

THE EFFICACY OF EQUINE ASSISTED GROUP COUNSELING
WITH AT-RISK CHILDREN AND ADOLESCENTS

Kay Sudekum Trotter, M.Ed., LPC, NCC, RPT

Dissertation Prepared for the Degree of

DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

December 2006

APPROVED:

Cynthia Chandler, Major Professor

Sue Bratton, Co-Major Professor

Robert Berg, Committee Member

Carolyn Kern, Program Director

Jan Holden, Interim Chair of the Department of
Counseling, Development and Higher
Education

M. Jean Keller, Dean of College of Education

Sandra L. Terrell, Dean of the Robert B. Toulouse
School of Graduate Studies

Trotter, Kay Sudekum. *The Efficacy of Equine Assisted Group Counseling with At-Risk Children and Adolescents*. Doctor of Philosophy (Counseling), December 2006, 205 pages, 122 tables, 3 figures, references, 98 titles.

The purpose of this study was to determine the efficacy of equine assisted group counseling as compared to in-school curriculum group guidance/counseling. Research examined externalizing, internalizing, maladaptive, and adaptive behaviors of elementary and middle school students who were considered at-risk of academic or social failure. Two types of behavior instruments, the Behavioral Assessment System for Children (BASC)—Self-Rating, Parent-Rating, and Teacher-Rating Scales; and the Animal Assisted Therapy—Psychosocial Session Form (AAT-PSF), were used in a pretest-posttest comparison group quasi experimental design.

Results of the paired sample *t*-test analysis of the BASC Self-Report indicated that the equine assisted counseling group showed statistically significant improvement in five behavior areas, and the in-school curriculum group guidance/counseling group showed statistically significant improvement in four areas, with only one behavior area the same as the equine assisted counseling group. Results of the paired sample *t*-test analysis of the BASC Parent-Report indicated that the equine assisted counseling group showed statistically significant improvement in twelve behavior areas, whereas the in-school curriculum group guidance/counseling showed statistically significant improvement in only one behavior area. Results of the paired sample *t*-test analysis of the BASC Teacher-Report indicated that the equine assisted counseling group showed no statistically significant improvement; however the in-school curriculum group guidance/counseling group showed statistically significant improvement in one area. An ANCOVA comparison of equine assisted counseling group verses in-school curriculum guidance/counseling group using the BASC Self, Parent, and Teacher-

Reports indicated that the equine assisted counseling group showed statistically significant improvement in seven behavior areas that the in-school curriculum guidance/counseling group did not. Results of the repeated measures ANOVA of the AAT-PSF (equine assisted counseling group only) showed statistically significant improvement in all 3-scale scores: 1) overall total behaviors; 2) increased positive behaviors; and 3) decreased negative behaviors.

Copyright 2006

by

Kay Sudekum Trotter

ACKNOWLEDGEMENTS

I wish to acknowledge my husband, Tim Trotter, and daughter, Kelly Landrum, for their unconditional support and patience toward my commitment to my doctoral degree. Special thanks goes to my sister, Ann Sudekum, for providing me endless assistance by proofreading all my papers throughout my college career. I also wish to acknowledge the emotional support of my mother, Sue Sudekum, brother, Chris Sudekum, and sister, Fran Sudekum. In addition, I appreciate the support of my committee members: Professors Cynthia Chandler, Sue Bratton, and Robert Berg. I am also grateful to Professor Randy Schumacher for his expertise in statistics. I am also thankful for the research team, including Deborah Goodwin-Bond, Ken Burrill, and Jennifer Steinmetz from Rocky Top Therapy Center, and Janie Casey from the Keller Independent School District. Finally, I am indebted to the school counselors, teachers, principals, and administrators who graciously cooperated with this study.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	xii
Chapters	
1. INTRODUCTION	1
Statement of the Problem.....	3
Review of Related Literature	4
Summary	33
2. METHODS AND PROCEDURES	35
Definition of Terms.....	35
Research Hypotheses	39
Instrumentation	41
Participation Selection	43
Data Collection	45
Treatment	46
Statistical Analysis of Data.....	50
3. RESULTS AND DISCUSSION.....	52
Results.....	52
Discussion.....	120
Summary	139
Limitations of Study	141
Contributions and Strength of Study.....	143
Recommendations for Further Research and Practice	144
Concluding Remarks.....	144
APPENDICES	
A. CHILD ASSENT FORM.....	146

B.	PARENT CONSENT FORM	149
C.	EQUINE ASSISTED COUNSELING: A 12-WEEK TREATMENT MODEL	153
	REFERENCES	199

LIST OF TABLES

	Page
1. Research Hypothesis 1	39
2. Research Hypothesis 2	40
3. Research Hypothesis 3	41
4. Demographic Information.....	44
5. Results Hypothesi 1	55
6. BASC Self-Report, Experimental Treatment Group	56
7. BASC Parent-Report, Experimental Treatment Group	57
8. BASC Teacher-Report, Experimental Treatment Group.....	58
9. Results Hypothesi 2	59
10. BASC Self-Report, Comparison Treatment Group	60
11. BASC Parent-Report, Comparison Treatment Group	61
12. BASC Teacher-Report, Comparison Treatment Group.....	62
13. Results Hypothesi 3	63
14. ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Emotional Symptom Index	63
15. BASC-SRS Emotional Symptom Index Group Post-Test Means	64
16. ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS School Maladjustment Composite	64
17. BASC-SRS School Maladjustment Composite Group Post-Test Means	65
18. ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Clinical Maladjustment Composite.....	65
19. BASC-SRS Clinical Maladjustment Composite Group Post-Test Means.....	66
20. ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Personal Adjustment Composite.....	66
21. BASC-SRS Personal Adjustment Composite Group Post-Test Means.....	67

22.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Attitude Toward School.....	67
23.	BASC-SRS Attitude Toward School Group Post-Test Means.....	68
24.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS S Attitude Toward Teachers.....	68
25.	BASC-SRS Attitude Toward Teachers Group Post-Test Means.....	69
26.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Atypical.....	69
27.	BASC-SRS Atypical Group Post-Test Means.....	70
28.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Locus of Control.....	70
29.	BASC-SRS Locus of Control Group Post-Test Means.....	71
30.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Social Stress.....	71
31.	BASC-SRS Social Stress Group Post-Test Means.....	72
32.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Anxiety.....	72
33.	BASC-SRS Anxiety Group Post-Test Means.....	73
34.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Depression.....	73
35.	BASC-SRS Depression Group Post-Test Means.....	74
36.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Sense of Inadequacy.....	74
37.	BASC-SRS Sense of Inadequacy Group Post-Test Means.....	75
38.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Relationship with Parents.....	75
39.	BASC-SRS Relationship with Parents Group Post-Test Means.....	76
40.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Interpersonal Relations.....	76
41.	BASC-SRS Interpersonal Relations Group Post-Test Means.....	77

42.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Self-Esteem	77
43.	BASC-SRS Self-Esteem Post-Test Means	78
44.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-SRS Self Reliance	78
45.	BASC-SRS Self Reliance Composite Group Post-Test Means	79
46.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Behavioral Symptoms Index	79
47.	BASC-PRS Behavioral Symptoms Index Group Post-Test Means	80
48.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Externalizing Problems Composite	80
49.	BASC-PRS Externalizing Problems Composite Group Post-Test Means	81
50.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Internalizing Problems Composite	81
51.	BASC-PRS Internalizing Problems Composite Group Post-Test Means	82
52.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Adaptive Skills Composite	82
53.	BASC-PRS Adaptive Skills Composite Group Post-Test Means	83
54.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Hyperactivity	83
55.	BASC-PRS Hyperactivity Group Post-Test Means	84
56.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Aggression	84
57.	BASC-PRS Aggression Group Post-Test Means	85
58.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Conduct Problems	85
59.	BASC-PRS Conduct Problems Group Post-Test Means	86
60.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Anxiety	86
61.	BASC-PRS Anxiety Group Post-Test Means	87

62.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Depression.....	87
63.	BASC-PRS Depression Group Post-Test Means.....	88
64.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Somatization.....	88
65.	BASC-PRS Somatization Group Post-Test Means.....	89
66.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Atypical.....	89
67.	BASC-PRS Atypical Group Post-Test Means.....	90
68.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Withdrawal.....	90
69.	BASC-PRS Withdrawal Group Post-Test Means.....	91
70.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Adaptability.....	91
71.	BASC-PRS Adaptability Group Post-Test Means.....	92
72.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Attention Problems	92
73.	BASC-PRS Attention Problems Group Post-Test Means	93
74.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Social Skills	93
75.	BASC-PRS Social Skills Group Post-Test Means	94
76.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-PRS Leadership.....	94
77.	BASC-PRS Leadership Group Post-Test Means.....	95
78.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Behavioral Symptoms Index.....	95
79.	BASC-TRS Behavioral Symptoms Index Group Post-Test Means.....	96
80.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Externalizing Problems Composite	96
81.	BASC-TRS Externalizing Problems Composite Group Post-Test Means	97

82.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Internalizing Problems Composite.....	97
83.	BASC-TRS Internalizing Problems Composite Group Post-Test Means.....	98
84.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS School Problems Composite.....	98
85.	BASC-PRS School Problems Composite Group Post-Test Means	99
86.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Hyperactivity	99
87.	BASC-TRS Hyperactivity Group Post-Test Means	100
88.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Aggression	100
89.	BASC-TRS Aggression Group Post-Test Means	101
90.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Conduct Problems.....	101
91.	BASC-TRS Conduct Problems Group Post-Test Means.....	102
92.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Anxiety.....	102
93.	BASC-TRS Anxiety Group Post-Test Means.....	103
94.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Depression	103
95.	BASC-TRS Depression Group Post-Test Means	104
96.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Somatization	104
97.	BASC-TRS Somatization Group Post-Test Means	105
98.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Atypical.....	105
99.	BASC-TRS Atypical Group Post-Test Means.....	106
100.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Withdrawal.....	106
101.	BASC-TRS Withdrawal Group Post-Test Means.....	107

102.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Adaptability	107
103.	BASC-TRS Adaptability Group Post-Test Means	108
104.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Attention Problems	108
105.	BASC-TRS Attention Problems Group Post-Test Means	109
106.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Adaptive Skills.....	109
107.	BASC-TRS Adaptive Skills Post-Test Means.....	110
108.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Social Skills	110
109.	BASC-TRS Social Skills Group Post-Test Means	111
110.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Leadership.....	111
111.	BASC-TRS Leadership Group Post-Test Means.....	112
112.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Study Skills.....	112
113.	BASC-TRS Study Skills Group Post-Test Means.....	113
114.	ANCOVA Summary Tables Comparing Experimental and Comparison Groups for the BASC-TRS Learning Skills.....	113
115.	BASC-TRS Learning Skills Group Post-Test Means.....	114
116.	Serial F Values across the Twelve Experimental Treatment Group Sessions	115
117.	Trend Analysis of Total Behavior Ratings for the AAT-PS.....	116
118.	Repeated Measures ANOVA (12 Occasions) for Total AAT-PSF Ratings	116
119.	Trend Analysis of Positive Behavior Ratings for the AAT-PSF.....	118
120.	Repeated Measures ANOVA (12 Occasions) for Positive AAT-PSF Ratings.....	118
121.	Trend Analysis of Negative Behavior Ratings for the AAT-PSF.....	120
122.	Repeated Measures ANOVA (12 Occasions) for Negative AAT-PSF Ratings	120

LIST OF FIGURES

	Page
1. Total ratings – linear trend of means for AAT-PSF by occasions	117
2. Positive ratings – linear trend of means for AAT-PSF by occasions	119
3. Negative ratings – linear trend of means for AAT-PSF by occasions	121

CHAPTER 1

INTRODUCTION

There exists a dire need for increased social services related to mental health for children and adolescents across the nation. According to the United States Surgeon General (2000),

The nation is facing a public crisis in mental health for children and adolescents. In the United States, 1 in 10 children and adolescents suffer from mental illness severe enough to cause some level of impairment. Yet, in any given year, it is estimated that fewer than 1 in 5 of these children receives needed treatment. The long-term consequences of untreated childhood disorders is costly, in both human and fiscal terms. (p. 11)

Mental health plays a critical role in children and adolescents ability to learn, be successful, contribute to society and have good health. Children and adolescents with mental disorders are at-risk for academic failure and or dropping out of school (National Institute of Mental Health [NIMH], 2001), the Coalition for Juvenile Justice (2000) reports that 50 to 75 % of juveniles in the justice system suffer from mental disorders. The behavioral, emotional, and developmental needs of children are not being met. Educating teachers, school counselors, and mental health professionals, to name a few, on scientifically proven, state-of-the-art psychological treatment and prevention is one of the Surgeon General's (2000) goals to improve child and adolescent mental health.

The country's future depends on the strength and mental health of its youth. However, children and adolescent mental health problems that interfere with normal development and functioning have encountered an extremely high level of unmet need (Mental Health Commission [MHC], 2003; NIMH, 2001; Surgeon General, 2000). Community-based mental health services that address the developmental and psychological needs of youth is part of the transforming mental health care movement for children and their families (Huang, Stroul, Friedman, Mrazek, Friesen, Pires, & Mayberg, 2005). The Community Mental Health Services

Program for Children and Their Families, a subcommittee of the President's New Freedom Commission on Mental Health (2002), established a vision for children's mental health.

The vision is based on a system of care approach and calls for a broad array of services and supports to be provided in the child's home, school, and community...The vision goes beyond the focus on children with serious emotional disturbances and presents a public health approach to preventing mental health problems and creating conditions that promote positive socioemotional health for all children. (p. 617)

Ten steps to achieving this vision have been identified by the commission and this research study employees four of those steps:

- 1) Comprehensive home and community based services and support—calls for a broad scope of services to be made available to address children's mental health and these services should emphasize the natural settings of childhood.
- 2) Culturally competent care—calls for ethnic and culturally responsive services to the population being served.
- 3) Evidence-based practices—should be made available to children and their families, incomplete scientific basis needs to be guided by experience and clinical judgment.
- 4) Mental health services in schools—to ensure that children are healthy and able to learn, schools need to support the social-emotional needs of children.

Identifying and building a transformed approach to child and adolescent mental health that includes the coordinating of treatment services, expanding mental health services in schools and implementing evidence-based practices is an important challenge facing the mental health field (Huang et al., 2005). The non-traditional approach to mental health care linked with the experiential delivery system and expanding therapeutic roles illustrated in this research study is an example of a counseling intervention that goes beyond the clinical treatment of disorders, and harnesses the strength of the individual to facilitate the prevention or resolution of emotional and behavioral difficulties.

Statement of the Problem

The purpose of this study was to determine the efficacy of equine assisted counseling in decreasing children and adolescents negative maladaptive behaviors, while also increasing children and adolescent's positive adaptive behaviors, as measured by the Behavioral Assessment System for Children (BASC) and the Animal Assisted Therapy—Psychosocial Form (AAT-PSF). Thus, information gained from this research study will offer the counseling and school communities' valuable knowledge regarding the effectiveness of equine assisted group counseling.

Teachers and school administrators have identified social skill deficits, self-esteem, and behavior issues as areas that influence students' learning and general well being (American School Counseling Association [ASCA], 2006a; Dumas, 1997). The problem investigated compared the therapeutic efficacy of equine assisted group counseling with a school-based group counseling program with children and adolescents experiencing behavioral and social skills that place them at-risk for academic success. Specifically, the child and adolescents externalizing problem behaviors (aggression, hyperactivity, and conduct problems), internalizing problem behaviors (anxiety, depression, and somatization), maladaptive behaviors (aggression, anxiety, attention problems, atypicality, conduct problems, depression, hyperactivity, learning problems, somatization, withdrawal, attitude toward school, attitude toward teachers, locus of control, sense of inadequacy, and social stress), and adaptive behaviors (adaptability, leadership, study skills, social skills, interpersonal relations, relation with parents, self-esteem, and self-reliance were examined.

In the mental health field, there is a growing movement toward research-based empirically supported treatment interventions that use replicable procedures (Kazdin & Weisz,

2003; MHC, 2003; NIMH, 2001; Roth & Fonagy, 1996; Surgeon General, 2000) therefore, the intent of this study is to demonstrate the efficacy of equine assisted counseling as an empirically based counseling modality. The President's New Freedom Commission on Mental Health Final Report to the President (2003) stated: "science will inform the provision of services" (p.5). Empirically evaluated treatment models are the most direct and efficient models to enhance the credibility of equine assisted counseling within the mental health community as well as with third party payers. Equine assisted counseling is a growing field with an increasing number of therapy facilities across the United States (Equine Assisted Growth and Learning [EAGALA], 2006) yet, currently there is little to no empirical research that has been conducted and reported in regards to the therapeutic effectiveness of equine assisted counseling. This type of research is necessary to provide credibility and sustainability of equine assisted counseling.

Review of Related Literature

The exploration of literature and research related to five major areas will be examined in the following literature review: 1) the animal-human bond, 2) animal assisted therapy, 3) adventure-based therapy, 4) the human-nature connection, and 5) school-based guidance and counseling.

Animal-Human Bond

The interaction between animals and humans has endured since the beginning of time (Hirschman, 1994; Levinson, 1972; Serpell, 2000). The two schools of thought on the development of the animal-human bond reflect either the evolution theory or the social cultural perspective. The innate essence of our relationship with animals and our predisposition to

interact with certain species that provide valuable services (such as being alerted to danger by dogs barking), became part of the ‘collective consciousness’ that was passed down from generation to generation, reflects the evolution theory perspective on the animal-human bond. The other school of thought comes from the social cultural perspective, which believes the animal-human bond has to be viewed throughout the cultural environment where individuals learn at an early age to negatively or positively regard certain animals (Graham, 2000).

The role of animal-human interactions has been postulated to promote wellness and prevent illness (Beck & Katcher, 2003; Garrity & Stallones, 1998; Graham, 2000; Johnson, 2003) alike to maintaining a healthy diet and exercising to promote overall general wellbeing. A large component of the animal-human bond stems from the social support that individuals receive from animals that translate into positive health effects (Beck & Katcher, 2003). The social support that animals provide humans such as love and acceptance, which is not dependent on appearance, social or economic status (Chandler, 2005) often fills a void that otherwise would remain empty. In contrast to human relationships, which may be complex, confusing, and at times painful; bonds with animals are relaxed and intimate. The need for animals to be cared for on a daily basis fulfills the human need to be needed, to nurture, and to love (Hirschman, 1994).

The number of Americans who own animals demonstrates the powerful relational impact that animals provide in the daily lives of individuals. According to Hirschman (1994) Americans own, 55 million dogs, 63 million cats, and 400 million other animals. Combine this with the number of people who report that their pet is “a member of the family” and “consider their pet as a best friend” (Beck & Katcher, 2003) helps to explain the impact animals have on an individual’s physical and emotional health.

Animals play a symbolic role in society, influencing the psychological and physiological domain (Beck & Katcher, 2003). Animals can serve as a child substitute upon which tenderness and protection can be given. The raising and caring for animals provides individuals the opportunity to learn about themselves and can serve to prepare couples for parenthood (Levinson, 1972). As friends, animals provide unconditional love and loyalty—they are often seen as a faithful intimate companion. Hirschman (1994) found the intimate relationship that exists between humans and animals was a

mutual evolving relationship that defines their lives together. They find they can communicate in subtle, nonverbal ways grounded on mutual understanding and experiences. Much like long-term human friends, they “grow into” one another’s lives through daily rituals and habits of behavior. (p. 620)

Child Development and the Animal-Human Bond

Animals play an important role in shaping child development (Carey, 1985; Levinson, 1972; Melson, 2003; Myers, 1998) because children’s learning can be stimulated by the presence of animals. Learning occurs because the interaction with animals teaches children in a concrete experiential manner the needs of the animal, thus providing children with the opportunity to apply this newly developed knowledge with others (Carey, 1985). Furthermore, interacting with animals for some children can be a powerful motivator for learning, according to Baker and Wright (1951) and Vygotsky (1978) this is for two well-established reasons: 1) children learn and retain more when they are emotionally invested in the subjects they are learning about, and 2) children’s learning is maximized when it occurs within significant relationships.

The child’s sense of self and ability to trust are directly influenced by the child-animal bond (Levinson, 1972; Melson, 1998; Myers, 1998). The ever-faithful responsiveness of an animal in a child’s life and the child’s attachment to the animal serves to reinforce and reassure

the child by providing the basic elements of developing trust and building healthy attachments (Melson, 1998). Another developmental task that animals contribute to is the child's sense of self. This is accomplished through many modalities, such as the child assuming responsibility for the animal, or the unconditional acceptance offered by the animal, or by the emotional support provided by the animal. Furthermore, because animals do not disappoint or make excuses or demands on children as a result this provides children the ability to disregard other hurts and disappointments (Levison, 1972; Melson 1998). In addition, the opportunity to interact and learn with an animal provides the child an opportunity to develop a sense of identity. According to Levison (1972) "When a child has a pet with which he works and toward which he expresses a wide range of feelings, he can get a better understanding of what he is like and what his strengths and limitations are" (p. 49).

For many children the learning of loyalty, love, loss, and how to nurture comes from their relationships with animals. The human wellbeing associated with the bond between animals and humans has been explored along many continuums. The physical, psychological, social, and behavioral effects of human interactions with animals have recently caught the attention of mental health practitioners and the research community (Garrity & Stallones, 1998).

Animal Assisted Therapy

The recognition of the value of the animal-human bond has encompassed the period from the 1960s to present day. The first to publish the therapeutic power of the animal-human bond was Boris Levinson (1962). Animal assisted therapy (AAT) built on this animal-human bond to create a therapeutic goal-directed counseling intervention. Chandler (2005) describes animal assisted therapy as an adjunct to therapy, where a therapist can incorporate the animal into

whatever professional style of therapy the therapist already enacts. Animal assisted therapy can be directive or nondirective in its approach. Animal assisted therapy sessions can be integrated into individual or group therapy and used with a very wide range of age groups and persons with varying ability. Animal assisted therapy is a practice modality and not an independent profession. Mental health professionals that provide AAT must have the proper training and credentials for their professional practice (Chandler, 2005). Since animal assisted therapy was first viewed as a justifiable adjunct to traditional counseling techniques in the late 1970s and 1980s, national therapeutic programs have been established; training courses developed, international professional organizations formed, conferences established, and a dramatic increase in AAT literature has surfaced (Burch, 2000).

Dogs and cats are the most commonly used therapy animal, partly because the therapist can easily transport them to any clinical setting and their overwhelming acceptance by clients. Even though horses are not as easily transported as smaller animals, many therapists and residential treatment and corrections facilities use horse(s) as a means of therapy (Chandler, 2005; Remuda Ranch, 2004). Other animals used in AAT include farm animals and birds.

Counseling interventions that utilize animals tend to create opportunities for healing, learning, stimulation, curiosity, and attachment. The presence of an animal in therapy gives the client the opportunity to develop personal and social identity, strengthen self-concept, and self-esteem (Chandler, 2005), elicit a wide range of emotions from joy to sorrow and the physical touching of an animal promotes comfort and safety (Fine, 2000), to the understanding of their behavior as well as the behavior of others more accurately (Katcher & Wilkins, 1998). Fine (2000) reported that many therapists observed that the presence of an animal reduced client stress and the therapist is perceived as less threatening and therefore is seen as more approachable by

the client, plus the presence of an animal seemed to help clients overcome anxiety related to therapy. The therapeutic relationship between the client and the animal add an element of safety and freedom to the counseling session.

Delta Society, an international organization established in 1977, strives towards "improving human health through service and therapy animals." Delta Society strives to advance credible research on why animals are important and how they influences health and well-being. In 1990, building on the emotional, physical, and psychological importance of animals that was established from their research, Delta Society established the Pet Partners Program[®], which strives towards "improving human health through service and therapy animals," by uniting millions of individuals with mental and physical disabilities with professionally trained animals and therapists to improve their health. In 2002, their Pet Partners[®] Program/Animal assisted Therapy program had over 6,400 Pet Partner teams in the United States that helped over 900,000 individuals. The high demand for this type of animal assisted therapy program left hundreds of healthcare facilities on a waiting list (Delta Society, 2006).

The Delta Society (1996) outlined ten mental health applications of animal assisted therapy:

- 1) Emotional safety—when an animal is included in the therapy session, the environment of power has changed. The therapist is seen as more approachable and likable. The presence of an animal opens a pathway through the client's psychosis or resistance. Clients also tend to project their experiences and feelings onto the animal.
- 2) Relationships—an animal can be a source of love and companionship. For a client that does not relate well with other people, an animal can become their object which they can direct their own love and compassion.
- 3) Limit setting and consequences—clients learn that there are limits and parameters they must behave within around animals, and consequently, with the world. Animal's quick response to client's behavior can be generalized to others, and provides an opportunity to process the client's feelings toward the animal's response.
- 4) Attachment—an animal can offer the isolated client a healthy attachment, one that is less threatening than with people.

- 5) Grief and loss—the first experience of loss for many clients centers on the loss of their pet, which primarily remains unresolved. Tearfulness, feelings of loss and abandonment are frequently experienced in therapy sessions when an animal is present, this provides an opportunity to explore and resolve unresolved losses.
- 6) Reality orientation—an animal can act as a link between a client’s internal fantasies and external reality. The client can live in the here-and-now and enjoy it.
- 7) Pleasure, affection and appropriate touch—it is socially acceptable for men as well as women to touch, caress and hug an animal. Touching an animal is safe and non-threatening. Clients also learn new ways of touching, with gentleness, nurturance and concern for the animals well being.
- 8) Socialization—the safety of an animal provides the catalysts towards social interactions and connections for interpersonal communication.
- 9) Play and laughter—people often laugh and are playful when interacting with animals. This playful expression can be associated with the well being of joy and happiness.
- 10) Anxiety—an animal can divert the client’s attention away from their internal anxiety, allowing the therapist to nurture alternative functional responses to anxiety. An animal can reduce a client’s discomfort (physical or emotional), acting as a distraction, shutting out reactions to aversive stimuli. (p. 3-2)

These mental health applications have been supported by recent AAT research.

A review of significant AAT research revealed that this counseling modality is gaining widespread acceptance and is beginning to be seen as a viable therapeutic intervention. After one AAT session with a certified therapy dog, adult psychiatric inpatient diagnosed with a full range of acute psychiatric disorders showed a reduction in symptoms and disorders (Barker and Dawson, 1998). This pre-test post-test crossover design study examined changes in anxiety ratings of 230 adult psychiatric patients referred for therapeutic recreation before and after attending an AAT session where a certified therapy dog and its owner were present and before and after attending a therapeutic recreation group. This study also found that after therapeutic recreation, patients with mood disorders show statistically reduction in anxiety.

Levels of socialization for Alzheimer’s patients in three long-term care facilities were examined by Batson, McCabe, Baun, and Wilson (1998), their findings indicate that the presence of a miniature Schnauzer certified therapy dog for one 10-minute session increased socialization

for Alzheimer's patients. Socialization variables examined were: smiles, physical warmth, tactile contact, looks, and praise statistically increased when the dog was present as determined by dependent *t*-test analysis.

