both an experimental design and standardized measurements to investigate whether EEL will lower depressive symptoms and increase self-esteem in typical middle school children.

CHAPTER II

REVIEW OF THE LITERATURE

Theoretical Background

There are many theories regarding why individuals become depressed. According to Lewinsohn (1974), depression is cyclic process. Lewinsohn believed a depressed individual's behavior does not produce adequate positive reinforcement from others. This results in a cyclic process in which the individual withdraws from others, thus limiting the potential for receiving reinforcement. Within the cyclic model, Lewinsohn proposed that depressed children react to negative reinforcement. This is evidenced by their withdrawing from unpleasant peer interactions, their peers leave them alone and they then become more depressed.

The social deficit model (Kazdin, 1989) is similar to Lewinsohn's model. In this model, social interactions are the central sources of positive reinforcement. Individuals with adequate problem solving skills deal with negative events without exhibiting depressive symptoms, whereas individuals with inadequate interpersonal problem solving skills are more likely to become depressed. Kazdin posited that without positive social reinforcement, individuals often exhibit depressive symptoms.

Beck developed a tri-sided model to explain the development of depression (Beck, 1976). The model included: negative views of oneself, negative views of the world (have no ability to influence the world around them), and negative views of the future. Beck believed errors in thinking contributed to these

negative views. When an individual has these negative views of the world, they will exhibit depressive symptoms. Beck went on to state depressed individuals have errors in thinking such as: overgeneralization, catastrophizing, minimization and personalization. He stated it is through these distorted cognitions that individuals develop depressive symptoms. In addition to the three-sided model stated earlier, Beck believed depressed individuals would apply their core beliefs of themselves, their future, and the world around them to current events, maintaining the negative cycle.

Several researchers have proposed an attributional model of depression (Cole & Turner, 1993; Seligman et al., 1984; Weisz, Sweeney, Proffitt & Carr, 1993). They believe there is a causal relationship between a depressive attributional style in children and the development of depression. They also believe that children may learn this style from their mother or caregiver (Seligman et al., 1984). According to Abramson, Seligman and Teasdale (1978), there are two forms of depression possible in the depressive attributional style. These forms include personal helplessness and universal helplessness. Personal helplessness results when an individual believes they are incapable of providing desired results but others around them can. Universal helplessness develops when an individual believes that neither their actions nor others will achieve the desired result. If they develop a personal or universal helplessness style, they are more likely to become depressed (Seligman et al.; Weisz et al.)

Many professionals take a developmental viewpoint when looking at depression in children. At different stages in their life, children will exhibit

different symptoms. By looking at psychosocial and cognitive stages of development, Modcrin-McCarthy and Dalton (1996) developed five categories that identified these differences more extensively. They broke down the symptoms into age categories including: infants (0-1 years), toddlers (1-3 years), early childhood (3-6 years), middle childhood (6-12 years), and adolescence (12-19 years). Symptoms during the middle childhood stage include: change in quantity of food eaten, change in sleep patterns, loss of interest in favorite activities or toys, decreased desire to play with friends, decreased enjoyment of school, change in academic performance, somatic complaints, no apparent interest in the future, and under achievement. The symptoms during the adolescence stage include: change in eating patterns, change in sleep habits, no plans for the future, signs of risk-taking behaviors, changes in weight, loss of interest in everything, somatic complaints, complaints of fatigue, feelings of worthlessness, and under achievement. Because of these broad theoretical approaches, developing a program to meet the needs of depressed children and adolescents is a large endeavor.

Research on Treatment of Depression in Children and Adolescents

In recent years, depression has become more apparent among child and adolescent populations which in turn has prompted a great deal of research in the area of prevention (Butler et al., 1980; Kazdin, 1989; Lewinsohn & Clarke, 1999; Lewinsohn, Hops, Roberts, Seeley & Andrews, 1993; Lewinsohn, Rhode & Seeley, 1998; Sanders, Dadds, Johnston & Cash, 1992; Stark, Reynolds &

Kaslow, 1987). Many programs have been found to be effective in the treatment of depression.

Self-control and problem solving

One possible cause of depression as proposed by Rehm (1977), is believed to be a lack of self-control. Rehm designed a coping skills intervention program for depressed adults to deal with deficits in self-control. These deficits include: self-monitoring negative events to the exclusion of positive events, self-monitoring short-term rather than long-term consequences of behavior, setting excessively stringent standards for performance, a maladaptive attributional style, a deficit in self-reinforcement, and an excess of self-punishment. Stark et al. (1987) evaluated the benefits of Rehm's adult self-control therapy intervention with children. The sample consisted of students in the fourth, fifth and sixth grade. From the initial sample of 328, the researchers identified 28 students who scored a 13 or higher on the Children's Depression Inventory (CDI; Kovacs, 1982). The participants were then randomly assigned to three groups, the self-control therapy group, the behavioral problem solving therapy group and the waiting list control group. Pre-test and post-test measures of depression, self-esteem and anxiety were used. Both self-esteem and anxiety have been found to be related to depression in children and adolescents (Biederman, Newcorn & Sprich, 1991; Lewinsohn, Rhode & Seeley, 1996).

Stark et al., (1987) found participants in both treatment groups to be less depressed following intervention than those in the waiting list group. The participants completed a second post-test eight weeks later, and again the

researchers noted both intervention groups were less depressed than those in the waiting group. Also noted were the improvements in self-concept by the participants in the self-control therapy group at both post-test and eight week follow-up testing. In conclusion, the researchers noted both models were effective in the treatment of depression in children, and short term continued effects of the treatment were apparent.

Cognitive Behavioral

Cognitive behavioral approaches have also been found to be effective in the treatment of depression in children and adolescents (Butler et al., 1980; Lewinsohn, Clarke, Hops & Andrews, 1990; Reynolds & Coats, 1986; Stark et al., 1987). Cognitive behavioral therapy (CBT), involves monitoring and modifying automatic thoughts, assumptions and beliefs (Brent et al., 1997).

Lewinsohn et al. (1990) evaluated the effectiveness of a cognitive behavioral group intervention called The Adolescent Coping with Depression Course (CWD-A). The CWD-A is a group intervention designed to teach adolescents how to increase pleasant activities, control depressive thoughts, improve social interaction, communication, negotiation and conflict resolution skills. The intervention also offers a relaxation-training component. Using the CWD-A as an intervention, Lewinsohn et al. (1990) studied a population of fifty-nine high school students that met the Diagnostic and Statistical Manual criteria for diagnosis of major depressive disorder or current episode of minor or intermittent depressive disorder. The participants were divided into three groups, adolescent and parent, adolescent only, and wait list control group. In the

adolescent and parent group, the parents were also exposed to a similar program as their child. The participants were administered four different assessments to identify depression including the Schedule For Affective Disorders and Schizophrenia for School-Aged Children (K-SADS-E; Orvaschle & Puig-Antich, 1986), the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock & Erbaugh, 1961), the Center for Epidemiological Studies- Depression (CES-D; Radolf, 1977), and the Development of Abbreviated Measures for Adolescent Target Behaviors (Serlin & Kaiser, 1976). In addition to the measures of depression, the adolescents were also given assessments to measure depressive cognitions, pleasant events, anxiety, and social skills. Parents were asked to complete the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1979) on their adolescent.

These measures were used as pre-test and post-test measures. Lewinsohn, et al. (1990) found that both treatment groups showed improvement in depression scores and targeted psychosocial behaviors. They also found there were no significant differences between the two treatment groups.

There are effective treatments for depression in children and adolescents. As noted, many of these have been empirically evaluated to support their effectiveness. Within the past ten years, other treatment methods have been introduced into the therapy arena. For reasons such as lack of available samples, interested researchers, and time constraints, there is minimal empirical data to support their benefits.

Equine Therapy

The term equine experiential learning or EEL implies that you learn about yourself through the interaction and relationship with your environment including the people, horses, nature, and situations therein. Members of the North American Handicapped Riders Association (NARHA) originally developed this approach. As their instructors and members began to see not only physical benefits but also emotional benefits, they developed the Equine Facilitated Mental Health Association (EFMHA). In the early 1990's, EFMHA started to focus on the emotional benefits of EEL. Their belief was that used alone or with traditional methods, EEL could be a valuable tool. They observed that it brought the client out of the traditional office setting, broke down barriers between client and therapist, and alleviated the boredom for both the therapist and client of traditional counseling (McDaniel, 1998).

Anecdotal reports suggest that adolescents that participate in group equine programs seem to form a bond not only with the horse, but also with their peers (Brown, 1995; Carlson, 1983; Emory, 1992; Hendryx, 1999; McDaniel, 1998; Simonson & Bonifay, 1999). Similar to programs such as adventure therapy, students are often required to rely on their peers for physical and emotional support to complete a task. Counselors have observed youth who are initially reluctant to assist others, often begin to start offering to help out (Brown; Carlson; Emory; Hendryx; McDaniel; Simonson & Bonifay). Equine programs appear to give youth opportunities to develop positive peer social interaction skills in a non-threatening cooperative environment. By learning about the needs of the horse,

through grooming, feeding, and general care the student may develop an empathetic relationship when they realize that this large animal relies on them for care, feeding and other basic needs. EEL programs involve learning about all of the above including handling and riding the horse, care of the equipment needed, and any other basic needs of the horse. The participants actually care for and ride a horse, usually in a group setting. They are involved in group activities in which they often have to rely on their peers and the horse to perform an assigned task. Many anecdotal reports have been made regarding the benefits of EEL, but as noted earlier there is limited research to support them. Some of those reports include that participants smile and laugh more, engage in more lengthy and frequent conversations, have improved grades in school, improved standardized test scores, and fewer discipline referrals (Simonson & Bonifay, 1999). Unfortunately, there has been limited research in the area of EEL.