Additional AAT research findings by Hansen, Messinger, Baun, and Megel (1999) utilized a two-group repeated measures design with thirty-four children two-to-six years of age in a pediatric clinic, research findings indicate that children's distress levels were significantly reduced before doctor's examinations when a certified therapy dog was present. Behavioral stress such as: crying, screaming, physical and verbal resistance, and flailing were assessed using the Observation Scale of Behavioral Distress measure (Jay, Ozolins, Elliott, and Caldwell, 1983). Children's physiological distress (heart rate, systolic, diastolic, and mean arterial blood pressures) was also measured, but no statistical significance was found, researches contributed this non-significance to difficulty in measuring physiological arousal in children of this age.

Anticipatory anxiety in children ages 4 to 11 years of age was examined in a study that explored the effects of a certified therapy dog during one individual play therapy session (Athy, 2005). The experimental group of received one 30-minute play therapy session with the presence of a therapy dog, the comparison group received one 30-minute play therapy session that did not include a therapy dog. This one-time play therapy session with or without the presence of a therapy dog did not produce statically significance results.

To examining the effect of depression levels of elderly males at a veteran's hospital Holcomb, Jendro, Weber, and Nahan, (1997) introduced an aviary to the day room of a Veterans Administration Medical Center. This eight-week repeated-treatment study compared the depression score variation during the presence, or absence of an aviary. Analysis of variance of depression as measured by the Geriatric Depression Index (Yesavage, Brink, Rose, Lum, Huang,

Adey, and Leirer, 1983), indicated statistically significance decrease in depression for men who utilized the aviary. The simple presence of an aviary produced no reduction in depression. Depression was also examined in forty-four adult college students by Folse, Minder, Aycock, and Santana (1994), after the introduction of a 2-year old collie in a directive group counseling session, the introduction of a 7-month collie in a non-directive group counseling session, and a no treatment control group. Analysis of variance of post-test scores of the Beck Depression Inventory (Beck and Steer, 1987) indicated significant differences among some group members. Depression symptoms significantly reduced for the AAT non-directive group when compared to the control group. Post-test scores for the AAT directive group lowered but fail to be statistical significant. Practical and clinical significance was not reported for any of the treatment groups, these more sensitive measures might have revealed some practical and clinical significance for the AAT directive group.

Other research studies examined found AAT served as a source of motivation, increased self-esteem, improved hospitalized children's' mood, improved behavior of autistic children, improved behavior of emotionally disturbed children, and children with conduct disorders. After exploring the relatively limited amount of empirical AAT research Chandler calls for clinicians to conduct evidence-based empirical research, to ..."establish the clinical efficacy of utilizing therapy animals in counseling and related therapies (p. 24)."

Equine Human Bond

Long-term practical experience with horses has provided us with a wealth of information pertaining to interacting with horses. Many believe that because horses demand affective and behavioral consistency, individuals are required to work harder, have greater patience and lack of

an ego (Dorrance, 1987; Irwin & Weber, 1998). It has been speculated that no animal is more sensitive to human moods and non-verbal communication than a horse. The equine human bond, like other bonds, mirrors the inner private world of the individual.

Some of the behavioral characteristics representative of the equine human bond are influenced by the fact that horses are one of the few companion animals that can be ridden. A type of physical sign language between the horse and the individual is required to establish rapport, communication, and understanding (York, 2003). Intimacy between a horse and an individual is not uncommon, long periods of riding, daily grooming and touching, coupled with the horse's well-being that relies on the consistent care and nurturing from another being provides all the ingredients necessary for a powerful attachment. The meaningfulness and healing capacities between the equine and the human contributes to the development of an individual's character.

Equine Assisted Counseling

The emergence of equine assisted counseling has developed as an outgrowth of the healing bond that can develop between animals and humans. This type of animal assisted therapy is in its infancy in terms of research, theory, and practice and, as with any newly developing counseling field, the literature on qualitative observations and case studies is greater than empirical-based quantitative research and theory exploration.

With equine assisted counseling, both individuals and groups interact with horse(s) in order to facilitate the prevention or resolution of emotional and behavioral difficulties with themselves and others (Beck, 2000; EAGALA, 2005). This type of counseling provides a safe and secure environment that nurtures inner healing and encourages optimal growth and development. This is

achieved through the use of traditional counseling processing skills, adventure-based therapy activities and equine-based activities designed to teach individuals about themselves, to allow recognition of dysfunctional patterns of behavior and to help define healthy relationships.

Equine assisted counseling is based on experiential experiences that utilize horse(s) to increase participant's awareness of their thoughts, words, and actions. This type of counseling also provides tools for individuals to better manage their lives and foster positive relationships, while also teaching problem solving communication and social skills. The risk-taking activities associated with working with horse(s) are a conscious decision by clients that is physical as well as emotional in nature. Through the process of risk-taking, clients can test and improve their abilities to control self and their surroundings. This risk-taking behavior tends to produce deeper therapy than working in a traditional counseling setting (Taylor, 2001). According to Hart, (2000) "... the horse offers a peak experience, perhaps unmatched by any other, with a totally unique physical experience while in a joyous social environment (p. 94)."

Equine assisted counseling addresses a variety of mental health conditions and human development needs including: behavior issues, attention deficit disorder, substance abuse, eating disorders, abuse issues, depression, anxiety, relationship problems, and communication needs. Equine assisted counseling promotes both personal exploration of feelings and behaviors while also allowing for clinical interpretation of feelings and behaviors. This type of counseling uses horse(s) to help individuals of all ages and backgrounds become stronger in communication, problem solving, self-confidence, conflict resolution, and relationships (Kersten & Thomas [EAGALA], 2004).

Interacting with horse(s) has been shown to provide client motivation in participating, cooperation, and attending therapy regularly. Interacting and controlling such, a large and

powerful animal empowers clients, increases self-esteem, and increases self-confidence (Chandler, 2005). For abuse victims, having a 1400-pound horse respond to your command in a non-threatening manner provides the ultimate sense of validation of power and control. This provides the abused client a safe medium for regaining control over their life (Bowers & Washburn, 2001). O'Connor (2006) suggests

it is the horse's differences to the socialized man that brings about the successes that the traditional therapist cannot achieve. Horses allow us to unite unconditionally with another living being. We can take our masks off without fear of rejection. The horse has no expectations, prejudices, or motives. All of these traits allow the patient to open up, reveal their selves, and receive feedback from the horse's responses. This is the key to healing: expressing true feelings and interactions with another being to develop a true self-concept. ¶5

The purpose of using a horse in a counseling session is that horses read the client's verbal and non-verbal communication and react to it. In other words, the horse acts as a mirror for the client and the horse's behavior confronts the client's behavior (EAGALA, 2004). Horses are much more effective at confronting behaviors and attitudes than people, partly because of their honesty, but also because of their ability to observe and respond to non-verbal communication (Irwin, 2001). In this type of counseling, the horse acts as a metaphor for relationships. The horse provides the vehicle for the projection of the client's unconscious worries or fears. This provides the client the opportunity to look at what works, what does not work, whose needs are being met and offers the client the opportunity to take responsibility for recognizing how personal actions affect others. The symbolic meaning associated with horse(s) that individuals use to represent strong emotions and feelings that are both difficult to describe and prone to repression have long been recognized by psychoanalysts and social anthropologists (Kruger, Trachtenberg, & Serpell, 2004).

Equine assisted counseling programs are comprised of equine-based activities—including some mounted and others on the ground combined with traditional counseling techniques. The ability to ride a horse provides the client with unique opportunities to explore and address issues that are not possible with other animals or counseling experiences (Chandler, 2005). The foundation of equine assisted counseling is based on a partnership between a licensed mental health professional experienced in equine assisted counseling and an experienced horse professional also experienced in equine assisted counseling. In 1999, the Equine Assisted Growth and Learning Association (EAGALA) were founded to establish and monitor standards and practices for equine assisted counseling. A three-level certification program has been established to ensure professionalism, safety, and quality in the field. To date EAGALA members are located in every U.S. State, as well as Australia, Belgium, Canada, England, Germany, Mexico, New Zealand Scotland, and Sweden, (EAGALA, 2005).

Because all horses are different, they each require different responses for participants to be successful. Through their experience with the horse(s), individuals learn to observe and respond to behaviors of the horse instead of staying stuck in their current patterns of behavior. Group counseling processing techniques used by the counselor after every equine-based activity facilitate participants' ability to relate personal insight into their own lives (Chandler, 2005). Personal insight for an addictions client could result in learning about their attitudes toward their temptations or addictions and, as a result, they can identify the behaviors that can lead to relapse, handling frustration, challenges and fears while also learning healthy communication, problem-solving skills, and solutions. According to Chandler (2005) “the skill of the group process leaders is the key to the success of the program for the participants (p. 112).”

Clinical Efficacy of Equine Assisted Counseling

In an equine assisted counseling program designed for male and female juvenile offenders, Chandler (2005) field book of observations reported highly troubled juveniles display new positive behaviors. She observed the at-risk teens "...reduce and eliminate manipulative behaviors, over-come fears, display courage, develop and practice stress management and anxiety reduction skills, become less self-focused and more other-focused, increase communication skills, support and help each other and lookout for and encouraged one another (p.112)." She also personally observed that working with horses in an equine assisted counseling program increased the juveniles' desire to complete a complex task. In addition, this boost in self-esteem and self-confidence was experienced in just one, three-hour session. Chandler concluded that the juveniles

desire to develop and maintain a positive relationship with a powerful being with an independent mind of its own is a very difficult yet important life lesson of the juvenile...Undoubtedly, there are some therapeutic tasks that are more easily and quickly accomplished and better integrated with the assistance of a therapy horse. (p.120)

MacDonald (2004) evaluated and summarized five equine assisted counseling programs across the United States that examined and measured depression, aggression, self-esteem, internal locus of control, empathy, and loneliness; when all five programs were grouped together no statistically significant outcomes were found. However, when examined independently two programs produced statistically significant results. The first studies findings reported that adolescents between the ages of 13 and 16 reported increased self-esteem and greater internal locus of control, as measured by two different instruments; the Self-Esteem Index (Brown & Alexander, 1991) and the Harter Self-Perception Profile for Adolescents (Harter, 1989), after completing a 14-week therapeutic riding program. In addition, participants reported feelings of being in control of their lives following the equine assisted counseling

intervention. The second study found statistically significant outcomes in self-reports of hostility and global aggression that decreased statistically significantly after treatment as measured by the Self-Esteem Index and the Harter Self-Perception Profile for Adolescents.

These findings are consistent with Bowers & MacDonald (2001) study that found statistically significant decreases in depression following equine assisted counseling. Participant observations yielded increased life skills, improved communication, honesty, respect, awareness of power, and control struggles. A qualitative equine facilitated vaulting study examined by MacDonald (2004) showed improvement in the areas of communication, insight about others, and improved relationship-building skills. MacDonald postulated that the quantitative and qualitative research studies together with examples of how participant's lives are changed after treatment, are powerful examples of the efficacy of equine assisted counseling.

Mann and Williams (2002) study targeted children and adolescents experiencing behavioral disorders, mood disorders, and psychotic disorders in addition to juvenile delinquency issues. This pre-test post-test study utilized a paired sample *t*-test to determine statistical significance from admission to discharge scores. Findings indicated that after completion of equine assisted counseling, 9 out of 11 clients demonstrated statistical significant reduction in overall symptoms, and 2 of the 11 failed to achieve any measurable improvement, as measured by the Youth Outcome Questionnaire (Burlingame, Wells, Hoax, Hope, Nebeker, Konkel, McCollam, Peterson, & Lambert, 1996).

Theoretical Underpinnings of Equine Assisted Counseling

Equine assisted counseling like any AAT is considered an adjunct to existing therapy where the therapist can incorporate the utilization of a horse into their own professional

theoretical orientation (Chandler, 2005). However, equine assisted counseling tends to draw more heavily from some philosophy and principles of four major counseling theories they are: 1) Brief therapy, 2) Gestalt therapy, 3) Reality therapy (EAGALA, 2004) and 4) Adlerian therapy.

Equine assisted counseling uses a brief therapy problem-solving model of change, which follows two basic philosophies of change: 1) the focus on visible behavioral interactions, and 2) the use of purposeful interventions to change the visible pattern of undesirable behavior (as cited in Williams, 1999). Brief therapy like equine assisted counseling focus on action vs. insight — new actions produce change. Expectancy is another principle of both Brief therapy and equine assisted counseling, which focuses on disrupting client's negative expectancies and creating positive expectation, that change is possible (Williams, 1999). Although the client's problem developed in the past, both Brief therapy and equine assisted counseling, focus on how the problem or negative behavior is maintained and experienced in the present. In the Brief therapy approach to counseling, the therapist is an active participant and shares responsibility with the client for initiating therapeutic movement and creating context in which change can take place (Williams, 1999) this philosophy is also a tenet of equine assisted counseling. That is, in both approaches to counseling, the therapist may invite or confront clients to grow and change by creating a context in which change can occur. Underlining principles of both Brief therapy and equine assisted counseling are action-oriented viewpoint that respects the client and emphasizes the client's strengths.

Equine assisted counseling also has strong underpinnings to Gestalt therapy, which is grounded in the assumption that meaning is best, derived and understood by considering the individual's interpretation of immediate experience. Like Gestalt therapy, equine assisted counseling emphasizes the immediate experience—what is happening in the here-and-now and

explores all aspects of the individual's present perception. Perls emphasized 'immediate' experience because this is the experience that is present and can be attuned to and impacted; where the client and counselor explore the individual's current perceptions (Fall, Holden & Marquis, 2004). The client's role in Gestalt therapy and equine assisted counseling is active and focused on the present. The client play a very important role in the therapeutic process that leads to greater awareness of the reality of oneself and how one interacts with their surroundings, including people, animals, and contact with their natural environment. This awareness facilitates natural and spontaneous change.

Equine assisted counseling also uses principles from Reality therapy, both of which use directive techniques, the therapist is an active participant in the counseling process and both have an education-oriented focus. Glasser's focus on the central importance of love and belonging needs (Fall et al., 2004) is facilitated through the relationship clients establish with the horse during therapy. Thomas (2001) describes this relationship as the 'magic' of horses—the magic meaning the ability of horses to heal people (p. 5).” It is the dynamic relationship between the client and the horse that is facilitated by the therapist that produces effective therapeutic outcomes. Reality theory also emphasizes the importance of doing and thinking behavior (Fall et al., 2004) which mirrors equine assisted counseling's focus on what the client is doing in the present and correlating the here-and-now experience into opportunities for the client to understand and discover themselves.

The Adlerian therapy of counseling also is applicable to equine assisted counseling. Specifically, Alders tenant that all individuals move from feelings of inferiority toward a feelings of significance. According to Adler, striving for significance can be broken down into five categories: physical, intellectual, psychological, and social (Fall et al., 2004). Equine assisted

counseling unlike other counseling modalities requires that participants be in a physical relationship with the horse, the other group members, and because equine assisted counseling takes place in the out-of-doors the outdoor environment demands greater physical responsiveness from the participants. Alike to the Adlerian psychological aspect of striving for significance not enough can be said about the power an individual feels when they are successful in getting a 1,200 pound horse to respond to their leadership with this horse who could easily over power them. Adlers striving for significance in the social content is also applicable with equine assisted counseling activities that are designed to build teamwork and group cohesion in order to be successful. Equine assisted counseling activities are designed to re-create life situations the participant may be experiencing. Thus, the group provides an arena for the client to discover and work through social difficulties or issues blocking significance.

Human-Nature Connection

There is something unique about the natural setting that requires examination; perhaps it is the interplay between experiencing life in the out-of-doors and the essence of human existence. Time spent in the natural environment, reading a book, or participating in activities, or riding a bike, or perhaps just enjoying the gentle breeze blowing against your face filled with the scent of freshness and sunshine—just being in nature—nurtures the soul. The out-of-doors provides a special place for the human adventure of body, mind, and spirit—it provides an opportunity for mindful ways of being, for reflection, for peace. Time spent in the natural environment contributes to an individual's sense of being and creates connections between the self and the world.

Life experiences in the natural environment has been shown to promote positive

emotions; hence, the human affiliation with nature is an important element to our well-being. Keller (1996) postulated that the human meaning associated with the natural setting reflects a range of emotional, physical, and intellectual expressions. Quality of life can be defined and measured through many different realms, Keller identified and defined the various values associated with the human-nature connection; such as the *naturalistic value* which illustrates the many satisfactions individuals receive from direct exposure, experience, and interaction with wildlife and nature; and the *aesthetic value* which is associated with the intense pleasure individuals receive from the physical beauty of nature; and the *symbolic value* reflecting the human tendency to use nature for thought and communication.

The outdoor setting provides intrinsically relaxing and pleasing surroundings. The tranquil enjoyment and sense of pleasure connected to the natural setting is attributed to its association as a place that is safe, rich in resources, and is comfortable. Many have attributed the sense of peacefulness and spirituality evoked by the aesthetic and sensory experiences of nature; its meadows, its waterfalls, its flowers and its trees contribute to why nature has been associated with positive moods, cognitive tranquility, and physiological relaxation (White & Heerwagen, 1998).

The natural environment provides a potentially powerful adjunct to the mental health of both the client and the treatment providers. Nature stimuli have been shown to elicit positive emotional states, behavioral relaxation, and reduction in stress levels (Kahn, 1997; White & Heerwagen, 1998). As a counseling modality that takes place in the out-of-doors, equine assisted counseling can only benefit from the powerful psychological and physical connection clients experience from being in the natural outdoor environment. White and Heerwagen (1998) posed an important question to the mental health community

would clinical settings rich in nature stimuli promote more positive feelings among physicians, therapists and patients, and reduce the amount of time needed to develop trust? Would such settings help patients feel less anxious and, perhaps, more readily able to disclose painful or shameful memories? (p. 189)

Building connection to the natural environment can only enhance the human existence, providing healthy opportunities that define personal identity.

Implications for Conducting Counseling Outdoors

Once the counseling session steps outside the traditional four walls of the counseling room to the wide expanse of the great outdoors, the very act of counseling undergoes a delicate shift that is hard to define but is quite real. This phenomenon holds true if the counseling session takes place in a horse arena, on the side of a mountain, or sitting on a bench in a beautiful garden.

Being outdoors demands greater client responsiveness, which influences the holistic development of the client because the outdoor environment offers the stimulation of hands-on learning/experiencing and sometimes an atmosphere of greater risk. The outdoors is a natural place that creates unique opportunities that change the nature of the client's reactions to relationships with others, with animals, and with their world. Counseling in the outdoors also creates situations in which the counselor and client are more attuned to the relational elements of the counseling process. This is partly due to the spontaneous reactions to unpredictable moments that can occur while counseling outdoors.

Being in a place that is a little unfamiliar or a little uncomfortable and that requires natural reactions to unpredictable moments produces pure engagement, one that the counselor can gently guide the client through while creating an intense connection between the client and the counselor without the four walls and the staleness of the traditional counseling room.

Outdoor counseling also requires counselors to allow direct experience to take over; this is possible when the counselor creates an environment of trust and support. There is no denying that outdoor counseling is challenging, it is far from predictable and at times is counseling in the realm of the unpredictable. Confronting challenging situations, predicaments, and difficulties are powerful adjuncts to the counseling process. How a counselor guides a client through those moments and supports them during that time is what defines the power of counseling in the natural environment (Foran, 2005).

Adventure-Based Counseling

Adventure-based counseling programs engage individuals in a variety of safe and unique experiences that help them learn about themselves, their interactions with others, and discover new potential within themselves (Bruyere, 2002; Glass & Shoffner, 2001; Glass & Myers, 2001; Golenberg, Klenosky, O'Leary & Templin, 2000; Neill, 2003; Russell, 2001). Typically, adventure-based therapy uses the outdoor context largely because of the excellent psychological assessment and treatment opportunities that the environment provides, along with the numerous metaphors that the outdoors encapsulates for overcoming obstacles (Russell, 2001). Adventure-based therapy also incorporates initiatives and planned problem-solving exercises that present obstacles, require clear communication, teamwork, and creativity to be successful (Bruyere, 2002; Glass & Shoffner, 2001).

Group therapy is the major counseling modality used in adventure-based therapy because of its natural affinity for strong peer identification and affiliation (Glass & Shoffner, 2001). Outdoor group activities promote tremendous amounts of group interaction and offer occasions for both individual and group problem solving. Activities are tailored to provide therapeutic

processing opportunities, where group members share their experience and how this could be applied to another setting (Golenberg et al., 2000).

The evolution of adventure-based therapy in the United States can be traced to the Outward Bound programs in the late 1960s and early 1970s; giving rise to the outdoor adventure therapy industry in the U.S. that now boasts over 500 programs (Russell, 2001). According to Glass and Myers (2001), adventure-based therapy has proven especially beneficial with delinquent at-risk children and adolescents. Especially in the areas of decreasing anxiety, improved self-concept, and increased positive attitudes. Research suggests that outdoor programs can, in fact, empower youth to overcome obstacles through the acquisition and practice of skills, such as problem solving and self-discipline. Bruyere (2002) emphasizes that adventure therapy interventions provide the diversity necessary to address the equally diverse development, demographic and character differences in the juvenile offender population. He also emphasized the value of informal environment—creating critical connections with adolescents who typically do not thrive in formal situations.

Neill (2003) summarized the quality empirical research in the adventure-based therapy literature, while also conducting a meta-analysis of the therapeutic effects of adventure-based therapy. His meta-analysis findings indicate that outdoors education has a small (.3) to medium (.5) effect size on behaviors such as self-confidence and internal locus of control. His findings found that the most effective adventure-based programs were longer, participants tend to be adults and programs conducted by Outward Bound produced the best therapeutic results. He also noted “...the adventure therapy field is notably undermined by a lack of well-organized, definitive, and widespread knowledge about the effectiveness of different types of adventure therapy programs (p. 317).” This finding was echoed by Russell (2001) who stated that

the lack of a consistent and accepted definition is lacking. Numerous definitions have been presented in the literature making it difficult to compare and replicate research studies on wilderness therapy activities, processes, and outcomes from one program or setting to the next. (p. 70)

Taken as the whole, adventure-based therapy can be seen as an outdoor program that facilitates improvement of self-confidence, self-esteem, insight about self, insight about others, and improvement of interpersonal skills through structured activities that emphasize trust, goal setting, challenges, and problem solving. Additionally, Berman and Davis-Berman (2001) found that

there is consensus among the authors that the practice of adventure (or wilderness) therapy is an intentional process, consistent with theory; that it has goals, organized means to achieve these goals, and has measurable outcomes practiced by skilled therapists trained in traditional psychotherapy methods, who are also trained in the adventure activity they employ. (p. 69)

In-School Guidance and Counseling

The evolution of school-based counseling stretches over eight decades from the 1920s to present day. The early efforts of school counselors focused on vocational guidance delivered by teachers appointed by their schools. The 1930s called for the unification of programs by establishing an organizational framework, developing standards and the examination of identifiable outcomes of guidance and counseling programs (Gybers, 2004; Gybers & Henderson, 2001). School counseling and guidance programs progressed steadily over the years from an approach of mostly vocational and career guidance focusing on job preparation—1920s to 1950s— to a psycho educational support and reactive service for students at-risk of academic failure—1960s to 1980s (Gybers & Henderson, 2001; Sink, 2002).

Societal and individual changes from the 1980s to present day brought educational reform that called for accountability in the school guidance counseling programs (Gybers &

Henderson, 1994). As developmental guidance moved to the forefront of school-based counseling, schools developed guidance curriculums that included career education, psycho educational, and psychological foundations in one guidance curriculum package (Baker, 2001; Gybers & Henderson, 2001).

The American School Counseling Association (ASCA) (2003) National Model: A Framework for School Counseling Programs, provides schools today with a framework that allows school counselors to direct services to all students, while also supporting the school's overall mission of promoting academic achievement, career planning, and social development. Today's school-based counseling programs provide support for the student by address their educational, emotional, and behavioral needs, consequently making a measurable impact in the everyday life of the student (ASCA, 2006a).

Elementary School Counseling

To be a successful elementary student the child must perform academically, socially and behaviorally. These demands are often difficult for the young developing student. Due to the continuously developmental needs of the elementary school student, the school counselor plays an integral roll in the shaping of the child's mental health (ASCA, 2003). Early identification and intervention has been shown to interrupt the negative course of academic and behavior problems (Daly, Douhon, Witt, 2002; MHC, 2003; NIMH, 2001). During this time, the student begins to develop their academic self-concept and their self-identify, plus the student begins to develop social skills as well as character values. The elementary school years are also a time when students acquire attitudes towards school, peers, and family. According to the American School Counseling Association (2006b)

the knowledge, attitudes and skills that students acquire in the areas of academic, career and personal/social development during these elementary years serve as the foundation for future success.... elementary school years set the tone for developing the knowledge, attitudes and skills for children to become healthy, competent and confident leaders. (¶ 4)

The elementary school counselor helps students acquire the skills necessary to be successful both academically and emotionally. This combination puts the students on the road to becoming productive members of society.

Middle School Counseling

Middle school students have to manage the drive to make good grades, contend with peer pressure, school violence, drug and alcohol temptation, and the transition from elementary to middle school. The adolescent student is also experiencing biological puberty changes, social and educational changes as well as peer and family transitions (ASCA, 2006c; Wigfield, Lutz, & Wagner, 2005). These challenges and changes can influence the adolescent student's academic motivation, academic success, and self-concept. Along with academic strategies, middle school counselors must address the complex social transition students experience such as responsibilities in the new middle school environment, rules, greater personal responsibility, and academic expectations (Wigfield, Lutz, & Wagner, 2005). Because of this, middle school counselors are called on to provide a supportive caring atmosphere where the student can achieve academic success, explore their emerging self, and develop positive social skills (ASCA, 2006c; Wigfield, Lutz, & Wagner, 2005). American School Counseling Association executive director Richard Wong (2006a) stated "School counselors are the first line of support for students. Students cannot achieve when they cannot cope with social and emotional problems. School counselors can help guide students in their journey through childhood and adolescence" (¶ 6).

At-Risk for Academic Failure

Meeting the mental health needs of at-risk students is challenging. According to Needman, Crosnoe and Muller (2004) academic failure has consequences not confined to the formal school years, such as: 1) failure is an indicator of potential dropout, 2) high school dropouts, even those with a GED, have substantially lower adulthood wage earnings, 3) failure is a determinant of status attainment and adult well-being, 4) at-risk students are less likely to graduate from high school and less likely to go to college, and 5) academic failure leads to feelings of social inequality.

In Sink's (2005) examination of academic development and learning, he also found that academic failure could: 1) negatively affect the parent-child relationship, 2) contribute to unsuccessful transition from childhood to adulthood, 3) the student's lack of motivation to keep focused on academic achievement, 4) the student's lack of self-regulation tends to develop maladaptive academic-related self-regulatory beliefs, and 5) school-related stress, associated with academic failure, can transition into depression and anxiety. Undoubtedly, academic failure has implications for larger social emotional problems.

Brain research on the emotional intelligence of children and adolescents has linked difficulties in learning with students who are struggling with emotional issues (Goleman, 1995). Because school counselors understand the importance of helping students in managing emotions that contribute to the students overall learning potential, school counselors are very important members of today's educational team. They help to ensure that students become productive, stable adults of tomorrow, by addressing the student's academic success, social emotional development, and career development (ASCA, 2003; Gybers, 2004; Gybers & Henderson, 2001). According to the American School Counseling Association (2006a)

Today, counselors are addressing myriad personal and social issues that can become barriers to learning...a recent study showed that school counselors are spending more than half of their time addressing students' mental health issues. The pressure to make good grades, coupled with peer pressure, school violence, drug and alcohol use, and bullying, places today's students at-risk of achieving academically and developing socially. (¶ 1)

Increasingly over the years, the school has been looked to as the child and adolescents' primary, and often only, resource for mental health services (Slade, 2003). School counseling services affect the student's level of success, such as: grades, retention, attendance, and behavior issues. If the students' emotional and behavioral problems are not addressed, they can result in barriers to academic success (ASCA, 2003; MHC, 2003; NIMH, 2001; Surgeon General, 2000).

However, the school systems are struggling with meeting this ever-increasing demand for mental health services. Overwhelmed, under budgeted and understaffed schools lack the resources to meet this escalating need. Increased mental health funding in the schools has been called for by the U.S. Surgeon General (2001) and The President's New Freedom Commission on Mental Health Final Report to the President (2003) citing that by providing students with greater school-based mental health services and by early counseling intervention would greatly reduce the barriers to academic success, thus, preventing more serious psychological concerns in later life.

Curriculum Based Guidance in the Schools

School guidance curriculum as described by ASCA (2003) and Gysbers & Henderson, (1994) consists of organized, developmentally appropriate lessons that teach awareness, knowledge, social skills, life skills, and study skills to assist students in their day-to-day life and future plans. The guidance curriculum is presented in a structured systematic format in K-12 classrooms utilizing group activities. American School Counseling Association (2003) and Gysbers & Henderson (2001) suggest that a comprehensive guidance program contain four

components: guidance curriculum, responsive services, individual planning, and system support. The responsive services identify competencies for the student to master that have been identified by the school district. The individual planning consists of traditional duties of the school counselor. The system support area includes administration and teacher support needed to deliver the guidance and counseling program.

Classroom guidance activities allow the school counselor to reach a large number of students with minimal time expenditures. ASCA (2003) found that school counselors without a organizational framework for guidance such as their National Model, spent most of their time responding to the needs of a small percentage of the student body. Other benefits of classroom guidance include utilizing the groups' influence on learning, acquiring new skills, and since guidance curriculum is developmentally driven, a first grader will receive guidance appropriate for their age (such as activities on how to get along with others), while middle school guidance activities might center around drug and alcohol use or peer pressure.

According to Gysbers & Henderson (2001) the principles and assumptions that shape guidance programs is the relationship between guidance programs and other educational programs, plus the comprehensive, balanced nature of the program contributes to the student's overall development. They also stated that the underling rational for guidance "is to help students develop their potential through provision of development assistance for all students and of specialized assistance for individuals with unique needs" (¶25).

Kid's Connection.

This is a school-based guidance curriculum program developed by Rainbow Days Inc. that is designed to develop basic life skills and to change attitudes through a cognitive-behavioral

experiential modality (Rainbow Days, 2006). This program has a scope and sequence for student competency development. The curriculum is taught in modules with planned lessons and activities for small groups of students (6 to 12 members). Rainbow Days Inc. (2006) stated that the curriculum-based small support groups changes the attitude and intentions of the students in that group, through a variety of interactive activities designed to strengthen social skills and interpersonal development. The prevention framework adopted by Kid's Connection is based on a prevention model, matching interventions to the target group. The program employs modeling, teaching appropriate behavior, and helping students to learn behavior management, and conflict resolution skills. According to Rainbow Days Inc. (2006) the guidance program explores

topics such as feelings, dreams and goals, friends, peer pressure and making healthy choices are explored by small numbers of children or youth in private setting. The small numbers provide increased opportunities for bonding; more time for interactive activities and discussion; more time for individual and small group skills; more opportunities for individual risk-taking in safe, supportive environments; and group confidentiality to promote trust and introspection. (¶ 2)

Areas identified for curriculum-based support groups by Kid's Connection include self-awareness and life management skills; health awareness and self-protection skills; relation building and general social skills. This program's target population is male and female children ages 4 to 17 that have been identified as at-risk (Rainbow Days, 2006).

The curriculum-based guidance program suggested by the Texas Education Agency (2004) reflects the same tenets as the Kid's Connection program. The program structure of Kid's Connection also includes the same four program components of the ASCA (2003) *National Model: A Framework for School Counseling Programs*, including what Gybers & Henderson (1994) suggest be used when developing a guidance program. In 1999, Rainbow Days Inc. was selected as an Exemplary Substance Abuse Prevention Program by the Center of Substance

Abuse Prevention and as a Top 100 Best Practices Program by the U.S. Department of Housing and Urban Development (Rainbow Days, 2006).

Summary

In summary, the outlook for children and adolescents mental health concerns is paramount and growing daily. Children and adolescents with mental disorders are at-risk for academic failure and/or dropping out of school. Because mental health plays a critical role in children and adolescents' ability to learn, be successful, and contribute to society, meeting their mental health needs is very important. The long-term consequences of untreated childhood mental health disorders are costly both economically and socially—our country's future depends on the unwavering strength and mental health of our youth.

The President's New Freedom Commission on Mental Health (2002) vision for children's mental health calls for a broad array of services and supports. The non-traditional equine assisted counseling approach to mental health is an example of a counseling intervention that goes beyond the clinical treatment of disorders, and harnesses the strength of the individual to facilitate the prevention or resolution of emotional and behavioral difficulties that the president is advocating.

The current literature implies life experiences in the natural environment have been shown to promote positive emotions; hence, the child and adolescents' interaction with nature is an important element to their well-being. Adventure-based counseling programs have been shown to engage individuals in a variety of safe and unique experiences that help them learn about themselves, their interactions with others, and discover new potential within themselves.

The role of human-animal interactions has been postulated to promote wellness and prevent illness.

Equine assisted counseling provides a safe and secure environment that nurtures inner healing and encourages optimal growth and development. Equine assisted counseling is an effective treatment modality, however there is limited empirical-based research on this relatively new adjunct to counseling. To move the field of AAT forward, empirical research identifying what constitutes effective treatment for children and adolescents is necessary.

CHAPTER 2

METHODS AND PROCEDURES

This study utilized a pretest-posttest quasi-experimental comparison group design to examine and compare the efficacy of equine assisted counseling, a developmental responsive mental health intervention, on the externalizing, internalizing, maladaptive, and adaptive behaviors of elementary and middle school students who are at-risk of academic failure. The experimental treatment group received equine assisted group counseling once per week for 12-weeks, and the comparison treatment group received 12-weeks of in-school curriculum group guidance/counseling once per week. To examine the levels of the participants' positive and negative behavioral responses to the experimental factor (equine assisted group counseling), a repeated measure design, was employed.

This chapter delineates the methods and procedures that were utilized to carry out this study. Included in this chapter are the definitions of terms, research hypotheses, instrumentation, participation selection, data collection, treatment, and analysis of data.

Definition of Terms

- Experimental treatment group – Equine assisted counseling: Equine assisted counseling is a field of counseling in which horse(s) are used specifically as a tool for emotional growth and learning. Programs are composed of equine-based activities – including some mounted and others on the ground – combined with traditional counseling techniques, for a detailed description of all the activities used during the 12-week treatment intervention, see Appendix C. The cornerstone of equine assisted counseling is a partnership between a licensed mental health professional and a dually credentialed equine professional. Equine assisted counseling promotes

both personal exploration of feelings and behaviors and allows for clinical processing and/or interpretation of feelings and behaviors. At the same time, it may provide individuals with tools to better manage their lives and may foster positive relationships while teaching problem solving skills that may encourage individuals to think of resolutions to problems and try different approaches. Equine assisted counseling may also encourage individuals to try new ideas whether they work or not. This interaction cultivates relationships between individuals, horse(s), and the trained mental health therapist to increase each participant's awareness of their thoughts, words, and actions.

- Treatment team – Equine assisted counselor and equine assisted specialist: As a team member in equine assisted counseling, the counselor promotes the emotional safety of the client. Safeguarding the clients' confidentiality is one of the biggest challenges in equine assisted counseling, the counselor always keeps confidentiality in mind while conducting the session by choosing a facility that provides privacy, posting signs, and by having a waiting area out of sight of the public areas of the ranch. The therapist is also responsible for the facilitation of the clinical processing element of each session, exploring failures, frustrations, discouragements, and successes. The therapist and the equine specialist work together to plan, promote, and maintain a safe therapeutic treatment session. All mental health professionals are licensed, and require specialized training in equine assisted counseling, which can be obtained through the EAGALA organization.

As a team member in equine assisted counseling, the equine specialist has several qualities, which enable him or her to work effectively with a licensed mental health professional. The role of the equine specialist is to promote safety – the safety of the client and the safety of the horse(s) throughout the entire session. The equine specialist is primarily responsible for

reading the horse's body language, ensuring that the horse does not feel threatened and maintaining an environment that is not stressful to the horse and safe for the client. The equine specialist therefore must be knowledgeable in equine behavior, equine language, herd instinct, and equine culture. Furthermore, an equine specialist must also understand equine assisted counseling as well as horse behavior. All equine specialists have extensive professional experience and knowledge, and require specialized training in equine assisted counseling, which can be obtained through the EAGALA organization.

- Comparison treatment group – In-school curriculum guidance/counseling: The school-counseling model for guidance consists of structured activities specifically designed to address life-skills. It involves the acquisition of knowledge and skills, with focused attention on selected aspects of individual decision-making, in response to school and social demands (Gysbers & Henderson, 1994).

The curriculum used for this study is titled Kid's Connection: A Support Group Curriculum for Children Ages 4 through 12 and is a program of Rainbow Days Incorporated (1998). The program utilizes support groups to explore developmentally appropriate activities designed to reduce risk factors and enhance positive factors with at-risk children and adolescents.

- Externalizing behaviors: For the purpose of this study, the Behavior Assessment System for Children (BASC) (Reynolds & Kamphaus, 1992) will be used to define externalizing behaviors. The Externalizing Problem Composite scale of the BASC operationally defines externalizing behavior problem into three categories; conduct problems, aggression, and hyperactivity (Reynolds & Kamphaus, 1992). Externalizing behaviors will also be described as the outward expression of internal conflict.

- Internalizing behaviors: For the purpose of this study, BASC will be used to define

internalizing behaviors. The Internalizing Problem Composite scale of the BASC operationally defines internalizing behaviors into three categories; anxiety, depression and somatization (Reynolds & Kamphaus, 1992). Internalizing behaviors will also be known as the inward expression of emotions and experiences.

- Positive behaviors: For the purpose of this study, the Animal Assisted Therapy-Psychosocial Session Form (AAT-PSF) (Chandler, 2005) will be used to define positive behaviors. The AAT-PSF operationally defines positive behaviors into twenty-one categories: interaction, cooperation, assertive, attention to task, follows directions, respectful, integrity/honesty, leadership, teamwork, eye contact, expression of feelings, expression of thoughts, expression of needs, empathy, sharing, helpful, problem solving, self-esteem, self-confidence, insight about self, and insight about others (Chandler, 2005).

- Negative behaviors: For the purpose of this study, the AAT-PSF will be used to define negative behaviors. The AAT-PSF operationally defines negative behaviors into thirteen categories: guarded, unreceptive (closed), manipulative, argumentative, deceptive, fidgety/hyperactive, verbally aggressive, physically aggressive, passive, withdrawn, belligerent, angry, and sad or depressed (Chandler, 2005).

- Maladaptive behaviors: For the purpose of this study, BASC will be used to define maladaptive behaviors. The clinical scales of the BASC operationally defines maladaptive behaviors into fourteen scales: Aggression, Anxiety, Attitude Toward School, Attitude Towards Teachers, Attention Problems, Atypicality, Conduct Problems, Depression, Hyperactivity, Learning Problems, Locus of Control, Sense of Inadequacy, Somatization, and Withdrawal (Reynolds & Kamphaus, 1992).

- Adaptive behaviors: For the purpose of this study, BASC will be used to define adaptive

behaviors. The Adaptive scales of the BASC operationally defines adaptive behaviors into eight scales: Adaptability, Interpersonal Relations, Leadership Skills, Relations with Parents, Self-Esteem, Self-Reliance, Social Skills, and Study Skills (Reynolds & Kamphaus, 1992).

Research Hypotheses

The following null hypotheses were formulated to examine how effective equine assisted group counseling is in reducing at-risk behavior and increasing positive prosocial behavior in children and adolescents. The researcher desired to reject the null hypotheses 1, 3, and 4 to prove the efficacy of equine assisted counseling with the population measured.

1. There will be no statistically significant difference between the pretest and posttest score on the Behavior Assessment System of Children (BASC) for the experimental treatment group for the reports and scales listed in the table below.

Table 1

Research Hypothesis 1

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

- There will be no statistically significant difference between the pretest and posttest score on the Behavior Assessment System of Children (BASC) for the comparison treatment group for the reports and scales listed in the table below.

Table 2

Research Hypothesis 2

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

- There will be no statistically significant difference between the pretest and posttest score on the Behavior Assessment System of Children (BASC) for the experimental treatment group when compared to the comparison treatment group for the reports and scales listed in the table below.

Table 3

Research Hypothesis 3

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

- There will be no significant difference for the Animal Assisted Therapy—Psychosocial Session Form scores across the 12 sessions for the experimental treatment group.

Instrumentation

Behavior Assessment System for Children (BASC)

Behavior Assessment System for Children (BASC) Self-Rating Scale (SRS), Parent-Rating Scale (PRS), and Teacher-Rating Scale (TRS) was used to evaluate treatment outcomes of the child and adolescent’s functioning at the beginning and end of treatment. Participants received the Self-Report, their parents received the Parent-Report, and their teacher/counselor received the Teacher-Report version of the BASC assessment.

The BASC assessment consists of various behavioral scales. An Index scale is used to define the persons’ level of functioning and reflects the overall level of behavior. Composite scales comprise the next level of scales. Composite scales are helpful for summarizing

performance and for making broad conclusions regarding different types of adaptive and maladaptive behaviors. Composite scales represent behavior dimensions that are distinct but not independent; problem behaviors often occur in concert rather than individually. Individual scales assessing both adaptive (the adaptive scales) and maladaptive (the clinical scales) behaviors, individual scales are perhaps the most powerful measure for looking at specific behaviors (Reynolds & Kamphaus, 1992). The Adaptive Scale measures positive behaviors and the Clinical Scale measures maladaptive behaviors.

This assessment was chosen for its reliability and validity with a mean correlation of approximately 0.6. The BASC has a high internal consistency and test-retest reliability, with scores in the 0.08s to 0.09s, indicating a high degree of reliability (Reynolds & Kamphaus, 1992). The instrument was standardized on a large national sample that is representative of the general population of U.S. children. This assessment also has been shown to be reliable with both genders. In her review of the BASC, McCarthy (2003) noted that the instrument line items are derived from empirical measures, relevant literature, and collection of clinical experiences.

Animal Assisted Therapy—Psychosocial Session Form

The Animal Assisted Therapy—Psychosocial Session Form (AAT-PSF) was developed by Chandler (2005). This instrument is designed to track the individual's progress in a consistent and measurable format; it also offers the clinician the ability to determine where a statistically significant shift occurred between sessions. This instrument uses a repeated measure for taking session-by-session assessment of the client's positive and negative behaviors using a six point Likert scale, based on direct observation of the therapeutic team.

Participant Selection

This study was conducted in one school district in the Southwest United States, where volunteer research participants were recruited from third through eighth grade students, ranging in age from 8 to 14 years, that were referred to school counseling services by their teachers, counselor, or parent/managing conservator for a variety of academic and social concerns. Letters were sent to all counselors by the primary researcher and the Director of Guidance and Counseling for the school district, explaining this research opportunity and solicitation schools volunteer participation. This letter explained:

- 1) Purpose of the study—the research project will assist in providing empirically supported evidence that equine assisted group counseling can aid children and adolescents in improved self-esteem, self-control, and self-responsibility—translating to improved academic success.
- 2) Responsibility of the school counselor—weekly accompanying participants to ranch setting for equine assisted counseling, and/or conducting weekly In-school curriculum group guidance/counseling.
- 3) Time commitment necessary to complete pre-test and posttest assessments, by the students, teachers/counselor, and parents who choose to participate. The primary researcher and the director of guidance and counseling for the school district will then send out a second letter to parents of students whose school has chosen to participate.

The school counselor informed parents/managing conservator of the research study, should they want their child to participate in this study. The criterion for participation included students who exhibit behavioral issues, learning difficulties, or social adjustment concerns. Both the parent/managing conservative and the student agreed to participate in either a 2-hour equine assisted counseling (experimental group) for 12-weeks or an 1-hour in-school curriculum group guidance/counseling (comparison group) for 12-weeks. Participants who meet the specified criteria, which assent to participate (Appendix A) and whose parent/managing conservator consent (Appendix B) to participate and complete the pre-testing BASC and whose teacher/counselor complete the pre-testing teacher BASC, were included in the study.

Prior experience with animals was not a prerequisite for this study. Furthermore, participants were excluded from this study for the following: 1) any participant who was currently receiving counseling, and 2) any participant that did not speak English. Approval to use human subjects and animal subjects was received from the University of North Texas Internal review Board on January 3, 2005.

Volunteer students were asked to participate in this study as part of normal school counseling services. Participants indicating their desire to participate in the study were assigned, by school and according to grade level, to either the experimental treatment group—equine assisted group counseling ($n=126$), or to a comparison treatment group—a in-school curriculum group guidance/counseling ($n=38$). Over the course of this yearlong study of the 205 students who volunteered to participate, 164 completed the study, and 41 dropped from the study. The demographic information for the 164 students in the study is provided in Table 4. Demographic information included gender, grade level, and ethnic breakdown of all students in the study. This study’s ratio of males to females consisted of two-thirds male to one-third female; this percentage is typically found in most child psychotherapy research (Bratton, Ray, Rhine, & Jones, 2005).

Table 4

Demographic Information

Gender		Ethnicity				Grade Level	
Male	Female	Caucasian	African American	Hispanic	Other	Elementary School	Middle School
All Participants $n=164$							
102	62	136	12	11	5	86	78
Experimental Treatment Group $n=126$							
68	58	111	7	5	3	64	62
Comparison Treatment Group $n=38$							
24	14	25	5	6	2	21	17

Data Collection

A pretest-posttest comparison group design and a repeated measure analysis (experimental group only) were used to carry out the objectives of this study. Participants, teachers, and parents were asked to complete the Behavioral Assessment Scale for Children (BASC) before the start of this study. Following the 12-week treatment intervention period, the post-test BASC was administered. Before the study, parents and teachers were asked by the school counselor to complete the Behavior Assessment Scale for Children (BASC) instrument. The participants completed the Behavior Assessment Scale for Children (BASC) instrument during their first session. At the end of the 12-week treatment period, the post-test BASC was administered to the experimental and comparison groups participants, parents/managing conservators, and teachers following the procedures outlined for the collection of pre-test data. Data collection was conducted at the beginning and end of the fall and spring school semesters.

The Animal Assisted Therapy—Psychosocial Session Form (AAT-PSF), was completed after every equine assisted counseling session by the therapeutic treatment team. If the entire therapeutic team was unable to collectively convene to complete the AAT-PSF, then the mental health professional of the team was responsible for the completion of the AAT-PSF.

Maintaining Confidentiality

Any information the participant disclosed verbally, written or expressed, was not, without permission, divulged to others in ways that are inconsistent with the understanding of the original disclosure. Information provided by participants was used for research purposes only. In addition:

- 1) Codes were substituted for identifiable data with only the researcher having the master list.

- 2) Paper records were placed in a secured location.
- 3) Identifiable data was limited to the research team.
- 4) Paper records were destroyed after the results are coded and utilized for research purposes.

This researcher intends to publish the research results and utilize the results when presenting at future professional conferences; however, no reference will be made that releases identifiable data about the participating subjects in the study.

Treatment

Subjects who met all specified criteria, ($n=205$) were assigned on the basis of what school they attended, and by grade level to either the experimental treatment group, equine assisted group counseling, or to the comparison treatment group, a in-school curriculum group guidance/counseling. The students were given the opportunity to refuse participation at any time during the study. Adjustments were made to weekly sessions to accommodate the district's academic school calendar, such as during school mandatory testing, school holidays, and closings. In addition, makeup sessions were made available for participants due to school early release days. Parental consent and child assent were collected before the start of any treatment group.

Experimental Treatment Group

The equine assisted group counseling consisted of 2-hour weekly sessions for 12-weeks in a ranch setting. Treatment groups consisted of six to eight people. Treatment-provider teams consisted of one master' level mental health counselor experienced in equine assisted counseling and one experienced equine professional also experienced in equine assisted counseling.

Transportation to the ranch for morning sessions was provided by the parent/guardian and the school district provided bus transportation from the ranch to the school. The opposite applied for afternoon sessions. Per school district policy, one employee (usually the school counselor) of the school whose students were participating in the study remained at the ranch for the duration of each session.

The 12-week equine assisted counseling treatment plan consisted of group interactions with horse(s) in order to facilitate the prevention or resolution of emotional and behavioral difficulties with themselves and others. This was achieved through the use of traditional talk therapy, psychotherapy processing, adventure-based therapy activities and equine-based activities designed to teach participants about themselves, to allow recognition of dysfunctional patterns of behavior and to help define healthy relationships. Heavy emphasis was placed on the ongoing and post-intervention clinical processing with participants during each session.

This program was designed as a progressive 12-week experiential counseling experience, with each session building on the other. For a detailed description of all the activities used during the 12-week treatment intervention, see Appendix C. The first session contained an introduction to the ranch setting, introduction to horse safety, and an assessment of the group. Every session included the clinical processing of what the participants had experienced and linking that experience to their own unique personal lives—school, friends, home, and family.

Session 2 focused on adventure-based therapy activities and introduced the participants to the horse's world such as, the nature of horses, horse communication, horse body language, horse body parts, and in-depth horse safety. The theme of safety continued throughout the 12-week program. It was during this second session that the participants had personal interactions with a horse(s) through an activity called Catch and Release (EAGALA, 2004), where teams of

two are handed a halter and lead rope and asked to go into the pasture and halter a horse to their best ability. Members of the therapeutic treatment team also accompanied the participant teams into the pasture, to address safety concerns, and to process what is taking place during the activity. Stopping the activity too much was avoided so as not to interrupt the process. The ratio of participants to therapeutic team members was 4:2 or 50 %.

As the sessions progressed, horse interaction activities continued, participants would catch and lead various horses, paying attention to not only what the horse was communicating to them, but also to what they were communicating to the horse (both verbally and non-verbally) and building a relationship with the horse. Participants also learned how to groom a horse, including picking the horses hoofs. During this time, the treatment team focused on horse-human actions, interactions and applying these experiences to the participant's life.

Team-building adventure-based therapy activities during this stage of the counseling process were also important and were ongoing. Some activities included a horse and some did not, such as Marshmallow River (Rohnke & Bulter, 1995), *Bull Ring* (Cain & Jolliff, 1998), *One True Path* (Cavert, 1999) and Horse and Rider (Bond, personal communication, April 26, 2005). These first three team-building experiences were designed to encourage creative thinking, cooperation, leadership, and integrity. Whereas Horse and Rider gave the participants real-life experience of what it is like to be a horse who is wearing a bit and reins and confused as to what the rider was trying to communicate and as a rider who also experienced the same lack of communication leading to frustration. This activity served to enhance communication and build empathic responses. Thorough clinical processing after each activity was a critical element to this counseling experience; participants were encouraged to explore how to apply what they learned and experienced to problems, stressors, and issues in their everyday life.

Equine-based activities such as Equine Billiards (EAGALA, 2004) and Life's Little Obstacles (EAGALA, 2004) are ground activities involving a horse(s). Life's Little Obstacles asked the participants as a group to get a horse to walk over a jump placed in the arena. The jump can represent any challenge that the group is facing, such as school testing, making friends or deciding how to deal with bullies. It doesn't sound too difficult until the rules of the activity are given: no physical touching of the horse, no halters or lead ropes, no bribing and no verbal communication with each other. The use of a horse provides metaphors and through the processing of how the group tries to accomplish their goal leads to intense discussions and insights. These types of equine-based activities are especially beneficial because horse(s) react to the participant's body language, giving incredible and immediate feedback to what the individuals are communicating verbally and non-verbally. Participants learn that if they want to change the horse's behavior, they have to change their own behaviors, thoughts, and feelings.

The final phase of the 12-week, treatment plan provided the participants with the opportunity to ride bareback and eventually ride with a saddle and reins. Riding bareback required the participant to stay focused, to read and feel the horse's body language and to trust and communicate to their partner who is leading the horse. In preparation for riding, each participant had to first catch and halter their horse in the pasture, then bring the horse up to the barn where they were responsible for the grooming and saddling of their horse. It is through the commutation of these activities that the participants challenged their inner fears and inadequacies, and embrace their strengths.

Comparison Treatment Group

Kid's Connection, a program of Rainbow Days, Inc. was utilized as the curriculum

school-based group guidance treatment. Each comparison group received 1-hour weekly sessions for 12-weeks and groups consisted of six to eight participants. The school counselor for each participating school, had been previously trained in a two day training to facilitate this program, conducted each session in either their office or classroom. The Kid's Connection program was at the time of this study being used in all the schools in this school district.

Grade-level curriculum that developmentally appropriate to each age group including, social, academic, and personal needs of children and adolescents. Group format included: competence enhancement, cognitive-behavioral techniques for self-control and peer pressure, social influence modeling and rehearsal and normative education consisting of pro-social bonds, negative consequences and correcting erroneous beliefs (Rainbow Days, 1998).

Kid's Connection school-based group guidance is designed to address developing healthy and constructive coping skills in a wide array of issues (Rainbow Days, 1998). The Center for Substance Abuse Prevention selected Kids' Connection as their 1999 recipient of Exemplary Substance Abuse Prevention Award for its Curriculum-Based Support Group model of life-skills education for children (Rainbow Days, 2006).

Statistical Analysis of Data

A paired sample *t*-test analysis of pretest to posttest change in behavior was conducted to test if statistically significant differences existed for within and between groups for each of the BASC hypotheses using SPSS for Windows (2005). Both pre-test and post-test data was scored using the computer software available from AGS Publishing. The data was analyzed to insure that they met the assumptions that data was from a normally distributed population and had homogeneity of variances in the comparisons of two or more samples. For the first assumption,

that data were determined to be from a normally distributed population, skewness and kurtosis values for the dependent variables were examined and all found to be within the generally accepted range (-3, +3). For the second assumption, homogeneity of variances, the instrument utilized ensures that this assumption is met. Therefore, the data analyzed met these two assumptions. The alpha level of .05 for testing mean differences given a null hypothesis of no difference between the two groups was used to determine statistical significance. Missing continuous data was replaced with mean scores of all other subjects for that variable, not to exceed 15% of data, resulting in little damage to resulting outcome (SPSS for Windows, 2005).

In addition, partial eta squared effect sizes were calculated in order to determine the strength of the relationship between treatment and outcome. Practical significance is an estimate of the strength of the difference, relationship, or treatment effect being studied was calculated to determine the interaction between the experimental and comparison groups' percentage of overall variability. The formula differs from the eta squared formula in that the denominator includes the SS effect plus the SS error rather than the SS total. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

The Mauchly's test of sphericity to determine if the homogeneity of variance assumption is met for the Animal Assisted Therapy—Psychosocial Session Form (AAT-PSF) was conducted. The interpreted values associated with Huynh-Feldt test showed a statically significant difference in behavior across the time periods. Since the results of the repeated measures ANOVA were significant, a serial *F* post-hoc analysis was conducted to determine between which time periods significant differences occurred.