History of Therapeutic Riding

Horses have been used in therapeutic ways for centuries (All, Loving & Crane, 1999; Bliss, 1997). Bliss (1997) stated that an ancient Greek once said “the outside of a horse is the best thing for the inside of a man” (p. 69). All et al. (1999) stated that the Greeks were known to give horseback rides to raise the spirits of persons with incurable illnesses. Quite possibly the greatest milestone of therapeutic riding occurred in 1952. A woman named Liz Hartel of Denmark became involved with therapeutic riding while recovering from polio. In 1952, she won an Olympic medal in dressage. Many therapeutic riding centers existed in Europe at this time, but it was due to the publicity of Ms. Hartel that the United

States became more aware of the benefits. In 1969, the North American Riding for the Handicapped Association (NARHA) was founded. Currently, NAHRA has approximately 500 accredited riding centers throughout the United States, supporting more than 26,000 riders (All et al., 1999).

Hippotherapy

The use of horses in therapy can be divided into three areas. These include, hippotherapy, therapeutic riding and equine facilitated mental health. The word *hippo* is Latin for horse. Hippotherapy focuses on the physical benefits from the movement of the horse. When the horse walks or trots, the movements are rhythmic. These movements have been found to assist the rider with posture, balance, mobility, and motor development (All et al., 1999; Tuttle, 1987). With hippotherapy, the main goal is not for the individual to learn to ride, but to gain improvement in the above areas. The treatment plan is designed with the individual's needs in mind, and implemented by a specially trained therapist. Therapists argue that by stepping outside the traditional office therapy setting, individuals are more motivated to actively participate in their therapy (All et al., 1999; Bliss, 1997; Gentry, 1986; Tuttle, 1987; Wolrab, 1998).

Therapeutic Riding

Therapeutic riding combines hippotherapy and recreational riding to promote social, emotional, and physical benefits (All et al., 1999; Tuttle, 1987). Therapeutic riding also involves participation in caring for the horse and learning about its environment. Emory (1992) described the therapeutic riding program as follows, "the therapeutic riding program involves such activities as vaulting,

hippotherapy, riding, barnwork, and other areas “ (p. 37). She describes barnwork as stable management, grooming, tacking, and caring for the equipment. The students are also given homework in the form of reading or research about caring for horses. Emory describes the riding portion of therapeutic riding to include the following exercises: mounting, sitting on the horse with assistance- back straight, heels in, toes out, and eyes looking straight ahead- walking, hands on knees (taking them off of the saddle), arms outstretched to the side, balancing with a stick in their hand, hands crossed over their chest, hands swinging alternatively, clapping hands in front and behind, touching toes, bending forward, around the world (turn in the saddle until facing the back of the horse and continue until facing forward), sitting while trotting, rising to the trot, cantering, standing in the stirrups, riding without stirrups, and then riding independently. All of the riding activities are intended to increase muscular coordination, balance, posture and range of motion.

According to Tuttle (1987), riders benefit from therapeutic riding programs through sensory motor integration and relaxation of abductor muscles that were previously rigid. Many of the articles reviewed stated that aside from the numerous physical benefits noted, there were also many psychological benefits with therapeutic riding (All et al., 1999; Bliss, 1997; Gentry, 1986; Ingalls, 1998; Tuttle, 1987; Wolrab, 1998). Therapeutic riding has been reported to help people with physical and mental disabilities, including cerebral palsy, spina bifida, learning disabilities, autism and mental retardation (Ingalls). Bliss stated that therapeutic riding provides many additional physical benefits often

unaccomplished in traditional therapy. These include improved respiration, circulation, balance and body metabolism, greater muscle strength and agility. She also noted that the warmth and motion of the horse's body appears to reduce spasticity of muscles in legs, improves coordination in muscles in the head, neck and arms. Bliss also stated that mounting, dismounting, saddling, unsaddling and grooming the horse appear to increase an individual's range of motion. Tuttle (1987) stated that the horse provides individuals with physical disabilities the opportunity to become mobile. According to Gentry (1986) "...horseback riding gets some of these kids ambulatory in a way they've never been before" (p. 31). She also thinks that it motivates them to work towards the goal of mobility on their own. There have been numerous accounts of previously nonverbal individuals spontaneously speaking upon being introduced to a horse, and continuous improvement of their vocalization was also observed (Bliss, 1997; Wolrab, 1998). Additional psychological benefits noted include: increased confidence, patience and self-esteem (All et al., 1999; Gentry, 1986; Ingalls, 1998; Tuttle, 1987; Wolrab, 1998). Often their disability makes the individual feel out of control. In the therapeutic riding arena, they are in control of this huge animal. They merely pull the reins or give a verbal command, and the horse responds.

Research on Equine Facilitated Mental Health

As discussed in the previous section, there are also many clinical reports that individuals benefit from equine therapy not only physically, but also psychologically. These benefits include: peer relations, self-concept, self-esteem,

social awareness, and the ability to control their emotions (Brock, 1988; DePauw, 1986; Gentry, 1986; Haskin, 1974; Hendryx, 1999; McDaniel, 1998; Rosenthal, 1975; Simonson & Bonifay, 1999; Wolrab, 1998). Unfortunately, published empirical research on the psychological benefits of Equine Facilitated Mental Health is nonexistent. This researcher has located three unpublished papers including: two doctoral dissertations, and a master's level thesis that investigated the mental health benefits of EEL programs (Brown, 1995; Carlson, 1983; Emory, 1992).

In 1995, Brown conducted a thesis research study entitled *A pilot program to determine the effect of therapeutic horseback riding on aggressive behaviors of severely emotionally disturbed children*. The study included nineteen students ages 9-14, twelve male and seven female. The participants were students classified as severely emotionally disturbed from two different schools, six students from one school participated in an eight week program. They rode once a week for eight weeks. The other group of thirteen students rode daily for eight consecutive days. The initial intent of the study was to measure the differences between condensed and long-term intervention strategies.

Each participant was scored on a daily basis with an assessment measure designed by the researcher. For the purpose of this study, Brown designed a behavior-monitoring sheet. This observational assessment tool measured: physical aggressive acts towards self, verbal aggressive acts towards self, physical aggressive acts towards others, verbal aggressive acts towards others, aggressive acts towards objects, and number of time outs and restraints due to aggressive

behaviors. Brown established a baseline by completing daily measurements three weeks prior to the intervention. Both groups were evaluated daily during the intervention and for the following three weeks. Brown hoped to find a difference between the long-term effectiveness of the eight-week group when compared to the eight-day group. Brown states that due to the numerous difficulties in scheduling, sampling problems, and lack of cooperation on the part of other schools in the district, the study was not able to accurately measure the effects of the equine program. She also argues that although there were no significant differences in her measures, there were numerous personal success stories. Brown includes staff and social worker observations in this conclusion. All three observed positive changes through classroom observation, in behavior, self-esteem, self-concept, and overall general well being of the participants. Brown suggested that further research should include larger samples, experimental and control groups, random sampling, self-esteem assessment tools, and post-test measures to assess long-term effects of the equine intervention. Although interesting, Brown's study failed to empirically establish the benefits of EEL. The lack of a control group, the small sample size and Brown's use of her own instrument seriously limit the usefulness of her study.

In 1992, Emory conducted a dissertation study to look at the effects of therapeutic horsemanship on the self-concept and behavior of asocial adolescents. The sample consisted of thirty-one 12-15 year old students who had been identified as having emotional problems. There were fifteen females and sixteen

males, with a final total of nine females and ten males having complete pre-test, post-test (1) and post-test (2) data.

Participants were evaluated by parents using the Piers-Harris Self-Concept Scale (Piers & Harris, 1969) and the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1979), and by teachers using the Teacher Report Form of the CBCL (Achenbach, 1991), as pre-test, post-test (1), and post-test (2) measures. They were involved in eight two-hour therapeutic riding sessions over a period of eight weeks. The sessions included: grooming, mounting, warm-up, riding skills, exercises, games and dismounting. Emory found that there was a significant improvement in Total Self-Concept scores, and on three individual dimensions of self-concept on the Piers-Harris: Total Behavior, Internal Behavior, and External Behavior on the Teacher Report Form, and Internal Behavior on the CBCL. Although the study began with thirty participants, the final sample included only nineteen. This small sample size makes it difficult to generalize the results to another population. Again, as with Brown's (1995) study, there was no control group. Emory also suggested that future research should include larger sample sizes, control groups, and standardized assessments that focus on self-report instead of observation.

In 1983, Carlson's dissertation looked at the effects of therapeutic horsemanship on the self-concept and locus of control orientation of male students with learning disabilities. He randomly selected twenty-four students, grades six through eleven, from a small private educational center. They were divided into two groups of twelve each, one control and one experimental. Both

the control and the experimental groups participated in normal school activities. The experimental group also participated in a therapeutic riding program. The riding program began with two 2-hour riding sessions. These lessons consisted of one hour of education-- proper care, handling, and other aspects of the horse. During the second hour, the students were involved in the therapeutic riding process. The last eight sessions consisted of one hour of riding only. All participants were given the Piers-Harris Children's Self Concept Scale (Piers & Harris, 1969), and the Norwicki-Strickland Locus of Control Scale for Children (Norwicki & Strickland, 1977) as pre-test and post-test measures. Although there was no significant change in the self-concept, there was a significant shift towards internal locus of control in the group of students that participated in the therapeutic riding group.

In a section of his dissertation entitled "Subjective Impressions", Carlson stated, "...the students in the program seemed to develop a group cohesiveness, often giving support to each other and providing both positive and negative feedback on riding and behavior..." (p. 78). He also remarked about two students involved in a dominant-submissive relationship before they began the riding program who appeared to develop an equal relationship by the end of the program.

Of the three described studies, Carlson made the strongest attempt to design an experimental study including a control group, and utilizing established assessment methods. As with other studies, Carlson was unable to obtain a large sample. Carlson suggested the need for further research to include: larger

samples, interventions more than once a week, and a more tightly structured program.

In summary, three researchers have attempted to study the benefits of EEL, but due to participant access difficulties, and poorly designed studies they have not successfully evaluated the effectiveness of EEL as a mental health treatment program. There is a need for empirical research to evaluate the benefits of Equine Experiential Learning. Larger sample sizes, control groups, a structured curriculum, and valid self-report assessments should all be included in future research. With the exception of the larger sample size, the present study incorporates the above suggestions. It is the goal of this pilot study to evaluate the effectiveness of an EEL intervention on depressive symptoms and self-esteem in typical adolescents. There are numerous programs throughout the United States that provide these services to clients with emotional needs with little or no funding. If empirical research supports their effectiveness, these programs will be able to request funding, support from federal and state resources, and receive insurance reimbursement for services.

It is the belief of this researcher that adolescents who participate in an eight-week EEL program will have a reduction in self-reported depressive symptoms and an increase in self-esteem. This will be studied by utilizing a pre-test post-test experimental design. Students will be assessed with a depression screening instrument and a self-esteem measure before and after the intervention.

CHAPTER III

METHOD OF STUDY

Participants

This pilot study was conducted in rural Southern New Hampshire. The sample consisted of 16 students in the sixth grade, attending the South Meadow School, in Conval, New Hampshire. South Meadow School has a total school population of 600 students, with the sixth grade having 162 total. The classes are team taught, with the sixth grade having three teams. Each class consists of between 20-25 students. The specific demographic information on the 16 participants is found in Table 3-1.

Table 3-1

Demographic information

Demographic Category	Riding Group	Non-Riding Group
Total Sample Size	8	8
Gender		
Male	2	3
Female	6	5
Age		
11 years	1	4
12 years	5	4
13 years	2	0

Half of the sample participated in a eight week Equine Education Program, with one 1 ½ hour session per week, conducted by Horse Power, Temple, New Hampshire. During the weekly sessions, the control group participated in free-time/reading activities at their school.

Due to the nature of the study—long distance research, high-risk activity, and the minor population -- this research was proposed as a small pilot study. An application was submitted to and approved by the Austin Peay State University Institutional Review Board (see Appendix A). Following approval, (see Appendix B), a letter from the principal supporting the proposed research study (see Appendix C) were sent home within one of the sixth grade teams. This made a total of 48 letters sent home. If parents were interested in having their child participate, they were given the option of signing and returning the consent form (see Appendix D), or attending a meeting after school before signing the form. The meeting was meant to give the parents an opportunity to ask any questions they felt were unanswered by the consent form and the principal's letter.

There were only seventeen parental consents returned. All returned were included in the initial selection. These students were then approached to gain assent (see Appendix E). Of the seventeen students with parental consent, sixteen agreed to participate in the study. Since there was the possibility that student might refuse to be a part of the study, a letter was written to be sent home to the parents stating their child's decision to either participate or not to participate in the study (see Appendix F). Students were taken into a classroom separate from their other non-participating classmates and given the envelope of assessments. The envelope contained: a demographic sheet (see Appendix G), the Children's Depression Inventory-CDI (see Appendix H), and the Self-Esteem Inventory- SEI (see Appendix I). To counterbalance the assessments, the CDI and the SEI were stapled together so that half of the students received the CDI first and SEI second.

Following the completion of the assessments, students were randomly assigned to either the riding group or the non-riding group. The researchers divided the students names by gender and put a piece of paper with their name on it into two “hats”, one “boy hat” and one “girl hat”. The researcher then pulled out one name at a time from each hat to randomly select the students and equally divide the group by gender. The initial sample of sixteen included five males and eleven females. Upon completion of the sampling process, there two males in the riding group and three males in the non-riding group.

One week following the assignment of groups, participants in the riding group began their sessions. The control group began their reading/free-time sessions also at this time. Following the eight-week intervention, all students from both riding and non-riding groups again completed the CDI and the SEI.

Materials

The Children’s Depression Inventory (CDI; Kovacs, 1982) is a 27 item self-report instrument that assesses cognitive, affective and behavioral signs of depression (see Appendix H). The CDI was developed through adaptations to the Beck Depression Inventory (BDI; Beck et al., 1961), which is used frequently with adolescents and adults. The CDI measures the frequency of symptoms within the previous 2 weeks. Items are rated on a three-point scale indicating symptom severity with –0- being no presence of symptom, and –2- being highest severity of symptom. Total scores can range from 0-52. Scores of 13 or greater are considered indicative of depression (Stark et al., 1987). The CDI has been found to have high internal consistency, moderate test-retest reliability, and good

discriminant validity, and correlates with related constructs such as self-esteem, hopelessness, and negative cognitive attributions (Kazdin, 1989; Sanders et al., 1992). In 1982, Kovacs completed a factor analysis on the CDI and found five factors. These include: negative mood, interpersonal problems, ineffectiveness, anhedonia, and negative self-esteem. The test is appropriate for populations between ages 7-17 years old.

The Self-Esteem Inventory (SEI; Brown & Alexander, 1991) was used to measure levels of self-esteem (see Appendix I). The SEI is an 80 item self-report instrument. It measures an individual's perception and value of themselves. The SEI is appropriate for children and young adults, ages 7 to 19. It contains four subscales including: academic competence, family acceptance, peer popularity, and personal security. The academic competence subscale measures self-esteem in school, education, academic competence, intelligence, learning and other scholarly pursuits. The family acceptance subscale measures self-esteem at home and within the family unit. The peer popularity subscale measures the quality, importance, and nature of the relationships and interactions with individuals outside the family unit. The personal security subscale measures the way the individual perceives his/her physical appearance, personal attributes such as body, character, conduct, temperament, and emotions. Each subscale has a total of 20 items. Each item has a score of 1-4. Internal consistency ranges from .80 to .90 among the subscales, and .93 for the overall self-esteem quotient.

According to the SEI examiner's manual (Brown & Alexander, 1991), scores are divided into seven categories: very low self-esteem, low self-esteem,

below average self-esteem, average self-esteem, high self-esteem, and very high self-esteem (see Table 4-1).

Table 4-1 Guidelines for interpreting SEI scores and deviation quotients

Self-Esteem Scores	Interpretation	% of Population included
-69	Very Low self-esteem	2.32
70-79	Low self-esteem	6.85
80-89	Below Average self-esteem	16.09
90-110	Average self-esteem	49.48
111-120	Above Average self-esteem	16.09
121-130	High self-esteem	6.85
131 +	Very High self-esteem	2.32

Procedures

Once parental consent and child assent were gained, all participants were administered the CDI and the SEI as a pre-test measure before the experimental group began the intervention. All sixteen students that chose to be involved in the study were taken to a classroom with only participants and researchers present. The students were given an envelope with both assessments and a demographic sheet (see Appendix G). Instructions for the assessments were on the front of the envelope (see Appendix G). The assessments were stapled together, so half of the participants received the CDI first, and the other half received the SEI first. One

of the investigators read the instructions out loud to the students, and checked for understanding. Upon completion of the assessments, the participants placed the CDI, the SEI and the demographic sheet back into the envelope and sealed it themselves. Within one week of completing the assessments, the participants began the weekly sessions.

Following the administration of the instruments, it was noted that four students scored within the depressed range on the CDI. At this point, the guidance counselor and principal were notified. One child scored a 27 on the CDI, which is indicative of a high level of depression. Following the procedures approved by the APIRB, the researcher spoke with the guidance counselor and it was discovered that the student was presently in counseling for numerous medical and psychological concerns. The guidance counselor informed both the parents and the student's therapist of the high score. The other three students scored a 14 on the CDI, which is indicative of mild depression.

The experimental group participated in an Equine Education program at Horse Power. The sessions included objectives and homework assignments (see Appendix J). The control group participated in free-time/reading activities at the school location. Following the eight-week course, both groups again completed the CDI and the SEI as a post-test measure using the same procedures as with the pre-test.

CHAPTER IV

RESULTS

The first hypothesis, that the group receiving the treatment of equine experiential learning would score significantly lower at post-test than their non-riding peers on a standardized measurement of depression, the Children's Depression Inventory- CDI, was not supported. The riding and the non-riding groups mean scores were both lower at post-test, but there was no significant difference between the groups. The second hypothesis that the group participating in the equine program would score significantly higher at post-test than their non-participating peers on the Self-Esteem Inventory- SEI was supported. Specific results are outlined below.

Children's Depression Inventory

A mixed ANOVA was performed to test the first hypothesis that the group receiving the treatment of equine experiential would have a reduction in measured levels of depression. The mixed design allows a comparison of both groups across repeated measures. This hypothesis was tested using a pre-test post-test design for each group. When tested, the riding group did not score significantly lower than the non-riding control group ($F(1,14) = 2.136, p = .17$) at post-test. Small sample size may have prevented detection of a significant interaction. Figure 4-1 depicts scores for each group at pre-test and post-test.