The serial F trend analysis conducted on the AAT-PSF across the 12 sessions testing for a trend in-group means indicated changes occurred across the 12 sessions. This repeated measures ANOVA test was computed to achieve an omnibus F -test of the trend in-group means. Individual F values were computed between the consecutive pairs of session means to determine where a shift occurred in the session means. The basic formula that was used was: serial $F = \text{mean}^2(N) / \text{variance}$, with the alpha level of .05 to determine statistical significance.

A Rasch analysis was conducted on the Animal Assisted Therapy—Psychosocial Session Form instrument evaluating its usability for creating a behavior variable. The Rasch analysis clearly indicated that the rated items followed an expected pattern. The Rasch analysis supported the ordering (clustering) of rated items. The positive items grouped together along the continuum and the negative items grouped together along the continuum. The number column indicated the item numbers (item numbers 1-21 are positive while item numbers 22-34 are negative) for the 34 items (21 positive and 13 negative). The Rasch test-retest internal-consistency reliability yielded values in the high 0.90s, indicating a high degree of score reliability or consistency. A test-retest Pearson correlation of logit score values also yielded reliability values in the high 0.90s. This indicated that the logit score responses were consistent or reproducible for each session. This instrument has not been standardized on a large national sample that is representative of the general population of U.S. children.

CHAPTER 3

RESULTS AND DISCUSSION

This chapter presents a description of the statistical, practical, and clinical analyses of the results by allowing the reader to see the amount or magnitude of change experienced by the experiential group that is caused by the intervention, as well as the specific results of each hypothesis tested in the present study. This section also includes a discussion of the potential meaning of the obtained results, implications of the study's findings, study limitations, recommendations for future research, and concluding remarks.

Results

The results of this study are presented in the order in which the hypotheses were tested. The alpha $p < .05$ level of statistical significance was used as a criterion for either retaining or rejecting the hypothesis. The statistical significance test assesses the reliability of the relationship between independent and dependent variables (Thompson, 2002). A paired sample t -test analysis of pre-test to post-test change in behavior was computed on each dependent variable to determine whether the equine assisted group counseling and the in-school curriculum group guidance/counseling behaved differently across time. Partial eta squared effect sizes were calculated in order to determine the strength of the relationship between treatment and outcome. Practical significance is an estimate of the strength of the difference, relationship, or treatment effect being studied was calculated to determine the interaction between the experimental and comparison groups percentage of overall variability. In addition, repeated measures ANOVA were conducted to test for a trend in-group means across the equine assisted group counseling sessions, and to indicate whether changes occurred across the 12 sessions.

Hypothesis 1

There will be no statistically significant difference between the pre-test and post-test scores on the Behavior Assessment System of Children (BASC) for the experimental treatment group for the reports and scales listed in the table below.

Table 5

Results Hypothesis 1

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

The statistics in Table 6 for BASC Self-Report (BASC-SRS) indicated statistically significant mean differences from pre-testing to post-testing for the equine assisted group counseling groups' of students as measured by the BASC-SRS on specific behaviors. Based on this data, five scales in Hypothesis 1 were not retained (meaning significant difference was found); Emotional Symptom Index ($p=.027$), Clinical Maladjustment Composite ($p=.030$), Atypicality ($p=.002$), Sense of Inadequacy ($p=.004$), and Relations with Parents ($p=.018$) scales. Furthermore, based on this data, ten scales in Hypothesis 1 were retained (meaning a significant different was not found); School Maladjustment Composite ($p=.739$), Personal Adjustment

Composite ($p=.262$), Attitude Toward School ($p=.688$), Attitude Toward Teachers ($p=.189$), Locus of Control ($p=.270$), Social Stress ($p=.326$), Anxiety ($p=.188$), Depression ($p=.082$), Interpersonal Relations ($p=.763$), Self Esteem ($p=.893$), and Self Reliance ($p=.829$) scales.

Table 6

BASC Self Report —Paired Sample t-Test—Experimental Treatment Group (n=126)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Emotional Symptom Index	1.865	.832	.2.242	125	.027
School Maladjustment	.270	.809	.334	125	.739
Clinical Maladjustment	1.651	.753	2.193	125	.030
Personal Adjustment	1.016	.902	1.126	125	.262
Attitude Toward School	.325	.808	.403	125	.688
Attitude Toward Teachers	1.159	.877	1.322	125	.189
Atypical	2.508	.783	3.204	125	.002
Locus of Control	.865	.781	1.107	125	.270
Social Stress	.849	.862	.985	125	.326
Anxiety	1.095	.828	1.323	125	.188
Depression	1.540	.879	1.751	125	.082
Sense of Inadequacy	2.508	.859	2.918	125	.004
Relationship with Parents	2.339	.978	2.390	125	.018
Interpersonal Relations	.276	.912	.302	126	.763
Self Esteem	.118	.880	.134	126	.893
Self Reliance	.181	.839	.261	126	.829

$p < .05$

The statistics in Table 7 for BASC Parent-Report (BASC-PRS) indicated statistically significant mean differences from pre-testing to post-testing for the equine assisted group counseling groups' as measured by the BASC-PRS on specific behaviors. Based on this data twelve scales in Hypothesis 1 were not retained (meaning significant difference was found): Behavioral Symptom Index ($p=.000$), Externalizing Problems Composite ($p=.000$), Internalizing Problems Composite ($p=.000$), Adaptive Skills Composite ($p=.003$), Hyperactivity ($p=.000$), Aggression ($p=.000$), Conduct Problems ($p=.001$), Anxiety ($p=.000$), Depression ($p=.001$), Somatization ($p=.036$), Attention Problems ($p=.003$) and Social Skills ($p=.010$) Scales.

Furthermore, based on this data four scales in Hypothesis 1 were retained (meaning a significant different was not found): Atypical ($p=.114$), Withdrawal ($p=.435$), Adaptability ($p=.567$), and Learning Skills ($p=.336$) scales.

Table 7

BASC Parent Report—Paired Samples t-Test— Experimental Treatment Group (n=86)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Behavioral Symptoms Index	6.186	1.076	5.749	85	.000
Externalizing Problems	5.128	.956	5.364	85	.000
Internalizing Problems	5.384	1.013	5.316	85	.000
Adaptive Skills	2.709	.882	3.073	85	.003
Hyperactivity	5.372	1.039	5.171	85	.000
Aggression	5.198	.933	5.571	85	.000
Conduct Problems	3.814	1.076	3.545	85	.001
Anxiety	5.337	.911	5.859	85	.000
Depression	4.779	1.354	3.530	85	.001
Somatization	2.372	1.114	2.130	85	.036
Atypical	2.570	1.608	1.599	85	.114
Withdrawal	.837	1.068	.784	85	.435
Adaptability	.486	.845	5.74	85	.567
Attention Problems	2.326	.748	3.109	85	.003
Social Skills	2.779	1.054	2.636	85	.010
Leadership	1.245	.639	.968	85	.336

$p < .05$

The statistics in Table 8 for BASC Teacher-Report (BASC-TRS) indicated statistically significant mean differences from pre-testing to post-testing for the equine assisted group counseling groups' as measured by the BASC-TRS on specific behaviors. Based on the data Hypothesis 1 were retained (meaning a significant different was not found).

Table 8

BASC Teacher Report—Paired Samples t-Test— Experimental Treatment Group (n=110)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Behavioral Symptoms Index	.275	.674	.409	108	.684
Externalizing Problems	.110	.643	.171	108	.864
Internalizing Problems	.018	1.157	.016	108	.098
School Problems	1.138	.682	1.668	108	.098
Hyperactivity	2.84	.686	.414	108	.679
Aggression	.147	.785	.187	108	.852
Conduct Problems	.211	.790	.267	108	.790
Anxiety	.046	1.043	.044	108	.965
Depression	.229	1.067	.215	108	.830
Somatization	1.312	1.204	1.090	108	.278
Atypical	.028	.865	.032	108	.975
Withdrawal	.798	1.040	.767	108	.445
Adaptability	.295	.588	.502	108	.616
Attention Problems	.890	.686	1.297	108	.197
Adaptive Skills	.826	.567	1.456	108	.148
Social Skills	.309	.904	.342	108	.733
Study Skills	.345	.550	.628	109	.531
Learning Skills	.853	.736	1.159	108	.249
Leadership	1.245	.639	1.950	108	.054

p < .05

Hypothesis 2

There will be no statistically significant difference between the pre-test and post-test score on the Behavior Assessment System of Children (BASC) for the comparison treatment group for the reports and scales listed in the chart below.

Table 9

Results Hypothesis 2

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

The statistics in Table 10 for BASC Self-Report (BASC-SRS) indicated statistically significant mean differences from pre-testing to post-testing for the comparison treatment group as measured by the BASC-SRS on specific behaviors. Based on this data four scales in Hypothesis 2 were not retained (meaning significant difference was found): Emotional Symptom Index ($p=.026$), Personal Adjustment Composite ($p=.026$), and Social Stress ($p=.028$), Self Esteem ($p=.012$) scales. Furthermore, based on this data twelve scales in Hypothesis 2 were retained (meaning a significant difference was not found): School Maladjustment Composite ($p=.402$), Clinical Maladjustment Composite ($p=.058$), Attitude Toward School ($p=.726$), Attitude Toward Teachers ($p=.173$), Atypicality ($p=.100$), Locus of Control ($p=.152$), Anxiety ($p=.099$), Depression ($p=.113$), Relations with Parents ($p=.922$), Sense of Inadequacy ($p=.144$), Interpersonal Relations ($p=.076$), and Self Reliance ($p=.131$) scales.

Table 10

BASC Self Report —Paired Samples t-Test—Comparison Treatment Group (n=38)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Emotional Symptom Index	3.737	1.608	2.325	37	.026
School Maladjustment	1.395	1.644	.848	37	.402
Clinical Maladjustment	2.763	1.414	1.954	37	.058
Personal Adjustment	3.553	1.532	2.318	37	.026
Attitude Toward School	.526	1.491	.353	37	.726
Attitude Toward Teachers	2.316	1.668	1.388	37	.173
Atypical	2.237	1.324	1.689	37	.100
Locus of Control	2.579	1.763	1.463	37	.152
Social Stress	5.368	2.350	2.284	37	.028
Anxiety	2.842	1.678	1.693	37	.099
Depression	2.974	1.833	1.622	37	.113
Sense of Inadequacy	2.658	1.780	1.494	37	.144
Relationship with Parents	.158	1.610	.098	37	.922
Interpersonal Relations	4.158	2.281	1.823	37	.076
Self Esteem	4.158	1.574	2.641	37	.012
Self Reliance	2.816	1.823	1.545	37	.131

p < .05

The statistics in Table 11 for BASC Parent-Report (BASC-PRS) indicated statistically significant mean differences from pre-testing to post-testing for the comparison treatment group as measured by the BASC-PRS on specific behaviors. Based on this data one scale in Hypothesis 2 were not retained (meaning significant difference was found), Depression ($p=.016$). All other fifteen scales were retained (meaning a significant different was not found).

Table 11

BASC Parent Report—Paired Samples t-Test— Comparison Treatment Group (n=33)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Behavioral Symptoms Index	1.091	1.246	.876	32	.388
Externalizing Problems	.545	1.631	.334	32	.740
Internalizing Problems	1.697	1.081	1.570	32	.126
School Problems	.758	1.182	.641	32	.526
Hyperactivity	.212	1.753	.121	32	.904
Aggression	2.394	1.548	1.546	32	.132
Conduct Problems	.606	1.611	.376	32	.709
Anxiety	.606	2.677	.226	32	.822
Depression	3.788	1.494	2.535	32	.016
Somatization	.394	1.519	.259	32	.797
Atypical	1.303	1.662	.784	32	.439
Withdrawal	2.485	1.660	1.497	32	.144
Adaptability	1.139	1.193	.955	32	.346
Attention Problems	.242	1.229	.197	32	.845
Social Skills	.303	1.652	.183	32	.856
Leadership	1.594	1.426	1.117	32	.272

$p < .05$

The statistics in Table 12 for BASC Teacher-Report (BASC-TRS) indicate statistically significant mean differences from pre-testing to post-testing for the comparison treatment group as measured by the BASC-TRS on specific behaviors. Based on this data, one scale in Hypothesis 2 were not retained (meaning significant difference was found), Somatization ($p=.014$). All other fifteen scales were retained (meaning a significant different was not found).

Table 12

BASC Teacher Report—Paired Samples t-Test— Comparison Treatment Group (n=36)

Behaviors	Mean	Std. Error Mean	<i>t</i>	<i>df</i>	<i>p</i>
Behavioral Symptoms Index	.028	1.168	.024	35	.981
Externalizing Problems	.583	1.015	.575	35	.569
Internalizing Problems	3.083	1.590	1.939	35	.061
School Problems	1.500	1.394	1.076	35	.289
Hyperactivity	.222	7.349	.181	35	.857
Aggression	.278	1.368	.230	35	.840
Conduct Problems	.556	1.350	.412	35	.683
Anxiety	1.944	1.576	1.234	35	.225
Depression	1.639	1.843	.889	35	.380
Somatization	4.917	1.902	2.585	35	.014
Atypical	.556	1.756	.316	35	.754
Withdrawal	.083	1.922	.043	35	.996
Adaptability	.410	1.214	.303	35	.764
Attention Problems	1.222	1.435	.851	35	.400
Adaptive Skills	.410	1.214	.303	35	.764
Social Skills	.250	1.423	.176	35	.862
Study Skills	.833	1.254	.665	35	.511
Learning Skills	.861	1.386	.621	35	.538
Leadership	.833	1.254	.150	35	.881

p < .05*Hypothesis 3*

There will be no statistically significant difference between the pre-test and post-test score on the Behavior Assessment System of Children (BASC) for the experimental treatment group when compared to the comparison treatment group for the reports and scales listed in the chart below.

Table 13

Results Hypothesis 3

BASC Self-Report	BASC Parent-Report	BASC Teacher-Report
Emotional Symptom Index	Behavioral Symptoms Index	Behavioral Symptoms Index
School Maladjustment Composite	Externalizing Problem Composite	Externalizing Problem Composite
Clinical Maladjustment Composite	Internalizing Problem Composite	Internalizing Problem Composite
Personal Adjustment Composite	Adaptive Skills Composite	School Problems Composite
Attitude Toward School	Hyperactivity	Hyperactivity
Attitude Toward Teachers	Aggression	Aggression
Atypical	Conduct Problems	Conduct Problems
Locus of Control	Anxiety	Anxiety
Social Stress	Depression	Depression
Anxiety	Somatization	Somatization
Depression	Atypical	Atypical
Sense of Inadequacy	Withdrawal	Withdrawal
Relationship with Parents	Adaptability	Adaptability
Interpersonal Relations	Attention Problems	Attention Problems
Self Esteem	Social Skills	Adaptive Skills
Self Reliance	Leadership	Social Skills
		Study Skills
		Learning Skills
		Leadership

The statistics in Table 14 presents the analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 15 presents analysis of covariance testing for treatment intervention differences in post-test means that are adjusted for pre-test differences.

Table 14

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Emotional Symptom Index

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	6911.257	1				
Service	51.961	1	51.961	.719	.398	.004
Error	11635.236	161	72.269			
Corrected Total	18554.024	163				

p < .05

Since $F=0.719$, $p<0.398$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Emotional Symptom Index of Hypothesis 3 was retained (meaning a significant difference was not found). Furthermore, using partial eta squared, the interaction between experimental and comparison groups accounted for 4% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 15

BASC-SRS Emotional Symptom Index Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	51.01	51.200
Comparison	50.50	49.864

Note: Covariates in the model = 53.19.

The statistics in Table 16 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 17 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 16

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS School Maladjustment Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	30396.234	1				
Service	4.274	1	4.274	.041	.840	.000
Error	16803.243	161	104.368			
Corrected Total	19860.848	163				

$p < .05$

Since $F=0.041$, $p<0.840$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS School Maladjustment Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 17

BASC-SRS School Maladjustment Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.79	50.881
Comparison	51.58	51.264

Note: Covariates in the model = 52.07.

The statistics in Table 18 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 19 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 18

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Clinical Maladjustment Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	7951.387	1				
Service	19.097	1	19.097	.305	.581	.002
Error	10076.548	161	62.587			
Corrected Total	18028.555	163				

$p < .05$

Since $F=0.305$, $p<0.581$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Clinical Maladjustment Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared, the interaction between experimental and comparison groups accounted for 2% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 19

BASC-SRS Clinical Maladjustment Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.20	50.352
Comparison	50.05	49.543

Note: Covariates in the model = 52.07.

The statistics in Table 20 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 21 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 20

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Personal Adjustment Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	4958.969	1				
Service	115.670	1	115.670	1.536	.217	.009
Error	12121.926	161	75.291			
Corrected Total	17136.976	163				

$p < .05$

Since $F=1.536$, $p<0.217$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Personal Adjustment Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 9% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 21

BASC-SRS Personal Adjustment Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	47.17	47.026
Comparison	48.55	49.019

Note: Covariates in the model = 45.88.

The statistics in Table 22 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 23 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 22

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Attitude toward School

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	8811.804	1				
Service	5.107	1	5.107	.073	.788	.000
Error	11312.199	161	70.262			
Corrected Total	20130.439	163				

$p < .05$

Since $F=0.073$, $p<0.788$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, the BASC-SRS Attitude Toward School of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 23

BASC-SRS Attitude toward School Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.79	50.999
Comparison	51.26	50.581

Note: Covariates in the model = 50.77.

The statistics in Table 24 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 25 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 24

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Attitude toward Teachers

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	7044.715	1				
Service	.155	1	.155	.002	.964	.000
Error	12179.082	161	75.646			
Corrected Total	19312.122	163				

$p < .05$

Since $F=0.002$, $p<0.964$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Attitude toward Teachers of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 25

BASC-SRS Attitude towards Teachers Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.20	50.410
Comparison	51.76	50.483

Note: Covariates in the model = 51.85.

The statistics in Table 26 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 27 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 26

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Atypical Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	9014.240	1				
Service	6.596	1	6.596	.106	.745	.001
Error	9987.169	161	62.032			
Corrected Total	19024.848	163				

$p < .05$

Since $F=0.106$, $p<0.745$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Atypical of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 27

BASC-SRS Atypical Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.26	50.359
Comparison	50.47	50.835

Note: Covariates in the model = 52.91.

The statistics in Table 28 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 29 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 28

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Locus of Control Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	6796.817	1				
Service	53.647	1	53.647	.742	.390	.005
Error	11633.118	161	72.255			
Corrected Total	18446.311	163				

$p < .05$

Since $F=.0742$, $p<0.390$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Locus of Control of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 5% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 29

BASC-SRS Locus of Control Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.80	50.942
Comparison	50.05	49.586

Note: Covariates in the model = 51.89.

The statistics in Table 30 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 31 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 30

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Social Stress Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	5379.906	1				
Service	425.498	1	425.498	4.313	.039	.026
Error	15884.630	161	98.662			
Corrected Total	21522.848	163				

$p < .05$

Since $F=4.313$, $p<0.039$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Social Stress of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 26% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 31

BASC-SRS Social Stress Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.16	50.356
Comparison	47.18	46.531

Note: Covariates in the model = 51.37.

The statistics in Table 32 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 33 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 32

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Anxiety Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	4741.459	1				
Service	52.351	1	52.351	.725	.396	.004
Error	11617.896	161	72.161			
Corrected Total	16379.976	163				

$p < .05$

Since $F=0.725$, $p<0.396$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Anxiety of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 4% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 33

BASC-SRS Anxiety Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	49.18	49.298
Comparison	48.34	47.958

Note: Covariates in the model = 50.49.

The statistics in Table 34 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 35 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 34

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Depression Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	7072.429	1				
Service	40.196	1	40.196	.505	.478	.003
Error	12817.443	161	79.611			
Corrected Total	19889.872	163				

$p < .05$

Since $F=0.505$, $p<0.478$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Depression of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 3% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 35

BASC-SRS Depression Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.02	52.095
Comparison	51.18	50.921

Note: Covariates in the model = 53.70.

The statistics in Table 36 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 37 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 36

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Sense of Inadequacy Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	5157.029	1				
Service	39.410	1	39.410	.558	.456	.003
Error	11367.025	161	70.603			
Corrected Total	16668.878	163				

$p < .05$

Since $F=0.558$, $p<0.456$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Sense of Inadequacy of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 3% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 37

BASC-SRS Sense of Inadequacy Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.17	51.929
Comparison	49.95	50.763

Note: Covariates in the model = 54.20.

The statistics in Table 38 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 39 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 38

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Relationship with Parents Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	55573.984	1				
Service	45.323	1	45.323	.565	.453	.003
Error	12994.903	162	80.215			
Corrected Total	18568.945	164				

$p < .05$

Since $F=0.565$, $p<0.453$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Relationship with Parents of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 3% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 39

BASC-SRS Relationship with Parents Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	46.99	47.270
Comparison	49.95	46.020

Note: Covariates in the model =45.22.

The statistics in Table 40 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 41 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 40

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Interpersonal Relations Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	6132.980	1				
Service	38.191	1	38.191	.406	.525	.002
Error	15247.753	162	94.122			
Corrected Total	21469.176	164				

$p < .05$

Since $F=0.406$, $p<0.525$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Interpersonal Relations of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 2% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 41

BASC-SRS Interpersonal Relations Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	48.21	47.544
Comparison	46.47	48.709

Note: Covariates in the model =46.64.

The statistics in Table 42 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 43 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 42

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Self Esteem Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	3239.591	1				
Service	386.635	1	386.635	5.202	.024	.031
Error	12040.455	162	74.324			
Corrected Total	15553.636	164				

$p < .05$

Since $F=5.202$, $p<0.024$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Self Esteem of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 31% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 43

BASC-SRS Self Esteem Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	49.20	49.070
Comparison	52.26	52.715

Note: Covariates in the model =49.04.

The statistics in Table 44 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Self-Report (BASC-SRS), and it also presents partial eta squared, a measure of practical significance. Table 45 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 44

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-SRS Self Reliance Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-SRS	4536.691	1				
Service	200.434	1	200.434	2.799	.096	.017
Error	11599.089	162	71.599			
Corrected Total	16333.576	164				

$p < .05$

Since $F=2.799$, $p<0.096$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-SRS Self Reliance of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 17% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 45

BASC-SRS Self Reliance Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	47.19	47.185
Comparison	49.79	49.803

Note: Covariates in the model =47.00.

The statistics in Table 46 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 47 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 46

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Behavioral Symptoms Index

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	8517.904	1				
Service	275.504	1	275.504	3.791	.050	.032
Error	8430.519	116	72.677			
Corrected Total	16949.580	118				

$p < .05$

Since $F=3.791$, $p<0.05$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Behavioral Symptoms Index of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 32% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 47

BASC-PRS Behavioral Symptoms Index Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	55.52	54.502
Comparison	55.30	57.965

Note: Covariates in the model = 60.24.

The statistics in Table 48 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 49 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 48

ANCOVA Summary Tables of the Experimental and Comparison Groups for BASC-PRS Externalizing Problem Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	9570.242	1				
Service	528.625	1	528.625	7.613	.007	.062
Error	84430.519	116	72.677			
Corrected Total	17754.992	118				

$p < .05$

Since $F=7.613$, $p<0.007$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Externalizing Problem Composite of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 62% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 49

BASC-PRS Externalizing Problem Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	51.36	50.693
Comparison	53.70	55.435

Note: Covariates in the model = 55.56.

The statistics in Table 50 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 51 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 50

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Internalizing Problem Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	9694.818	1				
Service	103.956	1	103.956	1.652	.201	.014
Error	7300.336	116	62.934			
Corrected Total	17083.395	118				

$p < .05$

Since $F=1.652$, $p<0.201$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Internalizing Problem Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 14% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 51

BASC-PRS Internalizing Problem Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.80	51.678
Comparison	50.88	53.808

Note: Covariates in the model = 56.63.

The statistics in Table 52 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 53 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 52

ANCOVA Summary Tables of the Experimental and Comparison Groups for BASC-PRS School Problems Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	4751.209	1				
Service	129.290	1	129.290	2.367	.127	.020
Error	6337.016	116	54.629			
Corrected Total	11089.966	118				

$p < .05$

Since $F=2.367$, $p<0.127$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS School Problems of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 20% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 53

BASC-PRS School Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	44.94	45.674
Comparison	45.21	43.305

Note: Covariates in the model = 43.27.

The statistics in Table 54 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 55 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 54

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Hyperactivity Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	11375.152	1				
Service	403.823	1	403.823	5.790	.018	.048
Error	8090.986	116	69.750			
Corrected Total	1957.849	118				

$p < .05$

Since $F=5.790$, $p<0.018$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Hyperactivity of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 48% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 55

BASC-PRS Hyperactivity Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	51.13	50.577
Comparison	53.27	54.709

Note: Covariates in the model = 55.66.

The statistics in Table 56 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 57 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 56

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Aggression Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS Service	7054.605	1				
Error	692.118	1	692.118	11.352	.001	.089
Corrected Total	7072.286	116	60.968			

$p < .05$

Since $F=11.352$, $p<0.001$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Aggression of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 89% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 57

BASC-PRS Aggression Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	50.06	48.936
Comparison	51.55	54.470

Note: Covariates in the model = 53.56.

The statistics in Table 58 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 59 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 58

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Conduct Problems Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	7752.608	1				
Service	375.918	1	375.918	4.768	.031	.039
Error	9145.895	116	78.844			
Corrected Total	17129.109	118				

$p < .05$

Since $F=7.768$, $p<0.031$ there is a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Conduct Problems of Hypothesis 3 was not retained (meaning significant difference was found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 39% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 59

BASC-PRS Conduct Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.01	51.772
Comparison	55.12	55.746

Note: Covariates in the model = 55.46.

The statistics in Table 60 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 61 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 60

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Anxiety Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	6803.858	1				
Service	297.422	1	297.422	3.224	.075	.027
Error	10699.656	116	92.238			
Corrected Total	17503.580	118				

$p < .05$

Since $F=3.224$, $p<0.075$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Anxiety of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 27% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 61

BASC-PRS Anxiety Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.52	51.537
Comparison	52.58	55.146

Note: Covariates in the model = 56.23.

The statistics in Table 62 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 63 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 62

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Depression Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	9797.187	1				
Service	46.205	1	46.205	.424	.516	.004
Error	12646.538	116	109.022			
Corrected Total	23221.294	118				

$p < .05$

Since $F=0.424$, $p<0.516$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Depression of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 4% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 63

BASC-PRS Depression Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	55.41	54.218
Comparison	49.70	52.795

Note: Covariates in the model = 58.33.

The statistics in Table 64 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 65 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 64

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Somatization Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	6291.980	1				
Service	67.112	1	67.112	.920	.340	.008
Error	8466.174	116	72.984			
Corrected Total	14758.555	118				

$p < .05$

Since $F=0.920$, $p<0.340$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Somatization of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 8% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 65

BASC-PRS Somatization Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	48.63	48.197
Comparison	48.76	49.882

Note: Covariates in the model = 50.27.