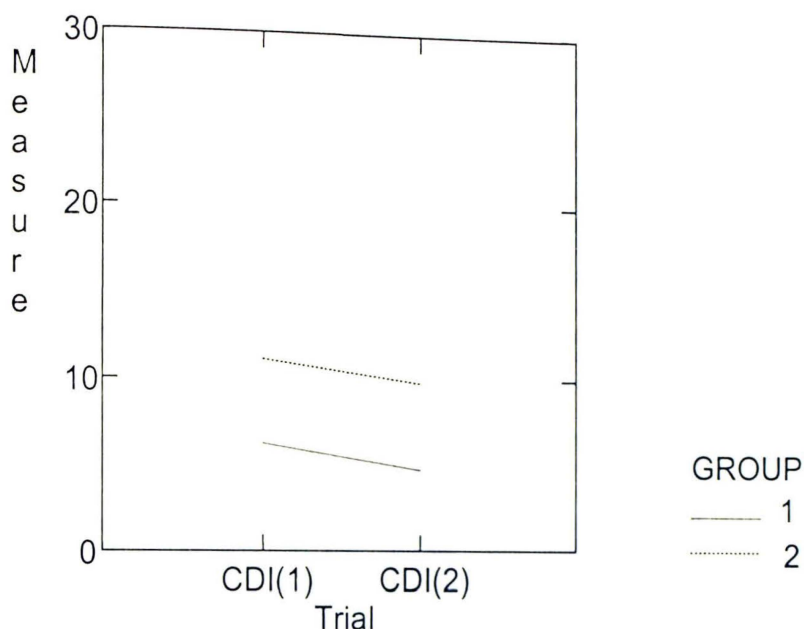


Figure 4-1 Analysis of variance results comparing means of pre-test and post-test of the Children's Depression Inventory. Group 1: Riding, Group 2: Non-riding

Although the overall test was not significant, there appeared to be some reduction of depression in both groups. Scores for the CDI range from 0-53, a score of 13 or higher is indicative of depression, with lower scores indicating lower levels of depression (Kovacs, 1982; Stark et al., 1987). Of the sixteen total participants, four scored within the depressed range on the CDI. Of those four, three were in the non-riding group. The riding group did experience a minor reduction ($t(7) = 1.240$, $p = 0.255$) from pre-test ($M = 6.250$, $SD = 4.803$) to post-

test ($M = 4.750$, $SD = 5.701$). The non-riding group also experienced a small reduction ($t(7) = 0.611$, $p = 0.561$) from pre-test ($M = 11.125$, $SD = 7.791$) to post-test ($M = 9.750$, $SD = 9.618$). The breakdown of CDI scores by group and pre-test (CDI-1) and post-test (CDI-2) are shown in Figure 4-2 and 4-3.

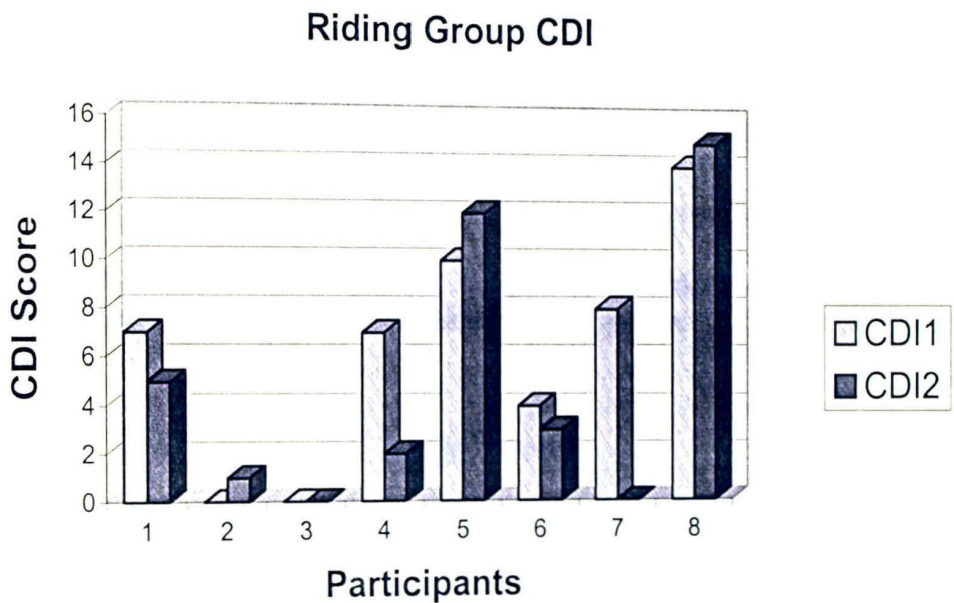


Figure 4-2. Comparison of pre-test and post-test Children's Depression Inventory scores for the riding group.

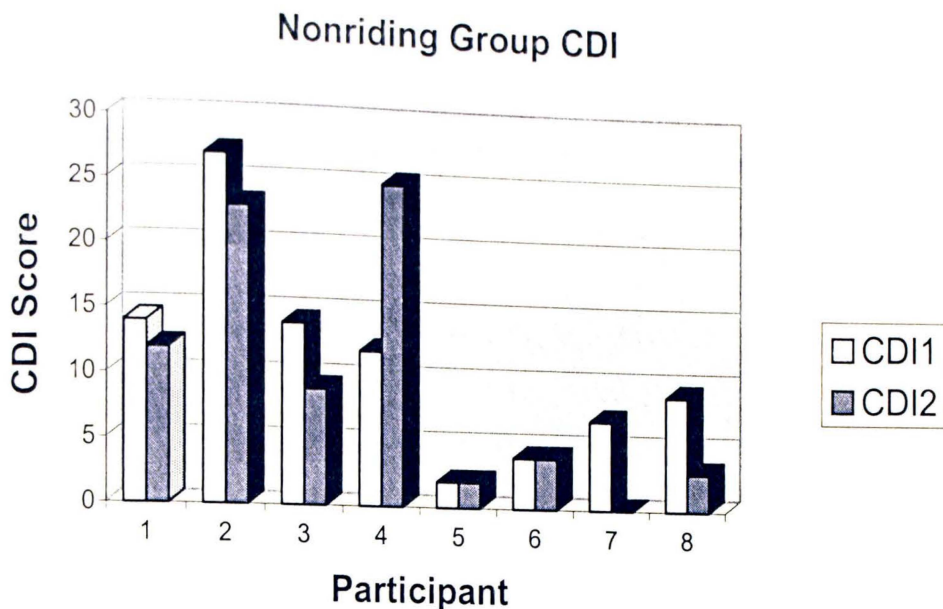


Figure 4-3. Comparison of pre-test and post-test Children's Depression Inventory scores for the non-riding group.

Self-Esteem Inventory

The second hypothesis, that the riding group would score significantly higher than their non-riding peers on a standardized measurement of self-esteem (i.e., the Self-Esteem Inventory) following participation in an equine program was supported. The participant group significantly increased their self-esteem scores upon completion of the intervention as compared to non-participants ($F(1,14) = 6.014, p = .028$). When compared to the pre-test self-esteem scores, the post-test ($M = 111.875, SD = 17.670$) for the riding group was significantly higher than the post-test for the non-riding group ($M = 89.625, SD = 11.963$). The riding group did experience an increase from pre-test ($M = 99.5, SD = 27.903$) to post-test ($M = 111.875, SD = 17.670$). The non-riding group also experienced an increase from

pre-test ($\underline{M} = 83.75$, $\underline{SD} = 13.346$) to post-test ($\underline{M} = 89.625$, $\underline{SD} = 11.963$). In other words, self-esteem increased more for the riding group than for the non-riding group. Figure 4-4 illustrates the significant interaction of treatment across time and treatment.

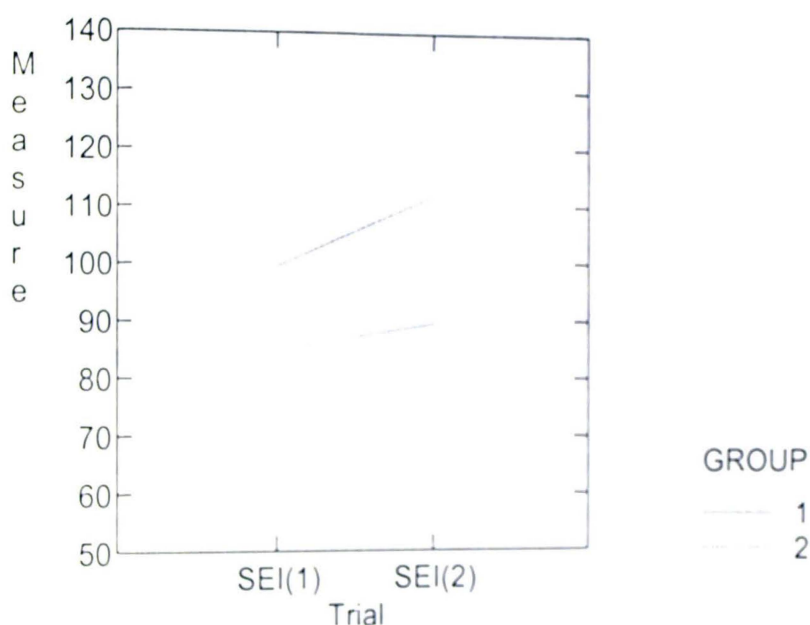


Figure 4-4. Analysis of variance results comparing means of pre-test and post-test of the Self-Esteem Inventory. Group 1: Riding, Group 2: Non-riding.

The SEI scores for the riding group pre-test ranged from 55-138, and for the non-riding group ranged from 55-95. Post-test scores ranged from 88-138 for the riding group and 72-113 for the non-riding group. The breakdown of self-

esteem scores by group and SEI(1) and SEI(2) are shown in Figure 4-5 and Figure 4-6.