The statistics in Table 66 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 67 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 66

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Atypical Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	3201.988	1				
Service	19.853	1	19.853	.184	.669	.002
Error	12505.865	116	107.809			
Corrected Total	15719.697	118				

$p < .05$

Since $F=0.184$, $p<0.669$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Atypical of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 2% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 67

BASC-PRS Atypical Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.33	53.268
Comparison	54.03	54.180

Note: Covariates in the model =55.74

The statistics in Table 68 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 69 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 68

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Withdrawal Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	7829.910	1				
Service	261.280	1	261.280	3.560	.062	.030
Error	8513.173	116	73.389			
Corrected Total	17271.160	118				

$p < .05$

Since $F=3.560$, $p<0.062$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Withdrawal of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 30% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 69

BASC-PRS Withdrawal Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.81	52.013
Comparison	46.58	48.662

Note: Covariates in the model =52.38.

The statistics in Table 70 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 71 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 70

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Attention Problems Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS Service	8561.569	1				
Error	61.732	1	61.732	1.329	.251	.011
Corrected Total	5386.922	116	46.439			

$p < .05$

Since $F=1.329$, $p<0.251$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Attention Problems Scale of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 11% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 71

BASC-PRS Attention Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	61.08	60.399
Comparison	60.24	62.021

Note: Covariates in the model =62.60.

The statistics in Table 72 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 73 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 72

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Adaptability Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	5060.952	1				
Service	1.965	1	1.965	.032	.858	.000
Error	8435.227	138	61.125			
Corrected Total	13668.553	140				

$p < .05$

Since $F=0.032$, $p<0.858$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Adaptability of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 73

BASC-PRS Adaptability Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	41.71	42.432
Comparison	44.25	42.156

Note: Covariates in the model =42.29.

The statistics in Table 74 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 75 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 74

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Social Skills Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	4615.290	1				
Service	71.199	1	71.199	.930	.337	.008
Error	8877.213	116	76.528			
Corrected Total	13493.697	118				

$p < .05$

Since $F=0.930$, $p<0.337$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Social Skills of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 8% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 75

BASC-PRS Social Skills Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	46.99	47.534
Comparison	47.21	45.789

Note: Covariates in the model =45.13.

The statistics in Table 76 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Parent-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance.

Table 77 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 76

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-PRS Leadership Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-PRS	36.731	1				
Service	1.106	1	1.106	.014	.907	.000
Error	9364.165	115	81.428			
Corrected Total	9402.788	117				

$p < .05$

Since $F=0.014$, $p<0.907$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-PRS Leadership of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 77

BASC-PRS Leadership Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	45.03	45.017
Comparison	44.75	44.799

Note: Covariates in the model =84.36.

The statistics in Table 78 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-PRS), and it also presents partial eta squared, a measure of practical significance. Table 79 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 78

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Behavioral Symptoms Index

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	10168.220	1				
Service	5.526	1	5.526	.114	.736	.001
Error	6876.606	142	48.427			
Corrected Total	17111.062	144				

$p < .05$

Since $F=0.114$, $p<0.736$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Behavioral Symptoms Index of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 79

BASC-TRS Behavioral Symptoms Index Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	55.96	56.239
Comparison	57.53	56.692

Note: Covariates in the model = 56.55

The statistics in Table 80 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 81 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 80

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Externalizing Problem Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	8632.034	1				
Service	4.811	1	4.811	.130	.719	.001
Error	5241.266	142	36.910			
Corrected Total	14147.959	144				

$p < .05$

Since $F=0.130$, $p<0.719$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Externalizing Problem Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 81

BASC-TRS Externalizing Problem Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.06	53.749
Comparison	56.25	54.176

Note: Covariates in the model = 54.08.

The statistics in Table 82 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 83 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 82

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Internalizing Problem Composite

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	12250.175	1				
Service	158.884	1	158.884	1.276	.261	.009
Error	17687.304	142	124.558			
Corrected Total	29940.993	144				

$p < .05$

Since $F=1.276$, $p<0.261$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Internalizing Problem Composite of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 9% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 83

BASC-TRS Internalizing Problem Composite Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	54.92	54.402
Comparison	55.28	56.837

Note: Covariates in the model = 54.26.

The statistics in Table 84 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 85 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 84

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS School Problem Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	6264.679	1				
Service	7.441	1	7.441	.153	.696	.001
Error	6914.538	142	48.694			
Corrected Total	13202.593	144				

$p < .05$

Since $F=1.53$, $p<0.696$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS School Problems of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 85

BASC-TRS School Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	55.62	55.523
Comparison	54.69	54.999

Note: Covariates in the model = 56.62.

The statistics in Table 86 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 87 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 86

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Hyperactivity Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	11781.828	1				
Service	.126	1	.126	.003	.959	.000
Error	6770.129	142	47.677			
Corrected Total	18720.028	144				

$p < .05$

Since $F=0.003$, $p<0.959$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Hyperactivity of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 87

BASC-TRS Hyperactivity Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.15	53.748
Comparison	55.64	53.817

Note: Covariates in the model = 53.61.

The statistics in Table 88 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 89 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 88

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Aggression Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	9798.935	1				
Service	20.368	1	20.368	.355	.552	.002
Error	8149.063	142	57.388			
Corrected Total	18437.862	144				

$p < .05$

Since $F=0.355$, $p<0.552$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Aggression of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 2% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 89

BASC-TRS Aggression Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.50	54.333
Comparison	57.75	55.214

Note: Covariates in the model = 54.51.

The statistics in Table 90 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 91 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 90

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Conduct Problems Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	5483.147	1				
Error	6.290	1	6.290	.116	.734	.001
Corrected Total	7724.248	142	54.396			

$p < .05$

Since $F=0.116$, $p<0.734$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Conduct Problems of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 91

BASC-TRS Conduct Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	51.59	51.935
Comparison	53.47	52.419

Note: Covariates in the model = 52.35.

The statistics in Table 92 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 93 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 92

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Anxiety Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	11287.929	1				
Error	72.812	1	72.812	.675	.413	.005
Corrected Total	15322.676	142	107.906			

$p < .05$

Since $F=0.675$, $p<0.413$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Anxiety of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 5% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 93

BASC-TRS Anxiety Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.78	53.412
Comparison	53.94	55.057

Note: Covariates in the model = 53.37.

The statistics in Table 94 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 95 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 94

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Depression Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	16760.255	1				
Service	53.492	1	53.492	.458	.499	.003
Error	16571.077	142	116.698			
Corrected Total	33383.766	144				

$p < .05$

Since $F=0.458$, $p<0.499$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Depression of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 3% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 95

BASC-TRS Depression Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	56.33	56.327
Comparison	57.72	57.733

Note: Covariates in the model = 56.10.

The statistics in Table 96 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 97 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 96

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Somatization Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	10337.814	1				
Service	439.416	1	439.416	3.402	.067	.023
Error	18340.411	142	129.158			
Corrected Total	28681.241	144				

$p < .05$

Since $F=3.402$, $p<0.067$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Somatization of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 23% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 97

BASC-TRS Somatization Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	52.06	51.119
Comparison	52.39	55.223

Note: Covariates in the model = 51.90.

The statistics in Table 98 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 99 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 98

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Atypical Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	9273.903	1				
Error	4.043	1	4.043	.049	.825	.000
Corrected Total	1176.589	142	82.870			
	21042.938	144				

$p < .05$

Since $F=0.049$, $p<0.825$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Atypical of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 0% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 99

BASC-TRS Atypical Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	54.96	55.117
Comparison	55.19	54.730

Note: Covariates in the model =55.14.

The statistics in Table 100 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 101 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 100

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Withdrawal Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	8046.069	1				
Service	16.226	1	16.226	.172	.679	.001
Error	13406.798	142	94.414			
Corrected Total	21472.828	144				

$p < .05$

Since $F=0.172$, $p<0.679$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Withdrawal of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 01% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 101

BASC-TRS Withdrawal Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.75	53.773
Comparison	54.61	54.548

Note: Covariates in the model =54.59.

The statistics in Table 102 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 103 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 102

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Adaptability Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	4181.777	1				
Service	43.690	1	43.690	1.131	.289	.007
Error	5909.976	153	38.627			
Corrected Total	10221.917	155				

$p < .05$

Since $F=1.131$, $p<0.289$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Adaptability of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 7% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 103

BASC-TRS Adaptability Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	42.60	42.384
Comparison	40.47	41.148

Note: Covariates in the model =41.96.

The statistics in Table 104 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 105 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 104

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Attention Problems Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	7089.082	1				
Error	3.896	1	3.896	.082	.775	.001
Corrected Total	6722.801	142	47.344			

$p < .05$

Since $F=0.082$, $p<0.775$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Attention Problem of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 105

BASC-TRS Attention Problems Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	57.62	57.598
Comparison	57.14	57.218

Note: Covariates in the model =58.48.

The statistics in Table 106 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 107 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 106

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Adaptive Skills Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	4882.058	1				
Service	76.185	1	76.185	2.192	.141	.015
Error	4934.647	142	34.751			
Corrected Total	10069.959	144				

$p < .05$

Since $F=2.192$, $p<0.141$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Adaptive Skills of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 15% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 107

BASC-TRS Adaptive Skills Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	42.61	42.274
Comparison	39.56	40.587

Note: Covariates in the model =41.32.

The statistics in Table 108 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 109 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 108

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Social Skills Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	3905.325	1				
Service	31.341	1	31.341	.462	.498	.003
Error	9694.298	143	67.792			
Corrected Total	13858.329	145				

$p < .05$

Since $F=0.462$, $p<0.498$ these is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Social Skills of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 3% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 109

BASC-TRS Social Skills Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	44.23	43.734
Comparison	41.14	42.645

Note: Covariates in the model =43.64.

The statistics in Table 110 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 111 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 110

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Leadership Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS	3671.149	1				
Service	67.004	1	67.004	1.630	.204	.011
Error	5876.920	143	41.097			
Corrected Total	9636.986	145				

$p < .05$

Since $F=1.630$, $p<0.204$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Leadership of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 11% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 111

BASC-TRS Leadership Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	43.23	43.168
Comparison	41.42	41.596

Note: Covariates in the model =41.89.

The statistics in Table 112 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 113 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 112

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Study Skills Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	5699.265	1				
Error	52.371	1	52.371	1.512	.221	.010
Corrected Total	4952.542	143	34.633			

$p < .05$

Since $F=1.512$, $p<0.221$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Study Skills of Hypothesis 3 was retained (meaning a significant difference was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 10% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 113

BASC-TRS Study Skills Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	42.57	42.418
Comparison	40.56	41.027

Note: Covariates in the model =42.02.

The statistics in Table 114 presents the repeated measures analysis of covariance data, showing the level of statistical significance of the difference between the experimental and comparison groups' pretest and posttest mean scores across time for BASC Teacher-Report (BASC-TRS), and it also presents partial eta squared, a measure of practical significance. Table 115 presents analysis of covariance testing for treatment intervention differences in posttest means that are adjusted for pre-test differences.

Table 114

ANCOVA Summary Tables of the Experimental and Comparison Groups for the BASC-TRS Learning Skills Scale

Source	Sums of Squares	df	MS	F	p	Partial Eta Squared
Pre BASC-TRS Service	7167.653	1				
Error	5.343	1	5.343	.097	.756	.001
Corrected Total	7859.336	142	55.347			

$p < .05$

Since $F=0.097$, $p<0.756$ there is not a statistically significant mean difference between the experimental and comparison groups when adjusted for pre-existing differences. Based on this data, BASC-TRS Learning Skills of Hypothesis 3 was retained (meaning a significant different was not found). Additionally, using partial eta squared the interaction between experimental and comparison groups accounted for 1% of the overall variability. In the absence of a synthesis of relative published research in the field of equine assisted counseling, it is difficult to interpret the meaning of the effect size.

Table 115

BASC-TRS Learning Skills Group Post-Test Means

Treatment Group	Original Mean	Adjusted Mean
Experimental	53.40	53.104
Comparison	51.75	52.658

Note: Covariates in the model =53.85.

Hypothesis 4

There will be no significant difference for the Animal Assisted Therapy—Psychosocial Session Form (AAT-PSF) scores across the 12 sessions for the experimental treatment group. There were 12 sessions conducted that can be tested for a trend in-group means. This trend analysis was conducted to indicate whether changes occurred across the 12 sessions in the total score (positive behaviors minus negative behaviors). The analysis of variance test was computed to achieve an omnibus F -test of the trend in-group means. The repeated measures ANOVA produced an overall F -value across 12 occasions of $F=10.976$. Individual F values were computed between the consecutive pairs of session means to determine where a shift occurred in the session means.

The basic formula is: serial $F = \text{mean}^2(N) / \text{variance}$. A test of the first shift from session

1 to session 2 would then be serial $F = (.3311)^2(150)/1.208 = 13.61$. The tabled or critical F value is $F = 3.84$ at the $p < .05$ level of significance. Since serial $F = 13.61$ is greater than the tabled $F = 3.84$, a statistically significant shift occurred, the shift was a negative value or decrease. This negative shift between the first and second session is likely representative of the participants being on their “good behavior” for the first session, which is typical behavior for individuals in new, unfamiliar settings. The only other session change that was statistically significant was from session 10 to session 11. These serial F values across all 12 sessions are in Table 116.

Table 116

Serial F Values across the 12 Experimental Treatment Group Sessions

Sessions	<i>N</i>	Maximum Mean	Mean	Variance	<i>F</i>
From Session 1 to Session 2	150	3.65	-.3311	1.208	13.61*
From Session 2 to Session 3	147	9.10	.0739	1.65	.497
From Session 3 to Session 4	146	2.85	.1178	1.422	1.42
From Session 4 to Session 5	145	4.76	-.0212	1.080	.060
From Session 5 to Session 6	143	2.72	.0992	1.245	1.130
From Session 6 to Session 7	140	4.35	.0549	.942	.447
From Session 7 to Session 8	139	2.65	-.0396	1.012	.215
From Session 8 to Session 9	140	3.52	.1427	.802	3.55
From Session 9 to Session 10	140	4.09	-.0174	.855	.0494
From Session 10 to Session 11	141	5.58	.3832	1.351	15.32*
From Session 11 to Session 12	141	2.41	.0667	.471	1.33

F critical = 3.84, * $p < .05$

A trend analysis of total behavioral ratings for the AAT-PSF (positive behaviors minus negative behaviors) was conducted to test for a linear trend of the means across the 12 time periods. The descriptive statistics in Table 117 visually indicate an upward trend in the averages across the 12 time periods. This was statistically tested this by conducting a repeated measures analysis of variance.

Table 117

Trend Analysis of Total Behavior Ratings of AAT-PSF—Experimental Treatment (n=140)

Time	Mean	Std. Deviation
Session 1 Total Behaviors	1.8389	1.28454
Session 2 Total Behaviors	.4901	1.84203
Session 3 Total Behaviors	.5153	1.88189
Session 4 Total Behaviors	.8756	1.90822
Session 5 Total Behaviors	.7671	1.65958
Session 6 Total Behaviors	1.0776	1.75877
Session 7 Total Behaviors	.9481	1.73183
Session 8 Total Behaviors	.9825	1.76491
Session 9 Total Behaviors	1.1914	1.92023
Session 10 Total Behaviors	1.0905	1.81975
Session 11 Total Behaviors	1.5406	1.88314
Session 12 Total Behaviors	1.9946	3.16980

The repeated measures ANOVA in Table 118 indicated a statistically significant linear trend of the means across the 12 time periods ($F = 10.12$, $df=11$, $p < .0001$). For the purposes of this study inter-rater reliability, the correlation of score between/among two or more raters who rate the same item, scale, or instrument were informally established verses formally established. In addition, a statistical method of evaluation to evaluate and quantify rater bias was not conducted on the AAT-PSF data collection.

Table 118

Repeated Measures ANOVA of Total Behavior Ratings for AAT-PSF—Experimental Treatment (n=140)

Source	SS	df	MS	F	P
Individuals	1837.177	139	13.217		
Occasions (Time)	344.428	11	31.312	10.912	.0001
Error	4387.270	1529	2.869		
Total	6568.875	1679			

$p < .05$

Figure 1 of the 12 means further provides a visual depiction of the trend of mean total ratings for the AAT-PSF. To further examine change over time this graph indicates whether

there was a significant linear, quadratic, or cubic change over time. The trend analysis assess whether there is a functional relationship between the independent variable (time) and the dependant variable (equine assisted counseling). The functional relationship describes the general trend or nature of relationship between the dependant variable (equine assisted counseling) and independent variable (time). A test of specific linear, quadratic, and cubic trend indicated that the means appear to have more of a quadratic trend ($F = 23.139, p < .0001$) than a linear trend ($F = 10.959, p < .0001$) or cubic trend ($F = 3.298, p < .072$). This means the total behaviors started out level and then the positive behaviors increased and the negative behaviors decreased over time, but not enough to be a linear change (straight line), therefore the graphed trend line, has bends in it.

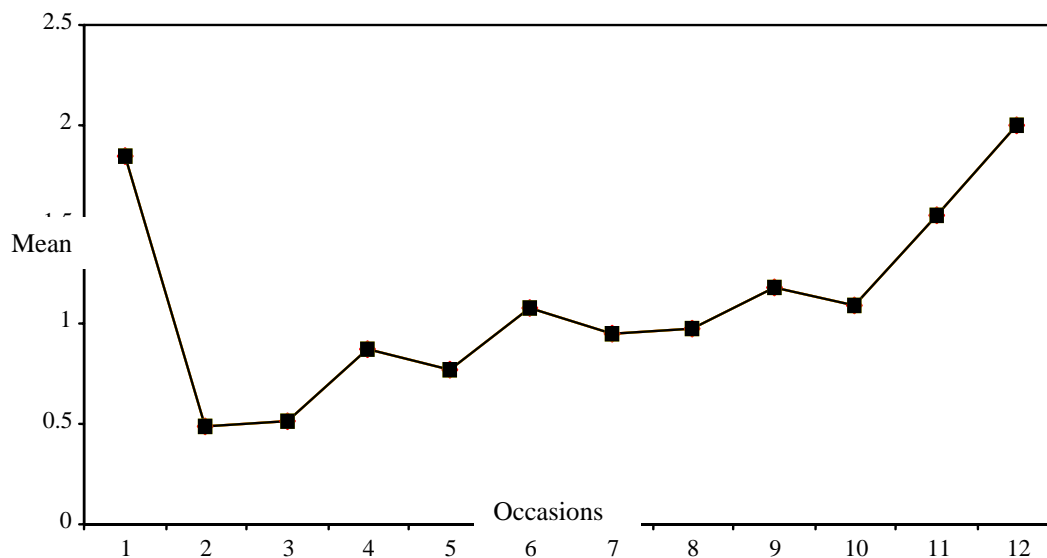


Figure 1. Total ratings – linear trend of means for AAT-PSF by occasions.

A trend analysis of positive ratings (positive behaviors) was conducted to test for a linear trend of the means across the 12 time periods. The descriptive statistics in Table 119 visually indicate an upward trend in the averages across the 12 time periods. This was statistically tested by conducting a repeated measures analysis of variance.

Table 119

Trend Analysis of Positive Behavior Ratings for AAT-PSF —Experimental Treatment (n=140)

Time	Mean	Std. Deviation
Session 1 Positive Behaviors	2.6056	.33215
Session 2 Positive Behaviors	2.4762	.49483
Session 3 Positive Behaviors	2.5706	.59850
Session 4 Positive Behaviors	2.7295	.63099
Session 5 Positive Behaviors	2.7081	.61201
Session 6 Positive Behaviors	2.8581	.67369
Session 7 Positive Behaviors	2.8581	.57173
Session 8 Positive Behaviors	2.8361	.58241
Session 9 Positive Behaviors	2.9249	.63521
Session 10 Positive Behaviors	3.1053	1.75994
Session 11 Positive Behaviors	3.1270	.69166
Session 12 Positive Behaviors	3.2059	.71209

The repeated measures ANOVA in Table 120 indicated a statistically significant linear trend of the means across the 12 time periods ($F = 14.816$, $df=11$, $p < .0001$). For the purposes of this study inter-rater reliability, the correlation of scores between/among two or more raters who rate the same item, scale, or instrument were informally established verses formally established. In addition, a statistical method of evaluation to evaluate and quantify rater bias was not conducted on the AAT-PSF data collection.

Table 120

Repeated Measures ANOVA Table of Positive Behavior Ratings of AAT-PSF—Experimental Group (n=140)

Source	SS	df	MS	F	p
Individuals	219.473	139	1.579		
Occasions (Time)	81.689	11	7.426	14.816	.0001
Error	766.370	1529	.501		
Total	1067.532	1679			

$p < .05$

Figure 2 of the 12 means further provides a visual depiction of the trend of total mean ratings. The trend analysis assess whether there is a functional relationship between the

independent variable (time) and the dependant variable (equine assisted counseling). The functional relationship describes the general trend or nature of relationship between the dependant variable (equine assisted counseling) and independent variable (time). A test of specific linear, quadratic, and cubic trend indicated that the means appear to have more of a linear trend ($F = 83.975$, $p < .0001$) than a quadratic trend ($F = 2.097$, $p < .150$) or cubic trend ($F = .022$, $p < .883$). This means the positive behavior increased significantly over time, therefore the graphed trend line, is relatively straight and ascending.

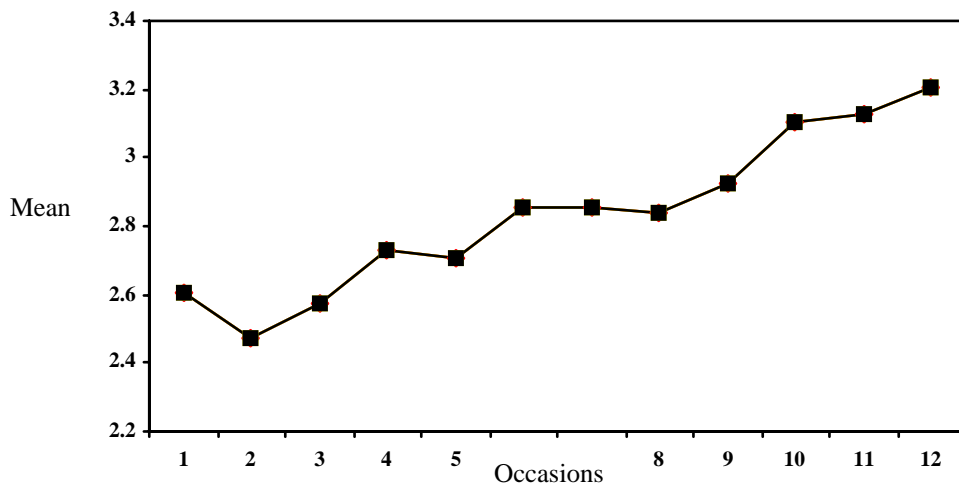


Figure 2. Positive ratings – linear trend of means for AAT-PSF by occasions.

A trend analysis of negative ratings (negative behaviors) of the AAT-PSF was conducted to test for a linear trend of the means across the 12 time periods. The descriptive statistics in Table 121 visually indicate a downward trend in the averages across the 12 time periods. This was statistically tested this by conducting a repeated measures analysis of variance.

Table 121

Trend Analysis of Negative Behavior Ratings of AAT-PSF—Experimental Treatment (n=140)

Time	Mean	Std. Deviation
Session 1 Negative Behaviors	.7687	1.10229
Session 2 Negative Behaviors	1.9981	1.57142
Session 3 Negative Behaviors	2.0614	1.45354
Session 4 Negative Behaviors	1.8435	1.50768
Session 5 Negative Behaviors	1.9533	1.27569
Session 6 Negative Behaviors	1.8627	1.34223
Session 7 Negative Behaviors	1.9104	1.40479
Session 8 Negative Behaviors	1.8566	1.42381
Session 9 Negative Behaviors	1.7256	1.47197
Session 10 Negative Behaviors	1.8453	1.38330
Session 11 Negative Behaviors	1.6404	1.49176
Session 12 Negative Behaviors	1.4289	1.48389

The repeated measures ANOVA in Table 122 indicated a statistically significant linear trend of the means across the 12 time periods ($F = 11.601$, $df=11$, $p < .0001$). A graph of the 12 means further provides a visual depiction of the trend of total mean ratings.

Table 122

Repeated Measures ANOVA Table for Negative Behavior Ratings for AAT-PSF —Experimental Group (n=140)

Source	SS	df	MS	F	p
Individuals	219.473	139	1.579		
Occasions (Time)	81.689	11	7.426	14.816	.0001
Error	766.370	1529	.501		
Total	1067.532	1679			

$p < .05$

Figure 3 of the 12 means further provides a visual depiction of the trend of total mean ratings. The trend analysis assesses whether there is a functional relationship between the independent variable (time) and the dependant variable (equine assisted counseling). The functional relationship describes the general trend or nature of relationship between the dependant variable (equine assisted counseling) and independent variable (time). A test of

specific linear, quadratic, and cubic trend indicated that the means appear to have more of a quadratic trend ($F = 43.820, p < .0001$) than a cubic trend ($F = 16.240, p < .0001$) or linear trend ($F = .222, p < .638$). This means the negative behaviors started out level and then the negative behaviors decreased over time, but not enough to be a linear change (straight line), therefore the graphed trend line, has a bends in it.

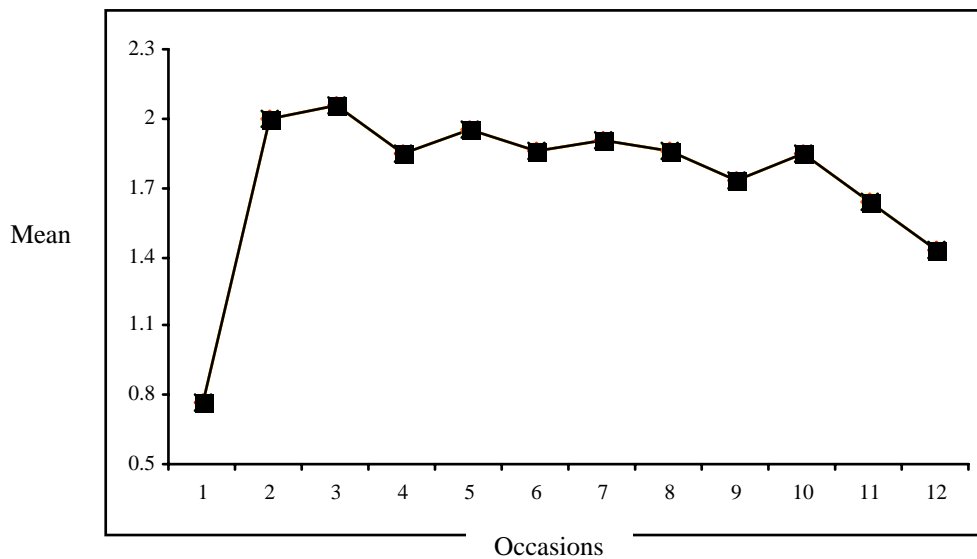


Figure 3. Negative ratings – linear trend of means for AAT-PSF by occasions.

Discussion

The statistical, practical, and clinical results of this study provide valuable information regarding the effectiveness of equine assisted group counseling compared to n-school curriculum group guidance/counseling with at-risk children and adolescents. It is important to provide statistical, practical, and clinical significance because, by providing all three measures of significance, the researcher is providing the reader not only with information about the statistical significance but also with enough information to assess the magnitude of the observed effect or relationship (Thompson, 2002). In particular, results examined the effects of treatment on eight-

year-old through fourteen-year-old students ($n=164$) who had been identified as at-risk by teachers, school administrators, and parents. Hypothesis 1 through 3 treatment outcomes were measured through pre-test and post-test assessment by self-report, parent-report, and teacher-reports on students internalizing problem behaviors, externalizing problem behaviors, as well as adaptive and maladaptive behaviors as measured by the BASC. These results indicated statistically significant mean differences from pre-testing to post-testing for both the equine assisted group counseling and the in-school curriculum group guidance/counseling on specific behaviors. In addition, these results indicated statistically significant mean differences from pre-testing to post-testing when comparing the equine assisted group counseling intervention to the in-school curriculum group guidance/counseling intervention on specific behaviors. The trend analysis conducted for Hypothesis 4 indicated statistically significant changes occurred across the 12 sessions for the experimental treatment group (equine assisted group counseling) as measured by the AAT-PSF.

When examining the results for the BASC, it is important to understand the meaning of the various behavioral scales. An Index scale is used to define the persons' level of functioning and reflects the overall level of behavior. Composite scales comprise the next level of scales. Composite scales are helpful for summarizing performance and for making broad conclusions regarding different types of adaptive and maladaptive behaviors. Composite scales represent behavior dimensions that are distinct but not independent; problem behaviors often occur in concert rather than individually. Individual scales are perhaps the most powerful measure for looking at specific behaviors (Reynolds & Kamphaus, 1992).

An interpretation of the results are presented below, and organized as follows: (a) changes in behaviors as reported on the BASC Self-Report of personality and self-perceptions,

(b) changes in behaviors as reported on the BASC Parent-Report, (c) changes in behaviors as reported on the BASC Teacher-Report, and (d) changes in positive, negative, and total behaviors across time as measured by the AAT-PSF.

Changes in Behaviors as Reported on the BASC Self-Report

Equine Assisted Group Counseling Treatment Intervention

Children and adolescents who received equine assisted group counseling reported statistically significant improvement in all scale levels: (a) indexes, (b) composites, and (c) individual scales (listed in hierarchal order). Students also reported improvement in five behavioral and self-perception areas: 1) Emotional Symptom Index ($p=0.027$), 2) Clinical Maladjustment Composite ($p=0.030$), 3) Atypical individual scale ($p=0.002$), 4) Sense of Inadequacy individual scale ($p=0.004$), and 5) Relationship with Parents individual scale ($p=0.018$).

Index Scales

Emotional Symptom Index. The first scale to show statistical significant change was the Emotional Symptom Composite, which is the most global indicator of serious emotional disturbance, particularly with internalized disorders. It is a composite comprised of two scales from the Clinical Maladjustment composite (Social Stress and Anxiety), two scales from the Personal Adjustment composite (Interpersonal Relations and Self-Esteem), and two scales that appear on no other composite (Depression and Sense of Inadequacy), which strongly connotes internal feelings of emotional upset (Reynolds & Kamphaus, 1992). Achieving statistical significance in this index indicates that students who received the equine assisted group

counseling intervention experienced improvement of their internalizing behaviors.

Composite Scales

Clinical Maladjustment Composite. The second scale to show statistically significant change was the Clinical Maladjustment Composite. This composite measures maladjustments typical of behaviors that represent negative or undesirable characteristics. This composite is characterized as a broad index of distress that reflects the clinical and internalizing problems, an individual is experiencing. The Clinical Maladjustment composite includes five individual scales (Anxiety, Atypicality, Locus of Control, Social Stress, and Somatization) and is characterized as a broad index of distress that reflects the clinical internalizing problems a child or adolescent may be experiencing (Reynolds & Kamphaus, 1992). These findings demonstrate that equine assisted group counseling is effective in reducing a wide range of negative internalizing behaviors as reported by the participants.

Individual Clinical Scales

Atypicality. The third scale to show statistically significant change was the Atypicality scale. This scale examines the tendency to have bizarre thoughts, gross mood swings, subjective experiences, thoughts, or behaviors considered “odd or commonly associated with psychosis such as experiencing visual or auditory hallucinations” (Reynolds & Kamphaus, 1992, p. 59). These results show that students who received equine assisted group counseling experienced a noticeable decrease in their unusual perceptions, behaviors, and thoughts. Indicating that the students’ thought process have stabilized (no longer confused) and the students now experience an increased ability to exercise rational control over one’s behavior.

Sense of Inadequacy. The fourth scale to show statistically significant change was the Sense of Inadequacy scale, which includes perceptions of being unsuccessful in school, unable to achieve one's goals, and a general feeling of inadequacy. Improvements in this scale indicate the students who received equine assisted group counseling gained a positive perception of self, the belief that they can achieve, and be successful.

Individual Adaptive Scales

Relationship with Parents. The final scale to show statistically significant change as reported on the BASC Self-Report was Relationship with Parents, which represents a positive regard towards parents and a feeling of being esteemed by them. These results indicate that students who received equine assisted group counseling developed a positive or desirable perception of being important in the family, improvement of the parent-child relationship, and the student's perception of their parents trust in them and concern for them significantly improved.

In-School Curriculum Group Guidance/Counseling

Children and adolescents who received in-school curriculum group guidance/counseling reported statistically significant improvement in all scale levels: (a) indexes, (b) composites, and (c) individual scales (listed in rank order). Students also reported improvement in four behavioral and emotional areas: 1) Emotional Symptom Index ($p=0.026$), 2) Personal Adjustment Composite ($p=0.026$), 3) Social Stress ($p=0.028$), and 4) Self-Esteem ($p=0.012$).

Index Scales

Emotional Symptom Index. The first scale to show statistically significant change was the Emotional Symptom Composite, which is the most global indicator of serious emotional disturbance, particularly with internalized disorders. It is a composite comprised of two scales from the Clinical Maladjustment composite (Social Stress and Anxiety), two scales from the Personal Adjustment composite (Interpersonal Relations and Self-Esteem), and two scales that appear on no other composite (Depression and Sense of Inadequacy), which strongly connotes internal feelings of emotional upset (Reynolds & Kamphaus, 1992). Achieving statistical significance in this index indicates that students who received the curriculum-based group counseling intervention experienced statistical improvement of their internalizing behaviors. It should be noted that students who received the equine assisted group counseling intervention also achieved statistical significance in this index Emotional Symptom Index ($p=0.027$).

Composite Scales

Personal Adjustment Composite. The second area to show statistically significant change was Personal Adjustment Composite, which consists of the Relationship with Parents, Interpersonal Relations, Self-Reliance, and Self-Esteem individual scales. These results indicate that students who received curriculum-based group counseling experienced positive levels of personal adjustment, in areas such as: interpersonal relationships, self-acceptance, identity development, and ego strength.

Individual Clinical Scales

Social Stress. The third area to show statistically significant change was Social Stress,

which examines feeling of stress and tension in personal relationships. These results indicate that students who received the curriculum-based group counseling intervention experienced a reduction in stress in relationship and interactions with others, feelings of tension and pressure declined, and coping abilities associated with friends and social contact improved.

Individual Adaptive Scales

Self-Esteem. The final area to show statistically significant change was Self-Esteem, which includes feeling of self-respect and self-acceptance. Indicating that students self-satisfaction improved, students sense of their identity increased, and students levels of ego strength improved to appropriate levels after receiving curriculum-based group counseling.

Conclusion 1: Changes in Behaviors as Reported on the BASC Self-Report

The equine assisted group counseling treatment group showed statistically significant improvement in all scale levels: (a) indexes, (b) composites, and (c) individual scales (listed in hierarchal order). Participants reported improvement in five behavior areas: Emotional Symptom Index ($p=.027$), Clinical Maladjustment Composite ($p=.30$), Atypical ($p=.002$), Sense of Inadequacy ($p=.004$), and Relations with Parents ($p=.018$). The in-school curriculum group guidance/counseling treatment group showed statistical significant improvement in four areas: Emotional Symptom Index ($p=.026$), Personal Adjustment Composite ($p=.026$), Social Stress ($p=.028$), and Self-Esteem ($p=.012$) with only one behavior area the same for both treatment groups (Emotional Symptom Index), as reported by the BASC Self-Report. Thus, both treatment modalities are effective according to the children and adolescents in this study, though, for the most part, each treatment modality affected different behaviors.

Conclusion 2: Changes in Behaviors as Reported on the BASC Parent-Report

Parents of children and adolescents who received equine assisted group counseling reported statically significant improvement in all scale levels: (a) indexes, (b) composites, and (c) individual scales (listed in hierarchal order). Parents reported improvement in 12 behavioral and emotional areas: 1) Behavioral Symptom Index ($p=0.000$), 2) Externalizing Problems Composite ($p=0.000$), 3) Internalizing Problems Composite ($p=0.000$), 4) Adaptive Skills Composite ($p=0.003$), 5) Hyperactivity ($p=0.000$), 6) Aggression ($p=0.000$), 7) Conduct Problems ($p=0.001$), 8) *Anxiety* ($p=0.000$), 9) Depression ($p=0.001$), 10) Somatization ($p=0.036$), 11) Adaptability ($p=0.003$), and 12) Social Skills ($p=0.010$).

Index Scales

Behavioral Symptom Index. The first area that achieved statistical significance was the Behavioral Symptom Index. This index is used to define the level of functioning or adaptation of an individual. This index is a combination of central scales from the clinical composite scales (clinical scales measure maladaptive behaviors) that reflect overall problem behaviors (Reynolds & Kamphaus, 1992). According to parent, children and adolescents in the equine assisted group counseling treatment group exhibited overall improvement in problem behaviors. These results indicate that after children and adolescent received equine assisted group counseling their ability to cope and adapt to new situations increased. While also decreasing overall maladaptive behaviors as a result of receiving equine assisted group counseling as observed by their parents.

Composite Scales

Externalizing Problems Composite. The second scale that achieved statistical significance

was the Externalizing Problem Composite. Composite scores are useful as indexes of the overall level of adaptation and its impact on the individual. The composite Externalizing Problem Composite scale consists of the Hyperactivity, Aggression, and Conduct Problem scales, and is characterized by disruptive behavior problems such as aggression, hyperactivity, and delinquency. A central characteristic of the Externalizing Problem composite is the disruptive nature of the child's behavior. Such children disrupt the activities of both peers and adults and they often are unresponsive to adult direction (Reynolds & Kamphaus, 1992). These results indicate that parents of children and adolescents who received equine assisted group counseling experienced reduction in their child's hyperactivity, aggression, and conduct problem behaviors. This research finding is important because parents generally are less tolerant of externalizing behavior problems, and parents expend a significant amount of energy trying to change problematic behaviors. Furthermore, children and adolescents exhibiting these behavior difficulties often have problems maintaining relationships with peers, family members, and teachers. Thus, the findings of this research support equine assisted group counseling as an agent in changing the externalized behavior problems of children and adolescents is significant to the mental health and school communities.

Internalizing Problems Composite. The third scale that achieved statistical significance was the Internalizing Problems Composite. This composite is comprised of the Anxiety, Depression, and Somatization scales. These scales measure depression, anxiety, and similar difficulties that are not marked by acting-out behaviors. Children and adolescents with internalizing problems typically are not disruptive (Reynolds & Kamphaus, 1992) and often go unnoticed. These results indicate that parents of students who received equine assisted group counseling experienced a reduction in their child's and adolescent's internalizing problem

behaviors such as anxiety, depression, and physical symptoms (headache and stomach aches).

These findings are important because Internalizing Behaviors, such as anxiety and depression, often go unidentified and untreated in children and adolescents until they become serious, or even deadly. Typically, parents and other significant adults in the lives of children and adolescents have difficulty recognizing the subtle problem behaviors associated with internalized behaviors. Due to the growing trend of suicide among adolescents, identifying successful counseling treatments for internalizing problem behaviors that are effective in providing responsive to the developmental and psychological needs of children and adolescents is critical.

Adaptive Skills Composite. This composite consists of the Adaptability, Social Skills, and Leadership scales. It summarizes prosocial, organizational, study, and adaptive skills. The statistically significant result of this composite scale is very important because these skills in many ways are in complete or exact opposite of the problem behaviors represented by the other composite scales and similar to internalizing problem behaviors poor adaptive skills in children and adolescents often go unnoticed and untreated. Therefore, these research results are essential in identifying a counseling treatment that not only identifies poor adaptive skills, but also is clinically effective in improving and building social skills, leadership skills, and individual adaptability and coping mechanisms.

Individual Clinical Scales

Hyperactivity. The fourth scale to show statistically significant change was the Hyperactivity scale. This scale assesses two aspects of the ADHD symptom triad, hyperactivity, and impulsivity (Reynolds & Kamphaus, 1992). These results indicate that parents of children and adolescents receiving equine assisted group counseling treatment demonstrated a noticeable

increase in their ability to focus, stay on task, and no-longer be overactive.

Aggression. The fifth scale to show statistically significant change was the Aggression scale. This measure assesses both verbal and physical aggression. These findings demonstrate that equine assisted group counseling is effective in reducing behaviors such as arguing, name calling, criticizing, verbally threatening others, hitting other, breaking others' possessions, and being cruel to animals.

Conduct Problems. The sixth scale to show statistically significant change was the Conduct Problems scale. This scale measures socially deviant and disruptive behaviors that are directed against others. According to the parent reports, children and adolescents who received equine assisted group counseling demonstrated noticeable improvement in conduct problem behaviors that included: cheating, lying, stealing, and alcohol and drug use, to name a few. These findings are significant because conduct problems worsen with age, influenced by such factors as academic failure, poor parenting, and peer rejection. These factors, if gone untreated, can also lead to depression and suicide.

Anxiety. The seventh scale to show statistically significant change was the Anxiety scale. Symptomatic behaviors measured by the Anxiety scales include fears, phobias, and self-deprecation. These results provide support for the efficacy of equine assisted group counseling with children and adolescents in reducing internalizing behavior problems, primarily anxiety, before their problems become more serious.

Depression. The eighth scales to show statistically significant change was the Depression scale. This scale assesses the presence of maladaptive child and adolescent cognitions about self, the world, and the future. These results indicate that parents experienced their children and adolescents as exhibiting a decrease in depression behaviors, such as withdrawing from others,

crying easily, or saying negative statements about self.

Somatization. The ninth scale to show statistically significant change was the Somatization scale. This scale assesses the tendency to have numerous medical complaints, most of which cannot be traced to a physical condition. Parents reported that after receiving equine assisted group counseling their children and adolescents reported fewer complaints of recurring abdominal pain, fewer headaches, and other physical ailments not associated with a physical medical condition.

Individual Adaptive Scales

Adaptability. The tenth scale to show statistically significant change was the Adaptability scale. Adaptive scales measure positive behaviors, indicating that the results of this study, as reported by the parent of children and adolescents who receive equine assisted group counseling, witnessed their children as having improved ability to adjust to changes in routine, to adjust to new teachers, to shift from one task to another, and to share possessions with others. These findings are significant because, according to Reynolds & Kamphaus (1992), the Adaptability scale is based on temperament research by Marin (1988), whose findings indicated that the adaptability temperament correlates with school achievement.

Social Skills. The final scale to show statistically significant change on the BASC Parent-Report was the Social Skills scale, which is considered the key to adequate adaptation (Reynolds & Kamphaus, 1992). This scale emphasizes the importance of social skill development and the interpersonal aspects of social adaptations. These results indicate children and adolescents who received equine assisted group counseling exhibited an increase in social skills as reported by their parents. Examples of social skill improvement include admitting mistakes, complimenting

others, encouraging others, offering assistance, and saying “please” and “thank you.”

Parents of children and adolescents who received in-school curriculum group guidance/counseling reported statistical significant improvement in one scale, Depression ($p=0.016$). This scale assesses the presence of maladaptive child and adolescent cognitions about self, the world, and the future. These results indicate that parents experienced their children and adolescents as exhibiting a decrease in depressive behaviors, such as withdrawing from others, crying easily, or saying negative statements about self.

Thus, the equine assisted group counseling treatment group showed statistically significant improvement in 12 behavior areas and the one behavior area being statistically significant for both treatment groups (Depression), as reported by the BASC Parent-Report. Consequently, the equine assisted group counseling treatment intervention was very effective in reducing internalizing problem behaviors, and externalizing problem behaviors, while also improving adaptive skills, whereas the in-school curriculum group guidance/counseling treatment group was only effective in reducing depression, according to the parents of the participants.

Conclusion 3: Changes in Behaviors as Reported on the BASC Teacher-Report

Teachers of children and adolescents who received equine assisted group counseling reported no statistically significant improvements. Teachers of children and adolescents who received in-school curriculum group guidance/counseling reported statistical significant improvement in one scale, Somatization ($p=0.014$). Thus, the in-school curriculum group guidance/counseling treatment modality is only slightly effective according to the teachers, and the equine assisted counseling treatment modality is not effective according to the teacher.

However, the validity of the BASC Teacher-Reports may be compromised due to the large amount of high scores on validity indexes. Specific areas of concern in data validity include Extreme Caution and Caution on the *F* Index (tendency of rater to be negative), as well as Caution on the Consistency Index (raters responds carelessly). These indexes are designed to assess rater's validity and intentional non-cooperation. Therefore, the reader is urged to interpret the BASC Teacher-Report results with caution.

When assessing compromised validity results there a variety of reasons that must be examined, such as intentional dissimulation, stress on the part of the rater (teacher) or inadequate familiarity of the individual being rated (Reynolds & Kamphaus, 1992). Reynolds & Kamphaus (1992) suggest exploring the possibility of invalidity by comparing the ratings of other BASC results. Therefore, if teacher's rates are strongly negative (high *F* Indexes) but the parent or self report is not negative, than it is highly likely the teacher's ratings are compromised. The BASC Teacher-Report *F* Index assesses the possibility that a teacher rated the student in an inordinately negative fashion. Hence, due to the high number of Extreme Caution and Caution scores on this index indicates either the presence of extraordinary maladaptive behaviors or suggests that the teachers rated the student's performance more severely than warranted (Reynolds & Kamphaus, 1992).

The BASC Parent-Report and the BASC Self-Report *F* Index scores were within normal range for this research study. Therefore, due to the high number of Extreme Caution and Caution scores on this index indicates either the presence of extraordinary maladaptive behaviors or suggest that the teachers rated the student's performance more severely than warranted.

The Consistency Index was another area of concern regarding the Teacher-Report; this index consists of nonsensical items. Because of the high number of Caution scores, this index

could indicate teachers responded with carelessness or failure to cooperate with the process (Reynolds & Kamphaus, 1992). On the other hand, the Caution scores on the Consistency Index may also be due to the potential problem of the researcher failing to provide a controlled environment free from school distraction and responsibilities for teacher data collection. The researcher assumed that teachers would complete the report away from distractions and allow sufficient time to focus on accurate observations of the student they were assessing.

A search of outcome research literature revealed that other researchers have reported similar discrepancies in teacher reports regarding reliability (Garza, 2004; McGuire, 2001; Rennie, 2000; and Ray, Muro & Schuman, 2004), stating that teachers seemed to take insufficient time to accurately rate students. Thus, suggesting that careful consideration is needed in controlling for an environment free from distraction and responsibilities in which teacher's complete research assessments. Consequently, researchers may want to explore alternative ways of gaining research measures.

Conclusion 4: Changes in Behaviors as Reported on the BASC Self-Report Comparing Equine Assisted Group Counseling to In-School Curriculum Group Guidance/Counseling

Children and adolescents who received equine assisted group counseling demonstrated a statistically significant difference in their posttest scores on the Social Stress ($p=0.034$) and Self-Esteem scale ($p=0.024$) of the BASC-SRS, at the .05 level, when compared to the in-school curriculum group guidance/counseling treatment group's posttest scores. This indicates that, on average, children and adolescents receiving equine assisted counseling performed more than three fourths of a standard deviation better on the Social Stress Scores and Self-Esteem of the BASC-SRS, when compared to children and adolescents receiving in-school curriculum group guidance/counseling.

The Social Stress results indicate that students who received the equine assisted group counseling intervention experienced a reduction in stress in relationships and interactions with others, feelings of tension and coping abilities associated with friends and social contact improved. The Self-Esteem scale, which includes feeling of self-respect and self-acceptance, indicates that students self-satisfaction improved, students sense of identity increased, and students levels of ego strength improved to appropriate levels after receiving equine assisted group counseling.

Children and adolescents who received equine assisted group counseling did not demonstrate a statistically significant difference in their posttest scores for the remaining scales (School Maladjustment Composite, Clinical Maladjustment Composite, Personal Adjustment, Emotional Symptom Index, Attitude toward Teachers, Attitude toward School, Atypical, Locust of Control, Anxiety, Depression, Sense of Inadequacy, Relationship with Parents, Interpersonal Relations, Self Reliance, and Somatization, of the BASC-SRS, at the .05 level, when compared to the in-school curriculum group guidance/counseling treatment group's posttest scores.

Changes in Behaviors as Reported on the BASC Parent-Report Comparing Equine Assisted Group Counseling to In-School Curriculum Group Guidance/Counseling

According to parents reports children and adolescents who received equine assisted group counseling demonstrated a statistically significant difference in their posttest scores on the Behavioral Symptom Index ($p=.050$), Externalizing Problem Composite ($p=.007$), Hyperactivity ($p=.018$), Aggression ($p=.001$), and Conduct Problems ($p=.031$) of the BASC-SRS, at the .05 level, when compared to the in-school curriculum group guidance/counseling treatment group's posttest scores.

These results of the Behavioral Symptom Index which is used to define the level of

functioning or adaptation of an individual, is a combination of central scales from the clinical composite scales (clinical scales measure maladaptive behaviors) that reflect overall problem behaviors (Reynolds & Kamphaus, 1992). These results indicate that after children and adolescent received equine assisted group counseling their ability to cope and adapt to new situations increased, while also decreasing overall maladaptive behaviors as observed by their parents.

These results of the Externalizing Problem Composite scale indicate that parents of children and adolescents who received equine assisted group counseling experienced reduction in their child's hyperactivity, aggression, and conduct problem behaviors. A central characteristic of the Externalizing Problem composite is the disruptive nature of the child's behavior. Such children disrupt the activities of both peers and adults and they often are unresponsive to adult direction (Reynolds & Kamphaus, 1992). This research finding is important because parents generally are less tolerant of externalizing behavior problems, and parents expend a significant amount of energy trying to change problematic behaviors. Furthermore, children and adolescents exhibiting these behavior difficulties often have problems maintaining relationships with peers, family members, and teachers.

These results of the Hyperactivity scale indicate that parents of children and adolescents receiving equine assisted group counseling treatment demonstrated a noticeable increase in their ability to focus, stay on task, and no-longer be overactive. This scale assesses two aspects of the ADHD symptom triad, hyperactivity, and impulsivity (Reynolds & Kamphaus, 1992).

These findings of the Aggression scale which assesses both verbal and physical aggression, demonstrate that when equine assisted group counseling is compared to in-school curriculum group guidance/counseling equine assisted group counseling effectively reduced

behaviors such as arguing, name calling, criticizing, verbally threatening others, hitting other, breaking others' possessions, and being cruel to animals.

These finding of the Conduct Problems scale are significant because they indicate improvement in conduct problem behaviors that included: cheating, lying, stealing, and alcohol and drug use. Furthermore, conduct problems worsen with age, influenced by such factors as academic failure, poor parenting, and peer rejection. These factors, if gone untreated, can also lead to depression and suicide. The Conduct Problems scale measures socially deviant and disruptive behaviors that are directed against others. The difference between treatment groups over time for the remainder of the BASC scales Internalizing Problem Composite, School Problem Composite, Anxiety, Depression, Somatization, Atypical, Withdrawal, Attention Problems, Adaptive, Social Skill, and Leadership was not statistically significant.

Changes in Behaviors as Reported on the BASC Teacher-Report Comparing Equine Assisted Group Counseling to In-School Curriculum Group Guidance/Counseling

Different from what was hypothesized, children and adolescent in the equine assisted group counseling treatment group did not demonstrate a statistically significant difference in their pretest and posttest scores on any of the BASC Teacher-Report scales, at the .05 level of significance, when compared to the in-school curriculum group guidance/counseling treatment group. The reader is urged to interpret these results with caution, due to problems in data integrity for BASC Teacher-Reports, which has been discussed earlier in more detail.

Conclusion 5: Changes in Behaviors as Reported on the BASC Self-Report, BASC Parent-Report, and BASC Teacher-Report when Comparing Equine Assisted Group Counseling to In-School Curriculum Group Guidance/Counseling

The equine assisted group counseling treatment group showed statistically significant

improvement in seven behavioral scales (Behavioral Symptoms Index, Externalizing Problems Composite, Self-Esteem, Social Stress, Hyperactivity, Aggression, and Conduct Problems scales) when compared to the in-school curriculum group guidance/counseling treatment. Thus, the equine assisted group counseling treatment intervention demonstrated empirically supported effectiveness when compared to an empirically supported, award-winning curriculum-based school counseling intervention Kids Connection (Rainbow Days, 2006), for the above mentioned BASC scales.

*Overall Behavior, Positive Behavior, and Negative Behavior Changes
as Measured by the AAT-PSF*

The 12 session repeated measures for the AAT-PSF conducted on the equine assisted group counseling, showed statistically significant improvement in all three scale scores: 1) Total Overall Behaviors – (positive minus negative behaviors), 2) Increased Positive Behaviors, and, 3) Decreased Negative Behaviors. The behavioral changes presented earlier in Figures 1-3 follow a gradual pattern of improvement, intermingled with periodic downward movement. This type of back and forth client movement is somewhat typical of mental health counseling. As clients encounter emotional and social obstacles and challenges, they struggle to work through them.

The in-group means of the Serial F trend analysis children and adolescents who received equine assisted group counseling demonstrated a statistically significant shift between sessions 1 and 2 ($F=-13.61$) and also between sessions 10 and 11 ($F=15.32$). The first statistically significant shift was a negative shift. This negative shift is reprehensive of the participants being on their “good behavior” for the first session, which is typical behavior for individuals in new, unfamiliar settings. Hence, it was not until the second through twelfth sessions that the

participants exhibited their more true or typical behaviors.

The second statistically significant shift occurred between sessions 10 and 11 ($F=15.32$). An advantage of using the AAT-PSF is the counselor or the researcher can further investigate the shift in client movement, by examining the AAT-PSF therapeutic interventions or significant happenings that took place between the sessions with a statistical significant shift thus, enabling the counselor or researcher to ascertain the possible cause or influence of client movement. The therapeutic intervention that was introduced in session 10 of this research study was the participants rode bareback with a leader for the first time. Hence, it can be concluded that the building nature of this 12-week intervention resulted in significant client movement when the participants experienced bareback riding for the first time.

Conclusion 6: Animal Assisted Therapy-Psychosocial Session Form

The equine assisted group counseling treatment group showed statistically significant improvement in all three scales as reported by the AAT-PSF. Thus, equine assisted counseling is clinically effective in increasing positive social behaviors and in decreasing negative social behaviors. These findings are important because the AAT-PSF offers counselors and researchers a multifaceted tool for better monitoring and pinpointing client movement across treatment sessions.

Summary

The results of this study indicate that parents of participants and the participants themselves who received equine assisted group counseling treatment experienced and demonstrated improvement in regards to internalizing behaviors. A noticeable increase in their

ability to internally cope with their problems and seem less lonely, less nervous, cried less, and most notably, demonstrated gains in positive behaviors associated with less anxious children and adolescents. These results also indicate that the participants themselves who received curriculum-based group counseling experienced and demonstrated improvement of internalizing problem behaviors especially in the area of reduced stress, improved self-respect, and overall greater self-acceptance, although the parents of these participants did not report observing similar reduction in their child's internalizing problem behaviors, except for a reduction in depression.