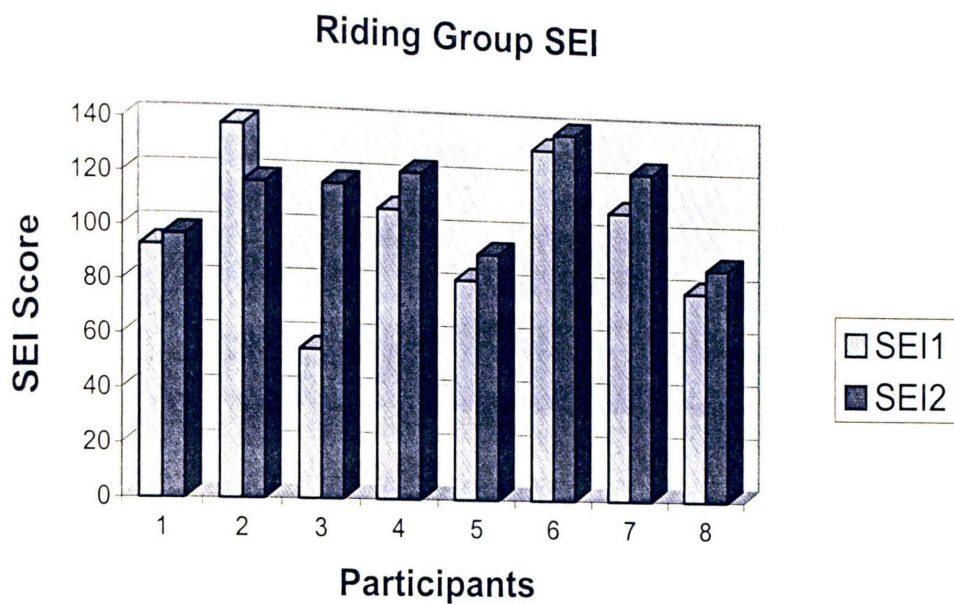


Figure 4-5. Comparison of pre-test and post-test Self-Esteem Inventory scores for the riding group.

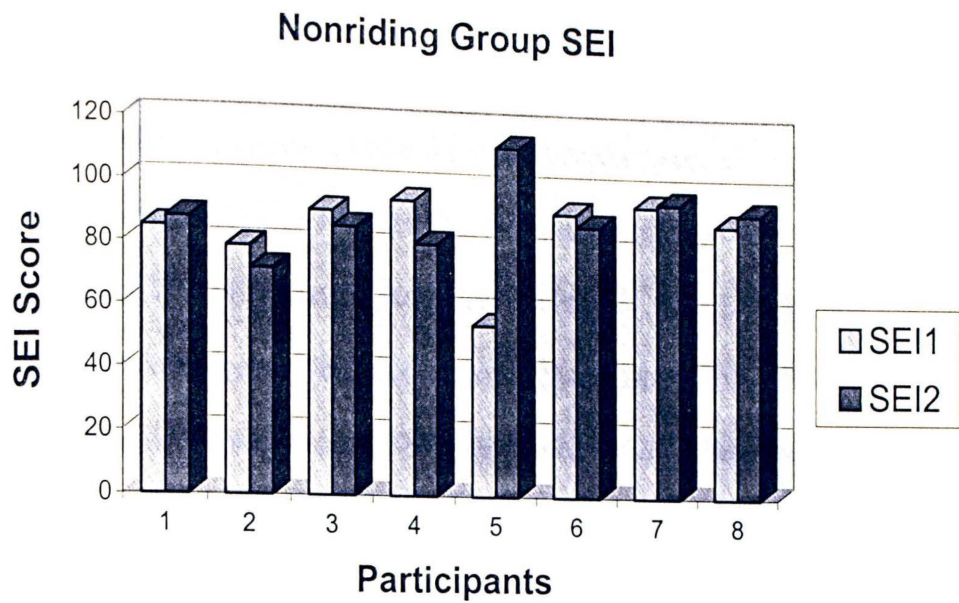


Figure 4-6. Comparison of pre-test and post-test Self-Esteem Inventory scores for the non-riding group.

CHAPTER V

DISCUSSION

When a child or adolescent is depressed, they may exhibit low self-esteem, poor social interaction skills, be less accepted by their peers, or act out in aggressive manners towards peers, teachers, family members and themselves (Cole & Carpentieri, 1990; Hecht et al., 1998; Lewinsohn et al., 1997). Staggering numbers of youth exhibit depressive symptoms today (Albright, 1999). To deal with these numbers, many programs have been developed to treat depression in all populations. Some of these methods include: promoting self-esteem, conflict resolution programs, and social skills training. To meet the growing needs of our society, new and innovative programs are constantly being developed.

The main focus of this study was to evaluate the effectiveness of one such program, Equine Experiential Learning (EEL). This study examined the effectiveness of EEL on depression and self-esteem in regular education middle school students. Three studies (Brown, 1995; Carlson, 1983; Emory, 1992) attempted to measure similar areas, but they all utilized special education populations. Brown studied severely emotionally disturbed children, Carlson studied students with learning disabilities, and Emory studied asocial adolescents. It was the intent of this researcher to study a regular education population with the hope of greater generalizability.

Previous studies have found some methods of treatment to be effective for reducing depressive symptoms (Butler et al., 1980; Lewinsohn et al., 1990; Stark et al., 1987). Although there was a reduction in depression scores for both the

riding and non-riding groups at post-test, there was not a significant difference in the amount of reduction. The present sample exhibited higher levels of depression than the average school population. A total of 25% of this sample scored within the depressed range, with average school population having only 2% - 5.7% within the depressed range (Cicchetti & Toth, 1998; Kazdin, 1989; Kutcher, 1997; Moreau & Mufson, 1997).

Depression

Based on anecdotal reports from those involved in the intervention: the riding instructors, classroom teachers, guidance counselor and van driver, the riding group appeared to improve in many areas while attending weekly equine sessions. They noted that the students interacted more with peers, smiled more, appeared more confident, and looked forward to attending sessions. There was not any anecdotal data reported regarding the non-riding group. As noted earlier, children with depression and low self-esteem exhibit similar symptoms such as: social isolation, difficulties with peers, sadness, lack of energy, loss of pleasure in activities, and low self-esteem (Cole & Carpentieri, 1990; Hecht et al., 1998; Lewinsohn et al., 1997). Although it was impossible for the riding instructors to know what the students outward symptoms were previous to treatment, they did note a change during the eight- week period.

Self-esteem

Although self-esteem was assessed, the main focus of the present pilot study was to evaluate the effect of EEL on depressive symptoms. Self-esteem as does depression, effects many areas of an adolescent's life including: social,

academic, coping skills and peer relations (Aunola, Stattin & Nurmi, 2000; Dumont & Provost, 1999; Slomkowski, Klein & Mannuzza, 1995). In their 2000 study, Aunola et al. studied a population of 1185 adolescents, 14 to 15 years of age. Adolescents were given five assessments to fill out to measure achievement strategies, internalizing problem behavior, externalizing problem behavior, school adjustment and self-esteem. Parents of the adolescents were given three assessments to measure their adolescents' achievement strategies, externalizing problem behavior, and school adjustment. Aunola et al. found that low self-esteem was associated with academic difficulties, poor peer relations, and depressive symptoms. They found that the lower the self-esteem reported, the higher level of maladaptive academic strategies they used.

Dumont and Provost (1999) studied 297 adolescents to examine a possible relationship between self-esteem, coping skills, social support and depression. Adolescents were given six assessments to measure daily hassles, depression, social support, coping strategies, social activities and self-esteem. The researchers concluded that adolescents with higher self-esteem were more well-adjusted and less involved in illegal antisocial activities than their low self-esteem peers. They also found a significant relationship between depression and low self-esteem.

Slomkowski et al. (1995) studied 122 adolescents with attentional difficulties to evaluate a possible relationship between low self-esteem and Attention Deficit Disorder (ADHD). Using five measurements, they assessed self-esteem, ADHD symptoms, psychosocial adjustment, IQ and other mental health concerns. They found that low self-esteem was related to higher levels of ADHD

symptoms and lower levels of psychosocial adjustment. They concluded that there is a great need to address academic and self-esteem issues during adolescence.

As noted in the above research studies, self-esteem plays an important role in the healthy development of an adolescent and is related to depression. The findings of the present study reveal that EEL may be an effective method to increase self-esteem in adolescents. It is also possible that the increase in self-esteem occurred not because of participation in the equine program but rather because of the intense group involvement with peers, a sense of accomplishment from learning a new task, or the fact they received more attention by leaving school each week. Future studies should include an intense peer group activity such as a team sport, or team educational challenge as an additional control group.

Limitations

There are limitations in the present study. These include the small sample size, and the limited geographical area. With regard to sample size, only 35% of the parental consent letters sent out from the school were returned. This might be improved by closer follow up by researchers and school personnel, possibly a second letter to remind parents of the deadline for consent return. With regard to the limited geographical area, it is the intent of this researcher to follow this pilot study with similar experimental designs at other riding facilities and schools throughout the United States. Initially, this study was designed as a pilot study to identify possible areas of interest for future study. As noted earlier, the equine program was found to have a significant effect on self-esteem scores. This researcher would continue with the same assessments with the belief that with a

larger sample size and wider geographical area, there might also be a statistical significance found for depression.

It should be noted that the current pilot study does establish a model for future research. It utilized an experimental design, with random sampling, reliable and valid instruments, and a pre-test post-test design. As noted by previous researchers attempting to measure the effectiveness of equine programs (Brown, 1995; Carlson, 1983; Emory, 1992), sample size is an ongoing problem with this type of study. It is the recommendation of this researcher that future research follow a similar design and that researchers collaborate to combine data for further analysis.

Conclusion

It is the belief of this researcher that equine facilitated learning is an effective, innovative method of improving self-esteem and possibly reducing depressive symptoms. Because it can be offered in large groups, often only requiring one horse (Simonson & Bonifay, 1999), this intervention can be a cost effective way to reach children. Simonson and Bonifay utilized a horse in their middle school science program. Students had daily contact with the horse during science class. The students were responsible for the care, grooming, feeding, stall cleaning and designing of a facility for the horse. Although they did not utilize an experimental design, anecdotally Simonson and Bonifay noted a school-wide improvement in standardized test scores, reduction in behavioral referrals and school absences, and an improvement in overall school atmosphere following implementation of the equine science program. Whether it is the horse or the

required peer interaction that produces these results, we might never know. What is important is that in this study it was documented that horses may be an effective facilitator for this change.

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APPENDICES

Appendix A

AUSTIN PEAY STATE UNIVERSITY INSTITUTIONAL REVIEW BOARD (APIRB) APPLICATION FOR PROJECT APPROVAL

1. TITLE OF PROJECT: A pilot study to examine the effects of an equine experiential learning program on children's self-reported depressive symptoms and self-esteem.

2. PRINCIPAL INVESTIGATOR(s):

Kathleen Saucier, Graduate Student, Austin Peay State University, Psychology Department, Clarksville, TN, (931) 387-0059

Isabella McDaniel, M.Ed., Owner and Executive Director of Horse Power, Inc., 848 Webster Road, Temple, New Hampshire, 03084, (603) 654-6308.

3. FACULTY SUPERVISOR:

Nanci Stewart Woods, Ph.D., Associate Professor, Austin Peay State University, Psychology Department, Clarksville, TN, (931) 221-7236

4. SOURCE OF FUNDING FOR THE PROJECT:

Grant from McDonald's Children's Charities in the amount of \$10,000 has been awarded to Horse Power to fund the program for the Spring 2000 pilot study. (Please see attached grant proposal)

5. PURPOSE OF THE INVESTIGATION:

The purpose of this investigation is to evaluate whether children's self-reported depressive symptoms and self-esteem will be effected by participation in an equine education program.

6. IS THIS RESEARCH IS BEING CONDUCTED TO FULFILL REQUIREMENTS FOR A GRADUATE DEGREE.

YES ☐ NO ☒

7. DESCRIBE WHO PARTICIPANTS WILL BE, HOW PARTICIPANT(S) WILL BE RECRUITED, THE NUMBER AND AGE OF THE PARTICIPANTS AND ANY PROPOSED COMPENSATION.

The participants will be volunteers from three sixth grade classes (20-25 students each), at South Meadow School in Conval, New Hampshire. Students will be given the consent from to take home to their parent(s). Parents will be informed in writing of all aspects of the study including that whether or not their child participates is unrelated to their child's grades and that they or their child can change their mind about participating at any time without negative consequence. Twenty 6th grade students, ranging in age from 10-12 years, will be chosen from the pool of students who return signed parental consent forms. Names will be drawn from a hat until there are 10 males and 10 females. These children will be approached individually by Isabella McDaniel, M.Ed. (Executive Director of Horse Power) to gain assent. If a child chooses not to participate in the study another name will be drawn from the hat until a sample of 10 males and 10 females has been obtained. Once both consent and assent has been gained, the 10

male participants and the 10 female participants will be randomly assigned to either the experimental or the control group.

8. DESCRIBE THE RESEARCH PROCEDURES IN NON-TECHNICAL LANGUAGE:

(Week 1) The 20 participating students will be asked to complete the Children's Depression Inventory (CDI), and the Self Esteem Inventory (SEI). The CDI is a 27-item pencil and paper test which takes about 10-20 minutes to complete. The SEI is a 80 item pencil and paper test which takes about 30-45 minutes to complete. These assessments will be completed at the school, and will be administered by Isabella McDaniel and Mary Blake, the school counselor, during a weekly 1 ½ hour reading/quiet/study time. The participants will be taken to a separate classroom for administration of the assessments. When all participants are finished completing the assessments, they will participate in the random assignment to experimental or control groups (i.e., they will help draw names from a "boy hat" and a "girl hat"). The school counselor will remain for the entire session, including the random assignment process, to be available to any students who are upset about not getting to participate in the equine education program. The ten students who are chosen for the control group will receive an appropriate level book as compensation.

(Weeks 2-11) Each week students who are not part of the study and the control group participants will stay at South Meadow School, and be a part of a 1 ½ hour reading/quiet/study time. During this same time period the 10 participants in the experimental group will be transported by a school system employee in a school system vehicle to the Horse Power facility in Temple, New Hampshire where they will participate in a 1 hour long equine educational program. The students will be learning from an established Equine Experiential curriculum, which will be taught by certified Equine Facilitated Mental Association instructors. The curriculum includes, Safety, Care and Grooming of the Horse, Budgeting for a Horse, Feeding and Medical Care, Planning a barn, and Basic Horseback riding.

(Week 12) The 20 participating students will again be asked to complete the Children's Depression Inventory (CDI), and the Self-Esteem Inventory (SEI). These assessments will be completed at the school, and will be administered by a classroom teacher and Isabella McDaniel during the weekly 1 ½ hour reading/quiet/study time.

9. POTENTIAL BENEFITS AND ANTICIPATED RISK:

There are potential physical risks to the participants. These include risk of physical injury during the trip to and from Horse Power, and during the equine education classes while in close contact with the horses. To protect the participants, only certified school personnel will be driving the van to and from the classes. The initial class given to participants will be on safety around the horses. During the equine education classes participants will be at a one-to-one ratio of Horse Power staff to children. Isabella McDaniel, Horse Power's riding instructor, is a NARHA Certified Therapeutic Master Riding Instructor (One of only 25 in the nation), and an ACRIP Certified Riding Instructor- Beginner through Advanced.

10. DESCRIBE THE INFORMED CONSENT PROCESS. INCLUDE A COPY OF THE INFORMED CONSENT DOCUMENT

Each 6th grade student will take home a letter to their parents, from the principal of South Meadow School, Mr. Gilmore. The letter will state that the school is aware of the study and will emphasize that parents and children are free to decide whether they want to participate. The informed consent form will also emphasize the voluntary nature of the project. In addition, parents will be told that; a) the project is not part of their child's regular curriculum and participating or not participating will not affect their child's grade; b) only 10 randomly chosen students will actually get to go to Horse Power and work with the horses c) they or their child will be able to withdraw from the study any time with no negative consequences; and d) they will be notified if their child scores above what is expected for their age, and given resources available to them and their child by Mary Blake, school counselor (Scores of 13 or above are considered indicative levels of depression). Once the parents have given consent, each randomly chosen student will be spoken to individually by Isabella McDaniel, M.Ed., Executive Director of Horse Power to determine if they would like to participate. Ms. McDaniel will emphasize to the students that they only have a 50% chance of being chosen to work with the horses. The students will be given the opportunity to refuse to participate, and it will be clearly stated to them that they may withdraw at any time.

This is to certify that the only involvement of human participants in this research study will be as described above.

Principal Investigator's Signature

Faculty Supervisor's Signature (if appropriate)

Appendix B

Appendix C

Letter to Parents

Dear Parent,

This Spring we will be involved with a pilot research project through Horse Power and Pony Farm in Temple. The purpose of the study is to see if students that attend horse education classes feel better about themselves and their abilities. Kathleen Saucier of Austin Peay State University, Clarksville, TN, is conducting the project in conjunction with Boo McDaniel, M.Ed., Executive Director and owner of Horse Power & Pony Farm.

The intent of the project is to try and measure the effectiveness of Horse Power as a therapeutic riding program. To do this, we will have two groups of 10 students each who will be participating from our present sixth grade. One group will attend Horse Power one morning a week during April and May and the other group will participate in their regular program at South Meadow. A grant from McDonald's Children's Charities has been secured so that there is no cost for selected students to participate in the project. This grant will fund a broader project next year. We have the good fortune to pilot the design.

In order to select the students who will be participating, all grade 6 students will be involved in an initial screening. Enclosed with this letter you will find a Consent to Participate form that the researchers are asking you to read and make a decision whether or not you would like your child to participate in the study.

Twenty students will be randomly selected from the students that return these signed forms, so that there will be a total of 10 girls and 10 boys in the study. If your child is selected to participate, you will be notified of which group they are assigned to. If at any time you wish to remove your child from the study or they wish to be removed, that choice will be respected.

Please complete the attached consent form if you would like your child to participate in the research study, and return it to your child's advisor by

_____. Thank you for your cooperation.

Sincerely,

Howard Gilmore
Principal

**Consent to Participate in a Research Study
Austin Peay State University**

You are being asked to allow your child to participate in a research study. This form is intended to provide you with information about this study. You may ask the researchers listed below about this study or you may call the Office of Grants and Sponsored Research, Box 4517, Austin Peay State University, Clarksville, TN 37044, (931) 221-7881 with questions about the rights of research participants.

1. TITLE OF RESEARCH STUDY

A pilot study to examine the effects of an equine experiential learning program on the self-report depressive symptoms and self-esteem.