These findings are important because Internalizing Behavior Problems often go unidentified and untreated in children and adolescents until they become serious, or even deadly. Typically, parents and other significant adults in children's lives have difficulty recognizing the subtle problem behaviors associated with anxiety, depression, and other internalized behaviors; parents and teachers may assume the child is shy or quiet, or they may attribute these behaviors to a phase the child will outgrow. With the growing trend of suicide among adolescents, identifying proven treatments that significantly improve internalizing behavior problems is critical to the mental health and school communities.

In light of the findings regarding the effects of equine assisted group counseling on internalizing problems as reported by the participants and their parents, the results in this study are particularly promising. These results provide support for the efficacy of equine assisted group counseling with elementary and middle school children in reducing internalizing behavior problems before their problems become more serious.

Externalizing behavior problems are one of the primary reasons children are referred for counseling and these behaviors are generally less tolerated by parents and teachers. Children and

adolescents exhibiting these behavior difficulties often have problems maintaining relationships with peers, family members, and teachers. Parents and teachers alike often expend a significant amount of energy trying to change problematic behaviors. These results indicate that parents of children and adolescents who received equine assisted group counseling experienced a reduction in their child's hyperactivity, aggression, and other conduct problem behaviors. The results also indicate that parents of children and adolescents who received curriculum-based group counseling did not exhibit a reduction in any externalizing problem behaviors. As a result, the findings of this research support equine assisted group counseling as an agent in changing externalized behavior problems in children and adolescents.

The results of this study also support equine assisted group counseling as an effective counseling treatment modality for improving adaptive skills, such as leadership, adaptability, and social skills in children and adolescents. Furthermore, these results indicate that parents of children and adolescents who received curriculum-based group counseling did not demonstrate a reduction in any adaptive skill behaviors. This significant result is very important because *Adaptive* skills in many ways or in complete or exact opposite of the problem behaviors and often go undedicated and untreated.

This study has demonstrated the empirically supported effectiveness of equine assisted counseling by comparing this counseling modality to an empirically supported, award-winning curriculum-based school counseling intervention *Kids Connection* (Rainbow Days, 2006). In addition, when taking into account there were no previous published empirical findings regarding the effects of equine assisted counseling on internalizing problem behaviors, externalizing problem behaviors, and adaptive skills and its comparison to an empirically supported treatment, the findings in this present study are particularly remarkable.

Limitations of Study

When interpreting the data analyses, the reader is offered the following study limitations:

1. Due to the nature of the Kid's Connection recommended guideline that their curriculum-based counseling groups received 1-hour weekly sessions, versus the weekly 2-hour sessions received by the equine assisted group counseling intervention, there is now way to know if this time differential impacted the research results.
2. The Kid's Connection curriculum-based program also is presented in a structured systematic format in a classroom setting. Whereas the equine assisted group counseling intervention received the intrinsically relaxing and pleasing surroundings that an outdoor setting provides, which influences the holistic development of the client.
3. The researcher's lack of control over the delivery of the Kid's Connection curriculum-based intervention by school counselors.
4. The sample size of the comparison treatment group ($n=38$) was not equal to the experimental treatment group ($n=148$). Therefore, it is difficult to determine if differences in two groups influenced study results.
5. The BASC Teacher-Reports may have been compromised due to the number of high scores on the validity F index. Specific areas of concern in data validity included Extreme Caution and Caution (tendency of rater to be negative) in this index.
6. The large number of Caution on the Consistency Index for the BASC Teacher-Report may be due to the possible lack of providing a controlled environment free from school distraction and responsibilities for teacher data collection.
7. Inter-rater reliability, was informally vs. formally established for the AAT-PSF
8. A statistical method of evaluation to evaluate and quantify rater bias was not conducted on the AAT-PSF data collection.
9. Data collection integrity was not controlled for teacher and parents.
10. The internal validity of this study is threatened by the possible effect of maturation. Inherent to the design of this study exists the potential for the student's developmental changes in physical and emotional areas to influence the outcome irrespective of the treatment administered.
11. The Animal Assisted Therapy—Psychosocial Session Summary is a new instrument that needs further research to tests its validity and reliability.
12. Lack of a control group.

Contributions and Strength of Study

State-of-the-art psychological treatment and prevention is one of the Surgeon General's (2000) goals to improve child and adolescent mental health. School boards, school administration, state officials, and the managed care industry are demanding counseling treatment modalities to be scientifically proven. The empirical results of this non-traditional approach to mental health care (equine assisted counseling) linked with its experiential delivery system and its expanding therapeutic roles illustrated in this research study, is an example of a counseling intervention that goes beyond the clinical treatment of disorders, and harnesses the strength of the individual to facilitate the prevention or resolution of emotional and behavioral difficulties. This is important because mental health plays a critical role in children and adolescents ability to learn, be successful, contribute to society, and have good health. Children and adolescents with mental disorders are at risk for academic failure and/or dropping out of school.

Results of this study are particularly noteworthy because this is the first study of its kind in establishing equine assisted counseling as an empirically supported counseling treatment modality. This research supports the clinical, practical, and statistical importance of equine assisted counseling with at-risk children and adolescents.

In addition, this study utilized a treatment group versus comparison treatment group design. Historically, research critics have called on counseling researchers to utilize comparison treatment groups when examining the effectiveness of interventions. Of critical importance to this study is that the comparison intervention Rainbow Day's Kid's Connection is an empirically supported curriculum that, in 1999, Rainbow Days Inc. was selected as an Exemplary Substance Abuse Prevention Program by the Center of Substance Abuse Prevention and as a Top 100 Best

Practices Program by the U.S. Department of Housing and Urban Development (Rainbow Days, 2006). This further validates the empirical supported effectiveness of equine assisted counseling when compared to a second treatment intervention resulted in statistical, practical, and clinical significant findings.

Recommendations for Further Research and Practice

Based on the results of this study, the following recommendations for further research are recommended.

1. Conduct a replication of this study to further validate the finding of this study and of equine assisted counseling.
2. Equine assisted counseling services should be offered as a counseling treatment modality to better generalize the results.
3. To control for reliability and validity on BASC Teacher-Reports, researchers may need to put in place controls for hectic environments and hurriedness, thus, allowing teachers the time needed to relax and fully concentrate on the task.
4. Conduct a follow-up study of the children and adolescents in this study to ascertain the long-term effect and generalizability of improved behaviors.
5. Conduct a study comparing individual and group equine assisted counseling with children and adolescents in order to control for the “camaraderie” factor.
6. Conduct a replication of this study with the addition of a control group. This addition would enhance the research design and permit additional conclusions to be drawn as to the effectiveness of equine assisted counseling

Concluding Remarks

A current review of the literature suggests that this research study is the first study designed to explore the effects of equine assisted counseling treatment with “At-Risk” children and adolescents. The many statistically significant results, paired with its large, moderate, and small practical significant findings, start the process of establishing equine assisted counseling as

an empirically supported counseling treatment modality. Further research in this area with consideration to this study's limitations would greatly enhance the success and future of equine assisted counseling while also continuing to increase the mental health community and the general public's awareness of the psychosocial and psychological health benefits of positive human-animal interactions.

APPENDIX A

CHILD ASSENT TO PARTICIPATE IN RESEARCH STUDY

Child Assent Form

EQUINE ASSISTED GROUP PSYCHOTHERAPY RESEARCH INFORMATION

Directions: Read to child subjects, allow child to ask questions at any point during the reading of this statement.

My name is _____. I am a counselor for children. That means I talk and work with children about things that are important to children. Sometimes children feel sad. Sometimes children feel scared and sometimes children like to tell stories to adults. I am studying about some better ways to help children and would like your help.

If you want to, you can come to a ranch once a week to work with horses and talk with a counselor, who is an adult like me. The ranch has lots of horse for children, and you can choose to work with many of them that you want to and also talk about anything you want to talk about.

If you decide you want to help me, you will come one time every week for 2 hours. You will come to the ranch 12 times before school is out for the semester. You will also be asked to complete a questionnaire at the beginning and at the end of the study, here at the ranch. The questionnaire will take approximately 20 minutes to complete. You can say yes, if you want to help me, or if you don't want to help you can say no; it's up to you.

Which do you choose? *(Allow the child to respond and confirm his or her response.)*

(If child indicates he/she wants to help)

Also, I would like you to know that you can always change your mind and you can tell your parent (guardian) that you changed your mind and decided that you do not want to help me.

I also want you to know that during this time each week, what you choose to say or do while you are here is private, only those in your group will know about it. I will not tell your parent or teacher what you say or do during this time. If you want to, you can tell your parents or teacher about what you do during the time you are here. This rule will only be broken if I think you are not safe and need to be protected. If you want to tell your parent or teacher about what you do during here, you can.

Sincerely,

Kay Trotter, M.Ed., LPCI, NCC
Licensed Professional Counselor Intern
National Certified Counselor
University of North Texas, Counseling Department Doctoral Candidate

ASSENT OF CHILD

Title of the study: The Effectiveness of Equine Assisted Group Psychotherapy with Children and Adolescents.

Principal Investigator: Kay Trotter, M.Ed., LPCI, NCC
Licensed Professional Counselor Intern
National Certified Counselor
University of North Texas, Counseling Department Doctoral Candidate

_____ (name of child) has agreed to participate in the following research project:

(Signature of the Subject)

Signature of the Parent or Guardian must be substituted if parent waives assent.

WAIVER OF ASSENT

The assent of _____ (name of child) was waived because of

_____ Age

_____ Maturity

_____ Psychological state of the child

Signature of Subject, Parent, or Guardian

Date

APPENDIX B

PARENTAL CONSENT FOR CHILD TO PARTICIPATE IN RESEARCH STUDY

RESEARCH CONSENT FORM

Subject Name: _____ Date: _____

Title of the study: The Effectiveness of Equine Assisted Group Psychotherapy with Children and Adolescents.

Principal Investigator: Kay Trotter, University of North Texas, Counseling Department
Doctoral Candidate.

Before agreeing to your and your child's participation in this research study, it is important that I and my child read and understand the following explanation of the proposed procedures. It describes the procedures, benefits, risks and discomforts of the study. It is important for me and your child to understand that no guarantees or assurances can be made as to the results of this study.

My and my child's participation is voluntary and I and/or your child may choose to withdraw at any time during the study without penalty of any kind. Your signature indicates that your child meets all of the requirements for participation and you have decided to allow your child to participate. You have been told that you will receive a signed copy of this consent form.

Your decision whether or not you and your child will participate will not affect your child's standing at their school or at Rocky Top. At the conclusion of the study, a summary of results will be made available to all interested parents, counselors, and teachers (aggregate data only will be made available).

Purpose of the study and how long it will last:

The purpose of this study is to determine the therapeutic effectiveness of equine assisted group psychotherapy with school age children and adolescents experiencing a variety of adjustments difficulties.

The study involves 2-hour group counseling sessions for your child, one time per week for approximately 12 weeks. Groups will consist of 6 to 16 people. I and my child will also be asked to complete a questionnaire at the beginning and at the end of your child's counseling. The questionnaire will take approximately 20 minutes to complete.

Description of the study including the procedures to be used:

If you allow your child to participate, first, your child will be randomly assigned to receive either equine assisted group counseling, or the KISD standard group guidance program that is already in existence at all KISD schools. Students randomly assigned to receive equine assisted group counseling, will be transported by KISD to the Rocky Top Therapy Center of Keller Texas.

Secondly, you, your child, and your child's counselor/teacher will be asked to complete a questionnaire, one at the beginning and one at the end of the study. The questionnaires work to categorize behaviors as well as giving important information about your child's behaviors. The parent, counselor/teacher, and self-report questionnaires take approximately 20 minutes to complete each. The Principal Investigator will record the results and compare results.

Description of the procedures/elements that are associated with foreseeable risks:

For the purpose of this study, psychological risks include any experience or reaction to the usual life stressors experienced during the group session, which consist of 6 to 16 participants. What your child says will be heard by others in his/her group at Rocky Top. This may mean as many as 16 children as well as 3-member team. There is no emotional discomfort directly involved with this study other than the normal expression of anger, sadness or frustration associated with expressing emotions through counseling. There are no physical risks associated with equine assisted psychotherapy other than the normal risk of interacting with animals.

Participants are trained in horsemanship safety techniques, participants wear helmets at all time when mounted, and must demonstrate the ability to perform an emergency dismount upon command. If in the event of an emergency, members of the treatment team are equipped with a cell phone to contact emergency personal. The close's fire station with emergency personal is located directly across the street from Rocky Top Therapy Center.

Benefits to the subjects or others:

Equine assisted group psychotherapy both promotes personal exploration of feelings and behaviors, and allows for clinical interpretation of feelings and behaviors. While at the same time it may provide individuals with tools to better manage their lives and may foster positive relationships, while teaching problem solving skills that may encourage individuals to think of resolutions to problems and try different approaches, and may encouraging individuals to try new ideas whether they work or not.

This interaction between individuals, horses, and the trained therapist may help enhance your child's self esteem, self-control, and self-confidence. There may be times after the sessions when your child may behave a little differently (more quiet or more active). The school counselor for your child will be available to help you understand what is going on with your child and give you ideas about responding to your child.

Elementary, middle, and high school is a time when individuals develop attitudes concerning self, peers, social groups and family. Those individuals selected to receive equine assisted group psychotherapy sessions will be exposed to new skills that may help to improve their academic, personal/social and career development.

Confidentiality of research records:

The information you provide when you and your child answer the questionnaires will be kept confidential, and will not be disclosed in any publication or discussion of this material.

Individual response will not be disclosed but information will be reported on a group basis. All information will be recorded with code numbers to preserve confidentiality. Only the researcher, Kay Trotter, the experienced horse professional, Deborah Bond, and the student's counselors/teacher will know the participants' names. At the end of the study, the list of names will be destroyed.

The only exceptions to confidentiality are if a) a child or adolescent disclosed abuse, neglect or exploitation, b) the child or adolescent is a danger to oneself or to someone else, c) a court orders disclosure of information, or d) the parent or legal guardian requests release of information.

Review for protection of participants:

This research study has been reviewed and approved by the UNT Committee for the Protection of Human Subjects (940) 565-3940.

Research Subjects' Rights:

I have read or have had read to me all of the above.

Kay Trotter has explained the study to me and answered all of my questions.

I understand that my child and I do not have to take part in this study, and my refusal to allow my child to participate or my decision to withdraw my child will involve no penalty or loss of rights or benefits. The study personnel may choose to stop my participation at any time.

In case there are problems or questions, I have been told I can call Kay Trotter or Dr. Cynthia Chandler at telephone number 940-565-2942.

I understand my rights as a research subject, and I voluntarily consent to my child's participation in this study. I understand what the study is about and how and why it is being done. I have been told I will receive a signed copy of this consent form.

Signature of Parent or Guardian

Date

For the Investigator or Designee:

I certify that I have reviewed the contents of this form with the person signing above, who, in my opinion, understood the explanation. I have explained the known benefits and risks of the research.

Signature of the Principal Investigator or Designee

Date

APPENDIX C

NEW TRAIL: A EQUINE ASSISTED COUNSELING 12-WEEK TREATMENT MANUAL

NEW TRAIL 12-WEEK TREATMENT MANUAL

Table of Contents

Activities	Objective	Page
Session One		
Ranch Names	Initiate Unique Experience	156
Duck and Cover	Team Building	157
Group Juggle	Handling the Unexpected.....	158
Five Finger Contract	Understand Expectations	159
Tour of Ranch—Intro to Horse Safety.....	Observe Horse Behavior	160
Horse Behavior	Expanding Horizons.....	161
Session Two		
Raccoon Circle.....	Building a Sense of Community	162
Reading Horses Ears	Non-Verbal Communication.....	163
Horse Safety.....	Keeping Safe.....	164
Horse Body Parts	Insight About Self	164
Catch and Release	Problem Solving.....	165
Building a Relationship.....	Positive Attachment	166
Session Three		
One True Path	Alliance, Communication	168
Quick Release Knot	Responsibility	170
Bull Ring	Collaboration, Problem-Solving	170
Catch and Lead Horse	Building Self-Esteem, Leadership	171
Session Four		
Catch and Halter Horses	Relationship Building	172
Horse Nonverbal Language	Communication.....	172
Life's Little Obstacles.....	Influence on Others.....	173
Session Five		
Group Jump.....	Cooperation.....	175
Marshmallow River	Discovering solutions.....	176
Catch and Halter Horses	Taking responsibility	177
Review Quick Release Knot	Inner struggles.....	177
Choose a Horse	Insight About Self	178
Building a Relationship.....	Positive Attachment	178
Session Six		
Catch and Halter Horses	Nurturing healthy attachment	180
Equine Billiards	Social skills, communication	181
Grooming	Insight about self and others	182
Emergency Dismount.....	Keeping safe, risk taking.....	183

Activities	Objective	Page
Session Seven		
Catch Horse.....	Responsibility	184
Give and Take.....	Personal Growth.....	184
Assertive, Aggressive, Passive	Interpersonal Communication.....	185
Grooming	Assertiveness, Accountability.....	186
Session Eight		
Catch Horse.....	Integrity.....	187
Grooming	Building Self-Confidence	187
Learn about Tack and Tack Horse	Personal Growth.....	187
Horse and Human Actions and Reaction	Personal boundaries	188
Session Nine		
Catch Horse.....	Responsibility	189
Grooming	Attention to Task.....	189
Tack Horse	Respectful Behavior.....	189
Horse and Rider	Communication, Respect	189
Session Ten		
Catch Horse.....	Personal Responsibility.....	191
Grooming	Personal Accountability	191
Riding Bareback, with Leader	Trust, Leadership	192
Take Graduation Pictures.....	Achievement	193
Send Innovations Home	Including Client's Support Network.....	193
Session Eleven		
Catch Horse.....	Nurturing, Giving of Self.....	194
Grooming	Personal Growth.....	194
Tack Horse	Respectful Behavior.....	194
Ride with Saddle and with Leader	Teamwork, Cooperation	194
Independent Riding.....	Discovering New Solutions	195
Session Twelve		
Horseshoe Closing	Providing Closure	196
Welcome Parents	Support Network.....	196
Catch Horse.....	Respect of Self	197
Grooming	Personal Growth.....	197
Tack, Ride with Saddles in Trail Pattern	Consequences for Actions.....	197
Graduation Certifications.....	Accomplishments.....	198

Introduction



Every session will include processing of what the participants have experienced and linking that experience to their own unique personal lives—school, friends, home, and family. At any time during the session, the therapeutic team may choose to skillfully intervene to facilitate problem solving, interpersonal communication, or personal growth. The majority of the problem solving discussion will involve the entire group, although there will be many opportunities to work one-on-one also. Skilled therapeutic teams will intuitively sense how to guide the group or individual towards awareness of one's process—"what I did" and "how I did it." Thus, as the client gains awareness of specific behaviors then they can choose to experiment with new ways of being. The role of the therapeutic team will vary as the selections of therapeutic interventions used are based on the developmental level and dynamics of each group. The theme of safety will be interwoven throughout the 12-week program.

Session 1

The first session contains an introduction to the ranch setting, introduction to horse safety, and an assessment of the group.

Activities:

- Ranch Names
- Duck and Cover (elementary school age)
- Group Juggle (middle school age to adults)
- Five Finger Contract (elementary to middle school age)
- Tour of Ranch—Introduction to Horse Safety
- Horse Behavior

Ranch Names

Ask each participant to choose an adjective that describes themselves and starts with the same sound as their name or rhymes with their name such as; Jumpin' Jen, Cowboy Chris, Dynamic Deb, or Joanie Baloney. If someone has difficulty thinking of a name, ask the entire group to offer suggestions, many times this helps stimulate the creative thinking process for everyone.

Often a client will return the following week saying they thought of a new name and ask if they can change their Ranch name, which is perfectly all right. After everyone has chosen their Ranch name, encourage the group to use their Ranch name vs. their normal name. This tends to create unity with-in the group, and establishes that this experience is going to be different.

Reference: Deborah Goodwin-Bond LPC (personal communication September, 2005)

Duck & Cover (Elementary school age)

After the group has chosen their Ranch names choose one of the following activities based on the age and developmental level of the group. Activities are designed to break the ice, start the teamwork and bounding process, along with helping the group learn each other's names in a fun interactive manner.

Age Range: Elementary school age

Time Range: 15-20 minutes

Space Needs: Area large enough for all member to circle up

Props: Place markers one less than the total number of players may be used

Set Up: Arrange place markers in a large circle if you are using them

Group Preparation: Ask participants to stand on place markers; or just ask them to form a large circle.

Safety Issues: Make sure area is clear of debris and low hanging branches. Make sure the place markers will not slide on the surface you are using.

Goals: Get acquainted, learn each others name, and have fun

The Activity: Going around the circle asking each client to say his or her Ranch name. Demonstrate duck and cover by placing your hands over your head and duck down bending your knees. Ask the group to repeat the motion. Count 1, 2, 3 Duck! Repeat a couple of times to get them laughing and moving around.

Now explain the activity. Someone will be in the middle; this person is "it." "It" looks around the circle and points at a player and says their Ranch name REAL LOUD! The person who is pointed out will Duck & Cover while the individual on either side will point at each other and say each other's Ranch names REAL LOUD. This is like a duel; the person who says the name last is now the new "it" and moves to the middle. The previous "it" takes the vacant place in the circle. The game should move along quickly. You can role model a bit here by checking with the individuals on each side of you to make sure you know their names (even if you know them). Play as long as the energy is high.

Note: Even in a group that knows each other well, there is something about having a finger wag in your face that causes an instant memory loss, leading to lots of laughter. If the group does not know each other well, encourage them to ask names, its okay if they do not remember everyone.

Reference: Jennifer Steinmetz (personal communication March 21, 2005)

Group Juggle (Middle school to adult)

Using coordination, concentration, and teamwork, series of balls are passed around in an established pattern. Once the groups seems competent with 4 to 6 balls then introduce a rubber chicken or some other surprise item. The introduction of the rubber chicken represents surprises that we encounter in life, and how we react and handle the un-expected.

Age Range: Children to adult

Time Range: 15-20 minutes

Space Needs: Area large enough for all members to circle up

Props: Various sizes, shapes and textures balls (6-7 total), & 1 rubber chicken

Set Up: None

Group Preparation: Ask participants to form a large circle

Safety Issues: Ensure area is clear of debris

Goals: Fun, communication, and dealing with distractions

The Activity:

1st Round

- Arrange participants in a circle, not too close, but not too far from one another
- Include yourself in the circle
- Explain that you are going to throw a ball to someone and the object is to have a good pass, no dropped balls. Pick someone and ask his or her Ranch name, then say his or her Ranch name such as "Kicken Kay" while throwing Kay the ball. Kay then picks someone ask their name, then throws them the ball while saying their Ranch name "Bronco Bill" for example.
- The challenge from here is simply to get the ball thrown around to everyone in the circle, and finally back to you.

2nd Round

- Then say, "Right, well done, now let's see if we can do that again – making sure we use the same order, and using each other's Ranch names. Remember to say the name of the person you are throwing too." On the second round, most people will be challenged to remember who to throw it to, and their Ranch name! Take it slow; help the group out, so that each person has a successful second round.

3rd Round

- Then say, "Good, so how about we do it again, but this time, let's see how fast we can do it, OK?" It will go pretty fast this time, and the group will probably feel quite pleased with themselves.

4th Round - Introducing more balls

- Then say, "That's great, but I think you can do it faster than that. Come on, let's see how fast we can really go." Then throw and say the name with super fast enthusiasm to set the tone!
- After the first ball has passed through a few hands, take a 2nd ball out of your pocket



(surprise!), and casually, but earnestly say " Kicken Kay" [throw]. By now everyone is so well trained, the 2nd ball will automatically keep going, and there will be a detectable sense of challenge/excitement.

- After a bit, introduce a 3rd and 4th ball, up to about 6 balls. Let 4 to 6 balls be juggled for a while (note the balls will be coming back again to you—just keep them going). Once the groups seems competent at 4 to 6 balls then introduce a rubber chicken or some other surprise item.

Clinical Processing:

- This is great for a number of discussions; you can talk about what they had to do to be successful as a team, communication skills, focus, etc.
- It's also interesting to talk about how the balls are like our lives, all the balls we try to keep in the air.
- The introduction of the rubber chicken can lead to talking about surprises that we encounter in life, and how we react and handle the un-expected.

Reference: Rohnke, K., (1989). Silver Bullets: A guide to initiative problems, adventure games and trust activities. Dubuque, IO: Kendall/Hunt Publishing Company. Reproduced with permission.

Five Finger Contract

The Five Finger Contract fits the unique spirit of the group. It is a simple way to establish and teach the respectful behaviors expected of each group member. It is created and developed in words that are understandable to all group members that create an emotionally and physically safe environment supported by all group members. The Five Finger Contract ask the group: 1) to understand and/or create safe and respectful behavioral norms under which it will operate, 2) for a commitment to those norms by everyone in the group, and 3) to accept a shared responsibility for the maintenance of those norm. This is a verbal and tactile agreement; ask the group to do what you do. Make this as interactive as possible, get them engaged.

Target Group: Elementary to middle school age children

The Activity:

1. Thumbs up: Ready to go

2. Pointer Finger:

Take care of number one. Ask them to point to number one. They should point to themselves. You must be responsible for yourself; let your leaders know if you need something, if you feel afraid or frustrated, etc. We will never FORCE you to do anything; we will ask you to challenge yourself, to push yourself a bit out of your comfort zone; but you will NEVER be forced to do anything.

3. Respect Triangle:

Using both hands, make a triangle with thumbs and pointer fingers. The respect triangle has three parts: 1) pay attention (point to eye), 2) listen (point to ear), and 3) speak when it is your turn (point to mouth). Remind them that your job is to keep them safe. To stay safe they must pay attention.

4. Middle Finger:

The middle finger is always joined to the thumb (making a big zero) to keep it out of trouble. This is for zero put-downs. Ask if they know what a put down is. Point out that we do not put down each other; and just as importantly, we do not put down ourselves!

5. Ring Finger:

Ask what usually goes on that finger (they usually will come up with wedding ring). This finger is for commitment. We always ask for 100% commitment and 100% effort. We do not want 150% commitment because that means someone only has to give 50% effort. In addition, point out that 100% effort from one person may look different from 100% effort from someone else.

6. Pinky:

Take care of the little person. Ask them to point to the little person. They invariable will point to the smallest member of the group. Talk about how the little person can be someone who needs help or encouragement; this could be the leader, the biggest member of the group or even the horse. They can even use this sign when they need help.

Ask them to run through the contract again with you. “Have I asked you to do anything hard?” “Have I asked you for anything that you can’t do?” Have them give some sign in agreement to follow the contract. Use the signs regularly with the group. You can use the Respect Triangle to get their attention when you want them to be quiet. Zero put-downs works well when the group is getting frustrated and starts to be critical of their members.

Reference: Jennifer Steinmetz (personal communication March, 2005). Adapted from Project Full Adventure Full Value Contract, Covington, GA. Reproduced with permission.