2. PRINCIPAL INVESTIGATOR

Kathleen Saucier, Graduate Student, Austin Peay State University, Psychology Department, Clarksville, TN (931) 387-0059

Dr. Nanci Stewart Woods, Ph.D., Associate Professor, Faculty Supervisor, Austin Peay State University, Psychology Department, Clarksville, TN (931)221-7236

Isabella McDaniel, M.Ed., Owner and Executive Director of Horse Power, Inc., 848 Webster Rd, Temple, New Hampshire, 03084, (603)654-6308

3. THE PURPOSE OF THE RESEARCH

The purpose of this study is to see if students that attend horse education classes feel better about themselves, and their abilities.

4. PROCEDURES FOR THIS RESEARCH

You are being asked to allow your child to be a part of this research study. Ten of the twenty children who get to be in the study will travel to a local horse farm to learn how to care for and ride horses. If you agree to allow your child to participate, and their name is one of the ones drawn from a hat, they will be approached by one of the researchers to see if they are willing to be a part of the 12 week study. Only 20 children will be able to be in this study. Even if your child is one of the 20 children, only 10 will get to travel to the horse farm. The ten children who get to work with the horses and the other ten children will be asked to fill out two surveys at the beginning of the study and again 11 weeks later. These surveys are called The Children's Depression Inventory and the Self Esteem Inventory. The Children's Depression Inventory takes about 15 - 20 minutes to complete. The Self Esteem Inventory takes about 30 - 45 minutes to complete. In the event that your child scores above what is expected for their age on the surveys, you will be notified by Mary Blake, Guidance Counselor. Ms. Blake will advise you of available services for your child. After completing the two surveys, the children will be divided into two groups by drawing names from a hat. Half of the students will attend a horse education class once a week at Horse Power in Temple, New Hampshire. The other half of the students will participate in a reading activity at South Meadow School with the rest of their classmates in their regular classroom. The horse education classes will include: Safety, Care and Grooming of the Horse, Budgeting for a Horse, Feeding and

Medical Care, Planning a barn, and Basic Horseback riding. The students that will be going to the horse education classes will ride on a van driven by school personnel during school hours. All information that your child gives us will be kept confidential to the extent provided by law. The surveys your child fills out will only have a number on them not a name. The only people that will have access to any information that identifies your child with that number will be the researchers. The data will be stored in a locked file with only the researchers having access to it. If at any time during the study you or your child decide to stop participating, their data will be destroyed. If data is published or presented, it will be done so in a way that will not reveal the identity of your child.

5. POTENTIAL RISKS OR BENEFITS TO YOU

If your child decides to be a part of this study, he/she does not have to answer questions or participate in an activity if he/she does not want to. At anytime during this study your child may ask to be taken out of the program. There will be no effect on their grades or school activities if they choose to stop. There are potential physical risks to your child while participating in this study. These risks include possible physical injury during transportation to and from Horse Power, and physical injury during the horse education classes while in close contact with the horses. To protect your child, only school personnel will be driving the van to and from Horse Power. During the horse education classes, there will always be at least one adult with each child. In other words, when your child is riding, there will always be someone next to them on the ground. Also to protect your child from injury while near the horses, the first class to be given will be on horse safety. In the event of an accident, your child is covered by school transportation insurance during the drive, and by Horse Power insurance while attending the horse education sessions.

6. INFORMED CONSENT STATEMENT

I have read about this study, why it is being done, and any benefits or risks involved for my child. I understand that I do not have to allow my child to participate in this study, and my refusal to allow my child to participate will involve no penalty to them. I understand that if I give consent for my child to participate, and they do not wish to participate, then they will not be included in the study. I understand that I have the right to withdraw my consent for my child's participation at any time during the study and that all data collected from them will be destroyed. If I choose to remove my child from the study, that choice will be respected. I agree to give my child permission to participate in this study and understand that by agreeing to participate I have not given up any of their human rights. I understand that the study is being conducted by Kathleen Saucier, a graduate student at Austin Peay State University, Clarksville, TN under the supervision of Dr. Nanci Stewart Woods, a faculty member in the Department of Psychology at Austin Peay State University, Clarksville, TN. I have been informed, in writing of the procedures to be followed and about any discomfort which may be involved. I understand that if at any time I have any questions regarding my child's participation in the study, I can contact Kathleen Saucier at (931) 387-0059, Dr. Nanci Stewart Woods at (931) 221-7236, Mary Blake (guidance counselor- South Meadows School), or Boo McDaniel- Horse Power at

(603)654-6308. I have been told that I am free to terminate my child's participation at any time without penalty or prejudice and to have all data obtained from my child withdrawn from the study and destroyed. I understand that I will receive a copy of this form.

Signature of Research Participant
(or legally authorized representative)

Date

Signature of Researcher

Student Assent

You are being asked to be a part of a study project. Just like when you do an experiment in science to see how something works, we are trying to see if learning to care for and ride horses (the Horse Power Program) helps make people feel better about themselves. Your parents have already said that you can be part of this study if you want to. You do not have to participate if you do not want to and if you do choose to be a part of this study and change your mind you can stop at any time during the next twelve weeks. It is your choice.

Being part of this study has nothing to do with what you do in school. In other words, whether or not you say yes will not have anything to do with your grades. If you do say “yes” today your name will be put in a hat and five boys and five girls will end up getting to go to Horse Power and work with and ride horses. The other five girls and five boys will still be in the study but they will not be going to Horse Power. **Remember-** just saying “yes” today does not mean that you will be one of the ten students who end up in the horse part of the study.

All of the students who say yes, will be asked sometime this week or next to fill out two surveys about how they feel about themselves and others. About twelve weeks from now everyone will again be asked to fill out the same surveys. When everyone is finished filling out the surveys the first time, names will be drawn from a hat and you will find out what group you are in.

The SCHOOL group will fill out the surveys described above, but not go to the Horse Power classes. If you are in this group you will receive a book about horses after the names have been drawn.

The HORSE POWER group will fill out the surveys described above and be driven to the Horse Power Program once a week for ten weeks. You will spend an hour at the farm and you will learn about how to care for horses. During the ten weeks you will spend some time actually riding the horse. You will not receive a book about horses.

Please ask Ms. McDaniel and Ms. Blake and questions that you have.

Please sign below if you would like to be a part of this study. Remember you can change your mind later if you want.

Name

Appendix F

April 12, 2000

Dear Parent/Guardian:

Your child has been selected to be a part of the Horse Power Study. Today they were asked to fill out the surveys that were mentioned in the previous forms sent home. The students were then selected to be in either the riding or the non-riding group. Please take a moment to speak with your child regarding their assignment to a group. It is important to keep in mind that both groups are essential to the study. We greatly appreciate you and your child's participation in this program. If there are any concerns, please feel free to contact Mrs. Blake at South Meadow. You can also call me at my home at (931) 387-0059 if you have any questions regarding the study.

Sincerely

Kathleen Saucier
Austin Peay State University

April 12, 2000

Dear Parent/Guardian:

Your child has chosen not to participate in the Horse Power Study. We greatly appreciate you and your child's time during the initial process. Please take a moment to speak with your child regarding their decision, and if there are any further questions please feel free to contact Mrs. Blake at South Meadow School. You may also call me at my home at (931) 387-0059 if you have any questions regarding your child's decision.

Sincerely

Kathleen Saucier
Austin Peay State University

Appendix G
Demographic Sheet and Assessment Instructions

Name _____
First Last

Age _____

Male _____ Female _____ (check one)

Assessment Instructions

Dear Student:

Open the envelope and take out all of the sheets of paper. Fill in the information on the page that is not stapled to the others (your name, age, male/female). Now, you can fill out the papers with all of the questions on them- the ones that are stapled together. Please keep them stapled together. When you are finished answering the questions, put everything back into the envelope and seal it yourself.

Thank you for your help with our study.

Appendix H

Children's Depression Inventory**Item 1**

- ☐ I am sad once in a while.
- ☐ I am sad most of the time.
- ☐ I am sad all the time.

Item 2

- ☐ Nothing will ever work out for me.
- ☐ I am not sure if things will work out for me.
- ☐ Things will work out for me O.K.

Item 3

- ☐ I do most things O.K.
- ☐ I do most things wrong.
- ☐ I do everything wrong.

Item 4

- ☐ I have fun in many things.
- ☐ I have fun in some things.
- ☐ Nothing is fun at all.

Item 5

- ☐ I am bad all the time.
- ☐ I am bad many times.
- ☐ I am bad once in a while.

Item 6

- ☐ I think about bad things happening to me once in a while.
- ☐ I worry that bad things will happen to me.
- ☐ I am sure that terrible things will happen to me.

Item 7

- ☐ I hate myself.
- ☐ I do not like myself.
- ☐ I like myself.

Item 8

- ☐ All bad things are my fault.
- ☐ Many bad things are my fault.
- ☐ Bad things are not usually my fault.

Item 9

- ☐ I do not think about killing myself.
- ☐ I think about killing myself but I would not do it.
- ☐ I want to kill myself.

Item 10

- ☐ I feel like crying every day.
- ☐ I feel like crying many days.
- ☐ I feel like crying once in a while.

Item 11

- ☐ Things bother me all the time.
- ☐ Things bother me many times.
- ☐ Things bother me once in a while.

Item 12

- ☐ I like being with people
- ☐ I do not like being with people many times
- ☐ I do not want to be with people at all.

Item 13

- ☐ I cannot make up my mind about things.
- ☐ It is hard to make up my mind about things.
- ☐ I make up my mind about things easily.

Item 14

- ☐ I look O.K.
- ☐ There are some bad things about my looks.
- ☐ I am ugly.

Item 15

- ☐ I have to push myself all the time to do my schoolwork.
- ☐ I have to push myself many times to do my schoolwork.
- ☐ Doing my schoolwork is not a big problem.

Item 16

- ☐ I have trouble sleeping every night.
- ☐ I have trouble sleeping many nights.
- ☐ I sleep pretty well.

Item 17

- ☐ I am tired once in a while.
- ☐ I am tired many days.
- ☐ I am tired all the time.

Item 18

- ☐ Most days I do not feel like eating.
- ☐ Many days I do not feel like eating.
- ☐ I eat pretty well.

Item 19

- ☐ I do not worry about aches and pains.
- ☐ I worry about aches and pains many times.
- ☐ I worry about aches and pains all the time.

Item 20

- ☐ I do not feel alone.
- ☐ I feel alone many times.
- ☐ I feel alone all the time.

Item 21

- ☐ I never have fun at school.
- ☐ I have fun at school only once in a while.
- ☐ I have fun at school many times.

Item 22

- ☐ I have plenty of friends.
- ☐ I have some friends but I wish I had more.
- ☐ I do not have plenty of friends.

Item 23

- ☐ My schoolwork is all right.
- ☐ My schoolwork is not as good as before.
- ☐ I do very badly in subjects I used to be good in.

Item 24

- ☐ I can never be as good as other kids.
- ☐ I can be as good as other kids if I want to.
- ☐ I am just as good as other kids.

Item 25

- ☐ Nobody really loves me.
- ☐ I am not sure if anybody loves me.
- ☐ I am sure that somebody loves me.

Item 26

- ☐ I usually do what I am told.
- ☐ I do not do what I am told most times.
- ☐ I never do what I am told.

Item 27

- ☐ I get along with people.
- ☐ I get into fights many times.
- ☐ I get into fights all the time.

Appendix I

Self-Esteem Index

Always True	Usually True	Usually False	Always False
----------------	-----------------	------------------	-----------------

1. My parents and I have fun together.
2. I am a hard and steady worker at school.
3. I'm pretty popular with other kids my age.
4. Kids pick on me a lot.
5. My home life is pretty pleasant.
6. I am good at school work.
7. I'm a lot of fun to be around.
8. I have nightmares almost every night.
9. We have a very close family.
10. I am pretty good about doing my
homework on time.
11. It's easy for me to make friends.
12. I often feel ashamed of myself.
13. My parents don't listen to me.
14. I'm proud of my school work.
15. I am a leader in most of the games
that my friends play.
16. My friends don't have much confidence
in me.
17. I can go to my parents with my problems.

Always True	Usually True	Usually False	Always False
----------------	-----------------	------------------	-----------------

18. I give the teachers a lot of trouble at school.
19. I don't have trouble talking to other people.
20. I exaggerate my troubles in order to get
attention from other people.
21. My parents understand me as well as most
kids' parents do.
22. I like going to school.
23. I'm as nice looking as most other kids.
24. I never feel like I'm part of the group.
25. My parents are proud of me.
26. My parents are disappointed in my school
grades.
27. My friends think I have pretty good ideas.
28. It takes me a long time to get used to new
things.
29. My family is interested in me and the things
that I do.
30. I do as little work at school as I can get by with.
31. I think I'm pretty easy to like.
32. I'm usually the last one to be chosen for a game.
33. Nobody pays much attention to me at home.

- | | Always
True | Usually
True | Usually
False | Always
False |
|--|----------------|-----------------|------------------|-----------------|
|--|----------------|-----------------|------------------|-----------------|
34. School work isn't very interesting.
35. I'm not shy.
36. I am often afraid.
37. I feel left out of things at home.
38. My teachers like me.
39. The other kids usually want me to take
charge when we work on a school project
together.
40. My friends let me take the blame for things
they have done.
41. My parents don't scold me unless I
deserve it.
42. I am slow when it comes to doing my
school work.
43. I usually say what I think.
44. Other kids think I'm a cry baby.
45. I don't trust my family.
46. I find it hard to work in classrooms that
have a lot of rules.
47. I think most people are pretty interesting
to talk to.

- | | | | | |
|--|----------------|-----------------|------------------|-----------------|
| | Always
True | Usually
True | Usually
False | Always
False |
|--|----------------|-----------------|------------------|-----------------|
48. I would rather play with children who are
younger than I am.
 49. My family doesn't trust me.
 50. I'm not doing as well in school as I'd like
to do.
 51. When I grow up, I will be an important
person.
 52. I am a klutz.
 53. My family will help me if I get into trouble.
 54. My teachers make me feel like I'm not good
enough.
 55. I like being with other kids.
 56. I spend too much time alone.
 57. I argue a lot with my family.
 58. My behavior at school is okay.
 59. I'm not afraid of as many things as my friends are.
 60. I am uncomfortable in groups of people.
 61. I don't have enough freedom at home.
 62. Most of my teachers are pretty fair.
 63. I'm not a very lonely person.
 64. I wish I were younger.

Always
True

Usually
True

Usually
False

Always
False

65. I am an important member of my family.

66. Sometimes I play sick to get out of school.

67. I include other people in my plans.

68. Sometimes I pretend to know more than

I really do.

69. My parents expect too much from me.

70. My teachers give me school work that

I cannot do.

71. I learn a lot from other people.

72. I get a lot of headaches and stomach aches

73. The people in my family have quick

tempers.

74. I like it when the teacher calls on me.

75. I don't have trouble making up my mind

about things.

76. When things go wrong, I sometimes try to

blame the other guy.

77. Things at home upset me.

78. It's fun to learn new things.

79. I have friends I can confide in.

80. It is hard for me to talk in front of the class.

Appendix J

Horse Power- Summary of Lesson Curriculum

- Week 1 Orientation: Meet and Greet, set tone for lesson series, determine prior horse experience
 Introduce safety procedures
 Introduction to grooming basics, leading the horse
 Work in teams:
 Groom and tack the horse (two students and one mentor per horse)
- Week 2 Mount the horse (student partner and mentor lead horse)
 Introduction to Grooming Tools and Other:
 Review safety procedures and how to lead the horse
 Assign a horse and mentor to each student
 Groom and saddle horse together with instructors
 Introduction to mounting the horse, holding reins, seat position
 Introduction to "Halt" and "Walk-on"
- Week 3 Review grooming and Safety Procedures
 Introduction to picking up front hooves and review saddling/tacking
 Review mounted position and how to hold reins
 Introduction to placement of feet in stirrup and correct rein length, including lengthening and shortening reins
 Review "Halt" and "Walk-On" at specific places in the ring
 Ride with a partner leading the horse
- Week 4 Review picking up front feet and saddling procedures
 Introduction to picking up hind feet and taking off the halter
 Introduction to "safe spacing" and riding "on the rail"
 Introduction to reining- right and left in a circle
 Ride (using reins) with a mentor- "spotter" on the side
- Week 5 Review first 4 weeks
 Introduction to five names of parts of tack
 Introduction to bridling the horse
 Review "safe spacing"
 Introduction to reining- right and left across a diagonal and how to stay spaced correctly on the rail
 Riding independently with mentors located at corners of ring and on sides to assist as necessary
 Introduction to "running up" stirrups and leading a horse with a bridle
- Week 6 Review last 5 weeks
 Introduction to putting bit in the horse's mouth
 Introduce 5 parts of the horse
 Review the 5 parts of the tack and the horse

- 70
- Introduction steering through cones to rein rt + 1 in a series of linked turns
 - Trotting with a leader on the side of the ring
 - Introduction to "ending" correctly, taking off saddle, putting saddle away with girth in stirrup irons
 - Week 7 Review previous weeks
 - Introduction to complete bridling- 5 colors of the horse
 - Review "5's"
 - Introduction to posting in a circle on the lunge line- one student at a time, while the other students are posting on the side of the ring with mentors
 - End correctly- take off bridle, saddle, put tack away appropriately
 - Week 9 Horse Show
 - Have students discuss previous experiences
 - Week 10 Exhibition Lesson for Family, Teacher and Principal
 - Riding Demonstration
 - Informal quiz on "5's"
 - Complete grooming by student
 - Complete tack up by student
 - Mounting and riding at the walk- demo correct spacing
 - Halting- steering cones and ring figure 8's at the walk
 - Trotting, posting
 - Line up to demonstrate emergency dismount at the halt
 - Correctly run up stirrups and lead horse to barn, untack the horse
 - Groom horse- Say "Goodbye" to horse and put in stall
 - Farewell Party with certificates of Achievement for each rider

Kathleen Halbach Saucier was born in Willimantic, Connecticut in January 1964. She became interested in horses at the age of 10, and has been an avid horsewoman since the age of 14. She attended Hampton Consolidated Elementary School and graduated from Parish Hill High School in June of 1982. She entered Becker Junior College in the fall of 1982 to begin her studies in Veterinary Science. During her attendance at Becker Junior College, Leicester, Massachusetts, she was a member of the Equestrian Team. She then took time off from her studies to start a family, and reentered school in 1991 at Edison Community College, Fort Myers, Florida. She completed her Associates in Arts in Criminal Justice, and her Associates in Science in Legal Assisting in 1993. Following her graduation from Edison Community College, she entered the University of South Florida, Fort Myers, Florida. She graduated in 1994 with a Bachelors degree in Criminology and Psychology. Following her graduation, she worked with troubled youth and their families. She volunteered her time to advocate for victims of domestic violence and sexual assault from 1991-1997. In August of 1998, she entered graduate studies in Guidance and Counseling at Austin Peay State University, Clarksville, Tennessee. She completed the requirements for both Guidance and Agency Counseling, as well as for the Education Specialist Degree in Guidance. While at Austin Peay, she counseled middle school children, and developed and implemented a parenting program --Solutions for Families at a local middle school. She received her Masters of Science degree in December, 2000.