Tour of the Ranch—Introduction to Horse Safety



To acclimate the group to the outdoor setting of the ranch take them on a tour. As you walk around use this opportunity to introduce them to the horse’s world. Explain that a horse’s behavior will teach them about the horse and will give them an understanding of the horse. Explain in order to keep them safe they need to learn horse’s traits and instinctive responses.

As you past a pasture of horses, stop and explain how the horses are interacting and communication with each other. This is also a good time to introduce basic horse safety; one way is to have the group look for different signs of horse behavior they should take note of, such as:

Reading horses ears—ears flatten against neck indicate the horse is violent, angry, may fight, bite, or kick.

Reading a horses tail—tucking the tail down tightly indicates danger to the rear, the horse may bolt, buck or kick. A switching tail indicates annoyance and irritation at biting flies, stinging insects or bothersome actions of another horses.

Reading a horses face—wrinkling up the face and swinging the head is a threatening gesture of an angry or bossy horse. Watch out for biting or kicking.

Horse Behavior

As you walk the group around the ranch take this opportunity to point out and discuss horse behaviors, such as: droopy ears and resting one hind leg on toe, indicating a calm and resting horse. Other areas to talk about and point out while touring the ranch are:

Instinctive Traits—are present to some degree with all horses. How strong they are vary from horse to horse. Horses respond to their environment by instincts. In contrast, humans make choices about their behavior.

Herd Instinct—all horses will want to stay with a group and go more willingly to a group of horses than away.

Pecking Order—in any herd or group of horses there is always a pecking order where the most aware is the leader and the least aware is the follower. Be cautious around groups of horses, a horse that is higher in the pecking order may bite or kick a horse lower in the pecking order.

Prey Animal—a prey animal, like the horse natural instinct is to run away, to look for danger, and find an escape route. This trait stems from millions of years ago when horses ran in herds for survival. Horses eyes are located on the side of its head to better fascinate broader vision. If you want your horse to want to be with you, if you want your horse to be respectful, overcome its instinct and prey anxiety, trust you (a predator) then you must always be perceived as assertive but non-threatening.

Defenses—the main way a horse protects itself is to flee if danger is present. When cornered, a horse may kick, bite, rear, or paw. Throughout the ages, humans have successfully integrated with horses and interacted in a harmonious manner. Wild horses are herd animals, with a simple defense mechanism of fight or flight. In fact, underlying many aspects of horse behavior are two basic instincts, upon which its survival in the wild depended: 1) powerful heard instinct, and 2) an ability to run quickly from trouble.

Other Defenses—kicking, biting, and striking with front legs.

Homing Instinct—All horses know where home is. They know where food, water, and rest are. Horses will go more willingly toward the stable than away. Therefore, we will always ride in an arena with a closed gate. While in the arena the horses may challenge us by going to the gate, going to the center of the arena, or trying to eat grass.

Habit—horses get nervous when faced with new situations.

Possessiveness—Horse are possessive about food, stall, and friends.

Courage and Laziness—most horses are a little lazy, but are surprisingly generous and will continue to obey their handlers even after they are tired or hurting. Equestrian calls this—Heart.

Pairing or Friends Instinct—the strong heard instinct is subdivided into smaller groups of horses. Horses seem to sense a friend or foe easily.

Memory—a horse has a good memory. It is important that you correct, discipline or praise your horse within three seconds of an incident. After three seconds has past the horse has already stored how you responded and will use that information in the future.

Session 2

Session two focuses on adventure-based therapy activities and introduces the clients to the horse's world such as, the nature of horses, horse communication, horse body language, horse body parts, and in-depth horse safety. The theme of safety will continue throughout the 12-week program; it is never a one-time lesson—it is an ongoing process. It will be during this second session that the participants will have personal interaction with a horse(s) through an activity called Catch and Release, and start Building a Relationship with their horse.

Activities:

- Raccoon Circle
- Horse Body Language
- Horse Safety
- Horse Body Parts
- Catch and Release
- Building a Relationship

Raccoon Circle

Age Range: Children to adult

Time Range: 30 minutes

Space Needs: Area large enough for all members to circle up

Props: One Raccoon Circle—available at: <http://www.training-wheels.com>

Set Up: None

Group Preparation: Ask participants to form a circle

Safety Issues: Make sure area is clear of debris and low hanging branches

Goals: Team building

The Activity: Begin with the group holding the Raccoon Circle with both hands about shoulder's width apart and standing with their feet about shoulder's width apart. Next, have the group pull the Raccoon Circle gently to form a complete circle, with some tension in the Raccoon Circle. Now, by leaning outward from the circle (a small amount), the group should be able to balance the circle and keep each other safely leaning outward. This is the first level of unity, calmness, and balance. For level two, ask participants to keep holding the Raccoon Circle, but to bend their knees and slowly and gently sit down and then come back to a full standing, but still leaning position. The next level, level three is for the group to close their eyes, and balance down and up twice, while the facilitator gives the commands. Finally, the level four challenge is for the group to balance down and up twice, but this time with their eyes closed, and with no one talking.

Reference: Cain, J., & Smith, T., (2006). *The Revised and Expanded Book of Raccoon Circles: A Facilitator's Guide to Building Unity, Community, Connection, and Teamwork through Active Learning*. Dubuque, Iowa: Kendall/Hunt Publishing Co. Reproduced with permission.

Reading Horses Ears

The horse's ears and actions are the key to his or her emotions. He/she horse can tell you what he/she is paying attention to and how she/she feel by the way the use he/she acts. Following are some tips to horses emotions.



Ears forward but relaxed
interested in what's
in front of him



Ears turned back but relaxed
listening to his rider
or what's behind him



Ears pointed stiffly forward
alarmed or nervous about what's
ahead, looking for danger



Ears pointed left and right
relaxed, paying attention
to the scenery on both sides



Ears stiffly back
calm and resting
horse may be dozing



Ears stiffly back
annoyed or worried about what's
behind him; will kick if annoyed



Ears flattened against neck
violently angry, in a fighting mood
may fight, bite, or kick

Reference: Certified Horsemanship Association (CHA)
<http://www.cha-ahse.org> Reproduced with permission.

Horse Safety

Horse Safety Rules:

1. There will be not hitting, slapping or kicking of the horses.
2. No cruelty to horse will be tolerated under any circumstances.
3. If you walk behind the horse, touch him on the rear and talk to him so he knows why you are there. Then walk at a normal pace (do not run, or move more quickly than normal) behind the animal's rear end, moving your hand around to the other side of the rear at the same time. We call this "dirty t-shirt."
4. Always walk at least one horse length behind the horse so that you are not in his kicking range.
5. DO NOT position yourself between a horse and a rail, fence, or other stable object. ALWAYS HAVE A WAY OUT.
6. Quick release knots should be used when tying a horse in ALL cases, horses should be tied at a height not lower than the top of the shoulder and the rope length between the rail, and the horse should be no longer than arm's length.
7. Never mount a horse still tied to the rail or other object.
8. Never mount a horse without a helmet. A helmet must be worn at all times
9. Never ride a horse until you have been instructed on the EMERGENCY DISMOUNT.
10. Always get on and off a horse from the horse's left side.
11. DO NOT tie the reins around the saddle horn at any time.

Reference: Ken Burrill, Equine Specialist (personal communication March, 2005).

Horse Body Parts

Description: This activity is designed to teach participants not only about the different body parts of a horse, but it is also used as a springboard into a discussion on how we label people and why we resort to or accept the labeling of others? One of the most common terms used by young people to describe others is "loser." That is not a description, it is a label. There are countless examples of labels that are used to 'describe' others that can be explored and processed with the group.

Objective: Learn the different body part of a horse, and explore how and why we label people

The Activity: Before the group arrives bring a horse up from the pasture and tie to a rail. When you are ready to begin the activity, ask the equine specialist to explain to the group all the different parts of a horse. Use this opportunity to review horse safety — how to walk behind a horse by using either the "dirty shirt" method, or the "elephant behind the horse" method. Then, tell the group that you want them to take turns placing the labels where they think they go by sticking the label on the horse. Have a laminated copy of horse showing various body parts available for the group to use to determine label placement. Once all the labels are on the horse,

lead the group in a discussion on how we label people and why we accept or reject the labeling of others.

Labels Used: Print on a standard label sheet the following horse body parts:

Poll	Withers	Knee	Forelock
Back	Girth	Jaw	Hip
Flank	Muzzle	Tail	Barrel
Face	Heel	Throatlatch	Chest
Fetlock	Shoulder	Chestnut	Neck
Belly	Mane	Hoof	

Clinical Observations:

- How did the horse react to having labels placed on him?
- Anyone with fear, how did they handle that? How did the group respond?
- What are the other group members doing while waiting their turn?

Clinical Processing:

- Once all the labels are on the horse, lead the group in a discussion on how we label people and why we accept or reject the labeling of others and ourselves?
- How do you think the horse feels about being labeled? Any relation to that?
- Talk about what you observed.

Reference: Deborah Goodwin Bond LPC (personal communication April, 2005)

Catch and Release



Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, members of the treatment team also accompany the teams into the pasture, to address safety concerns, and to process what is taking place during the activity. It should be noted that stopping the activity too much could interrupt the therapeutic effectiveness. Once the

team has haltered a horse, ask them to move on and halter other horses. As the session progress, participants catch and lead various horses, paying attention to not only what the horse is communicating to them, but also what they are communicating to the horse (both verbally and non-verbally).

Description: Catch and halter a horse, then release horse, repeat.

Objective: Catch and halter the horse(s) to the best of your ability

Setup: Multiple horses available in large pasture/arena. Provide halters and lead ropes

Type of Activity: Individual, family or group

The Activity: Hand halter and lead rope to clients, ask the clients to catch and halter the horse(s) to the best of their ability. NOTE: No other directions are given, never instruct the clients as to how to accomplish a task. There are endless possible ways the client can halter a horse, there is no right way.

You can intervene at any time if you have concerns about the safety of the client or horse.

Note on processing:

You do not need to wait until the end of the activity to process. If you feel the need to talk about things during the activity, do so. Keeping in mind that stopping to talk too often can interrupt the therapeutic effectiveness.

Clinical Observations:

- Did the client ask for help?
 - Return the responsibility to the client by saying “what do you want me to do?”
- Did the client work as a team or independently?
- How did the clients communicate with each other and with the horses?
- Who took the leadership role?
- How did the clients approach the horse?
 - How did the horse respond?
- What was the client’s reaction to the horse—quit, try new ideas, get frustrated?
- Where was the client’s focus?
- What worked, what did not work?

Clinical Processing Possibilities:

- How did this experience relate to human interactions, such as meeting someone for the first time?
 - Or interacting in a large group of strangers.
- Share a little of your experience.
- Explore how clients worked or did not work as a team.
- Explore the various roles each client assumed during the activity.
- Explore the clients reactions to the different horses.
- Ask how they think the horse felt about being caught and haltered.

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Building a Relationship

It is the participant’s responsibility to initiate the relationship building process, by starting where the horse is and build the relationship with their horse.

1. Building a Relationship involves choices—allow participants to meet all horses and to choose the horse they want to work with.

2. Building a Relationship takes time and proximity—give participants time with no structured activity, to spend time with their horse.
3. Building a Relationship require involvement and participation from both the participants and their horse.
4. Relationships are strengthened and benefited from a variety of interactive participant-equine activities.
5. Relationships flourish in an environment of support and honesty.
6. Relationships benefit both self and others

Reference: Deborah Goodwin Bond LPC (personal communication March 15, 2005)

Session 3

The focused of this session is teamwork. The group will have the opportunity to problem solve, communicate, and negotiate with each other to accomplish the task. The activity requires group members to be flexible, adaptable, and be able to work together to be successful.

Activities:

- One True Path
- Quick Release Knot
- Bull Ring
- Catch, Halter and Lead Horses

One True Path

In life, we are presented with many choices; some of the choices will lead us where we want to go; other choices may not work out the way we hoped. This activity is like life, there are many choices presented; we may make mistakes along the way; our challenge is to find the One True Path

			14				
		13					
	12						
	11	10					
			9	8			
					7		
			5	6			
	3	4					
	2						
		1					

Target Group: Children to adult

Group Size: Any

Time Range: 30 Minutes (more if the maze is complex)

Space Needs: Minimal

Props: One maze and key. Create a grid of 1' squares; this can be masking tape on the floor, carpet squares, or a tarp with 1" squares marked off. I like 8'X10'; but can be smaller or larger depending on the group size and the level of challenge you want to present. The key is your guide (the predetermined path) to the ONE True Path through the maze. The number of squares you use in the maze determines the difficulty of the challenge. You might want a bell to use for

correct choices and a buzzer or kazoo for incorrect choices.

Group Preparation:

- The group must discover, through trial and error a hidden path across the maze with no verbal communication. Only one client may be in (or on) the maze at a time. Clients may move forward, side to side, or diagonally. There are no steps backwards. There are no skips. The path may not be marked in any manner; but the path is the same for each player.
- The entire group must successfully negotiate the maze
- Allow a planning time prior to the start of the challenge

Goals: The group will discover non-verbal ways to communicate. The group will take care of each other – ensure each member makes it successfully across the maze. The group will be challenged, stressed, frustrated, and work through issues to success. They will all have a chance to be leaders and followers. It is okay to make mistakes and to learn from our mistakes.

The Activity: The group will have some planning time before the start of play (5 minutes). They need to determine their order; who will go first, second, etc. This will be the same order for the entire challenge. The first person will choose their first step; if they choose correctly, they will hear ding, ding, ding; if they choose the wrong square, they will hear buzz or some other sounds, you choose. A correct choice entitles them to take the next step. They may continue to negotiate the maze until they make an incorrect choice. When an incorrect choice is made, that person goes to the end of the line, and the next person steps onto the maze. If they have paid attention, they can benefit from the correct choices made by previous person. Continue until all group members have correctly negotiated the maze.

Clinical Observation:

- What was going on during planning period?
- What was their communication like with one another?
- Who took the leadership role?
- What did the other group members do while waiting their turn?
- Observe how they handled not talking

Clinical Processing:

- How did the group use their planning time?
- Who was the leader?
- How did you determine the order?
- What role did communication play?
- What type of communication was used?
- What was it like to take a risk; ...be buzzed?
- What was it like to become the leader?
- What kind(s) of help did you ask for or give during the challenge?

- What did it take to be successful?

Reference: Cavert, C., (1999). *Affordable portables revised and expanded version*. Oklahoma City, OK: Wood 'N' Barnes Publishing. Reproduced with permission.

Quick Release Knot

By using a quick release knot individuals can quickly untie their horse in cases of emergency, but the Quick Release Knot also provides a means that the horse is secure and cannot pull away.



Objective: To teach group members how to tie-up their horse safely

Set-up: A pliable lead rope for all participants

Time: 30 minutes

The Activity: Use the eyebolt or other point of attachment for each group member to secure a lead rope to. Next, a vertical loop is formed, and then a horizontal loop is passed through the attachment and over the vertical loop to hold it. The quick release knot is strong enough that the horse will feel tied. If the horse pulls back in a panic, the horizontal loop will pull the vertical loop through the attachment whereupon they will separate. If you want a tamper-proof knot, simply keep forming loops, pass each new loop through the previous loop to the end of the rope. By pulling the free end of the rope, the knot comes undone. When making the quick release knot it is important that the lead ropes be supple, easily bendable enabling, the loops, and knots to be formed successfully.

Note: Have participants practice making this knot until they can make it with their eyes closed. As group members master tying the knot encourage them to help other members who are struggling. Each session when the participants are asked to tie-up, their horses and most likely they will forget how to tie the quick release knot, encourage other group members to teach them how vs. having the therapeutic team help them.

Reference: Ken Burrill, Equine Specialist (personal communication October 21, 2005).

Bull Ring

Age: Children to adult

Group Size: 4 to 12

Time Range: 20-45 minutes

Space Needs: Fairly large, open area

Props: Bull Ring, ball, two ball stands

Goals: Cooperation, the action of one affects the entire group

Set Up: Have the Bull Ring set-up on one stand with ball in place. Place second stand a distance away, you may want to have an obstacle or two between the stands to add to the challenge.

Group Preparation: Arrange the group around the Bull Ring. They should listen to all instructions before they pick up the strings.

The Activity: The object is to place the ball on the other stand with out dropping it. Have each participant pick up one of the strings and begin when ready. Chances are they will try several times before they make a plan. Just let them struggle. They can replace the ball on the ring themselves. Let the group go with any solution they arrive at as long as they do not touch the ball, they use the strings, and they keep their hands at the end of the strings.

Clinical Processing: You can help them talk about team balance, planning, listening to each other. Chances are they may argue during this activity, you can talk about why we argue.

Reference: Cain, J., & Jolliff, B., (1998) *Teamwork and teamplay: A guide to cooperative, challenge, and adventure activities*. Dubuque, Iowa: Kendall/Hunt Publishing. Reproduced with permission.

Catch and Lead Horses



Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

As teams and horses enter the arena, ask each participant to take turns leading each of the horses, getting to know, and building a relationship with each horse.

Reference: Deborah Goodwin Bond LPC (personal communication January 3, 2005)

Session 4

Many of our activities ask participants to think outside the box, to leave their comfort zone and explore “solutions in the unknown” which requires mental agility, boldness, and creativity. Session four introduces the group to equine assisted activities, many of which require thinking outside the box.

Activities:

Catch and Halter Horse
Horse nonverbal language
Life’s Little Obstacles

Catch and Halter Horses



Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

As teams and horses enter the arena, ask each team to release their horse.

Horse Nonverbal Language

As the horses interact and get to know each other share with the participants how each horse is communicating with each other.

Clinical Processing

How alike are horses and humans?

- The movement of a horse at a walk is almost the same as that of a person walking
- Horses and Humans each want to know where he/she stands within their group
- Horses and Humans each want to feel safe
- Horses and Humans each want clear communication
- Horses and Humans have choices
- Horses and Humans both move away from pressure, into pain
- No horse or human may control another horse or human, until a willing bond is established

Reference: Ken Burrill, Equine Specialists (personal communication March 21, 2005)

Life's Little Obstacles

Equine assisted counseling activities are designed deliberately to re-create life situations the group may be experiencing. The rules prevent the group from using tools they commonly use in relationships—touch, bribery, and verbal talking. The rules are designed to deliberately push the participants out of their comfort zones, and discover new solutions and healthier ways of doing things.

Objective: To get the horse of their choice over a jump.

Setup: Three to four horses loose in an arena. Set up a jump anywhere in the arena. Provide several poles, cones, barrels, etc., as options for the group to use if they choose. Do not tell the group these options are available.

Type of Activity: Individual, group, or family.

The Activity: Tell the group that their activity today is to get the horse to go over the jump. Explain the rules:

- 1) No physically touching the horse(s) in any way
- 2) No using the halters or lead ropes
- 3) No bribing or simulating bribing
- 4) No verbal talking

Ask the group to decide, as a group, what the consequences will be if any of the rules are broken. When deciding a consequence, the consequence needs to be something that is done right here, right now. When a violation occurs, the group stops, does the consequence, and then returns to the activity. Allow the group up to 5 minutes to formulate a plan and to decide as a group, which horse they will be working with. If you desire, allow the group opportunities to come up with a different plan periodically throughout this activity, but before they talk, they must stop what they are doing, motion to the therapeutic team and each other, that they want a planning time, and group up together.

Clinical Observations:

- What was going on during discussion of consequence?
 - And picking a horse?
- How is the chosen horse as well as the other horses responding to the group?
- Who took the leadership role?
- What was their communication like with one another and with the horse?
- Did they work with other group members or just do their own thing?

Clinical Processing:

- How did the group communicate non-verbally?
 - Where mixed messages being sent?
- How did they handle difficulties?
 - Conflicts?
 - Frustrations?
- How did they work together?
- What helped them be successful?

- How did the horses(s) respond?
- Explore boundary issues?
- Explore creative problems solving utilized.
- Was the group focused more on the rules, then exploring possibilities?
 - Note: when the groups “Act As If” they can do something, simply respond by saying, “What are the rules?”
- Did the group self impose rules?

At times, with any of these activities the group may not be successful for a long time. Do not panic, after processing the events of each day, let the group know that next week they will have the opportunity to be successful in completing this activity. Some groups will be successful the first time and others may require two to three sessions. Always allow the group to struggle, become frustrated and then achieve success, and always process after each attempt at the activity. Be observant, ask the group what helped the group to be successful? Then relate if what helped them be successful or not successful happens at home or at school, tying experiences to real life situations.

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Session 5

Activities

- Group Jump (elementary school to high school)
- Marshmallow River (middle school to adult)
- Catch and Halter Horse
- Review Quick Release Knot
- Choose a Horse
- Building a Relationship

Group Jump

(Elementary school age to high school)

Ask the participants to imagine that it is the last day of school and they are all ready to leave for vacation. The problem is that only one door of the school is working; and it's a special door. The other problem is that they can only go if EVERYONE gets through the door. The challenge is to get every student safely out of the school.

Objective: Positive communication and problem solving. Looking for a win/win solution – not all participants will have the same skills.

Target Group: Elementary school age to high school

Group Size: Six up to 50

Time Range: 10 minutes to 45 minutes

Space Needs: Medium

Props: Long jump rope

Preparation: Lay rope on the ground; ask all of the participants to stand on one side of the rope.

Safety Issues: Clear flat area to “run through” the rope. Check for clearance above the rope.

The Activity: The rules are: once they start, the door (rope) must turn continuously; it must make a full arc overhead and must touch the ground every time. Once they start, someone must be in the door (rope) at all times. If at any time, the door stops turning or goes around without someone in the door (rope) they must all go back into the school and start over. Repeat the rules as necessary, but the plan(s) must be theirs. They decide who turns the rope, who goes through and in what order. You will notice client's with the deer in the head lights look – the ones who know they can't jump. You may need to gently encourage the team to make sure they “find” a way to get everyone through the jump rope. Encourage them to “ask” for help if they need it. Because it is not truly necessary for anyone to jump, you can play with disabled children, too. Again, the group must own getting everyone through safely.

Clinical Processing:

- You can question them about planning (usually doesn't happen at first)
- How they decided who would go first? who would turn,? etc.
- Who came up with the ideas?
- Did the group members listen to everyone's ideas?
- Was anyone afraid they would “mess up” and make the team start over again?

- How was that handled? Does that ever happen in real life at school?

Reference: Rohnke, R., (1984). *Silver bullets: A guide to initiative problems, adventure games and trust activities*. Dubuque, Iowa: Kendall/Hunt Publishing. Reproduced with permission.

Marshmallow River

Emphasize that “success” is for the entire team to cross the specified area safely. You can use several story lines if you want. The most common is the Chocolate River, where the Marshmallows are the only way across. A marshmallow eating monster lives in the hot chocolate and will eat any marshmallows that are not in contact with a human body part.

Objective: Teamwork and communication

Target Group: Older elementary school to adult

Group Size: 5-15 players

Time Range: 30 minutes

Space Needs: Large clear area

Props: Steeping stone: one or two less than the total number of participants, also a start and stop designation. You can use paper plates, cardboard, carpet samples, bandannas, etc.

Set Up: Establish start and stop designations. To determine distance apart, you can “step” off the total number of players and then add at least 3-5 more feet of open space.

Group Preparation: Line the players up behind the “starting” point. Hand the players their “marshmallows”

Safety Issues: Make sure area is clear of debris and low hanging branches. Make sure the marshmallows won’t slide on the surface you are using

The Activity: The entire group must successfully cross open area from start to stop without touching the ground, and must maintain constant contact with their stepping stones. Strange and wonderful things may happen to players who step off; return to beginning, become mute, or blindfolded, etc. If a stepping stone is left unattended, then it is forfeited, and may not be used again in the game. Give the group a minute to plan, then let them go.

Clinical Processing:

- How did your group decide what to do?
- How did your team work together?
- Was anything particularly difficult or confusing about this challenge?
- What did you appreciate about your group or individuals in your group?
- Were you successful?

More Story Line ideas:

The players want to spread their chromosomal bounty through out the universe. The Stepping-stones are a special life support system that shields their genetic treasure. Anyone touching the ground between boundaries must return to the home planet for decontamination & healing. For the Life Support system to function, someone must be touching it at all times to maintain the 98.6° temperature. If a life support system goes untouched it ceases to function and is

immediately removed from the activity. Life support systems can only move forward.

For teachers or students, have the stepping-stones represent grades or hall passes and they want to get from K to 12 successfully.

For a soccer team, we played that a Crazy Soccer Sorcerer built a huge moat between the parking lot and the playing fields. He filled the moat with nasty green slimy water. They had to get to the fields or forfeit their game. They look around and see this pile of very large graham crackers. Of course, they would never want to step in or touch the slimy water with any body part, because something strange and wonderful might happen to them. In addition, that Crazy Soccer Sorcerer put a graham cracker loving crocodile in the moat. As long as a player is touching a graham cracker with a body part, the croc will not bother them. Nevertheless, if a graham cracker is floating around out in the moat without a player touching it in some way, he will gobble it up. If they completed the task easily, we asked who brought the soccer ball? Oops, you need one for the game.

Variations:

Works well with a larger group. Divide the group in half. Each group starts from opposite sides they must exchange places. Each side gets one less prop than people on their team. DO not state this, but they are able to share resources, meet in the middle to accomplish a common goal. When we have played this before, we typically see competition between the two sides, vs. cooperation, but I am optimistic that sharing will happen one of these days.

Also a large group scenario: Central site variation; One group (3-5) players are the decision-makers; another smaller group (3-5) players are the consultants. The rest of the players are the task force. The task force physically does the problem. The decision makers must approve of any action before it is taken. Only the consultant can move back and forth between the decision makers and the task force, and they are the only ones that can communicate with either group. The consultants are not allowed to physically participate with the task force.

Reference: Rohnke, K., & Butler, S., (1995). *Quicksilver adventure games: Initiative problems, trust activities and a guide to effective leadership*. Dubuque, IA: Kendall/Hunt Publishing. Reproduced with permission.

Catch and Halter Horses

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Review Quick Release Knot

As teams and horses enter the arena, ask each team to use the quick release knot to tie-up their horse. Each session when the participants are asked to tie-up their horses and they have forgotten how to tie the quick release knot, encourage other group members to teach each other how vs. having the therapeutic team help them.

Choosing a Horse



Objective: Like people, horses are dynamic living beings, motivated by basic needs. Having each client choose a horse serves as metaphors to “show rather than tell” clients about themselves.

Set-Up: Depending on the size of your group, you will need one horse for every two clients. Ask clients to catch and halter the horses and bring them to the corral. As teams and horses enter the arena, ask each team to release their horse.

The Activity: Have each client draw a number out of a hat; this will designate the order client’s will to select a horse. One at a time asks the clients to enter the arena and to go stand by the horse they want to work with (other group members are not to see which horses are being chosen by whom). If more than two people choose the same horse ask them to choose another horse, stating that the horse they wanted is already taken.

Clinical Observation: Each client will instinctively be drawn to the horse that is most like him or her. Therefore, working with this horse dramatizes the client’s inner struggles and relationship issues. The horse instinctively mirrors what the client needs to see in himself or herself by magnifying problem areas.

Clinical Processing: Inform each client which horse and the other participant they will be working with and be responsible for, for the remainder of the sessions.

- Why did they choose that horse?
- How is their horse like them?

Reference: Deborah Goodwin Bond LPC (personal communication May 21, 2005)

Building a Relationship

It is the participant’s responsibility to initiate the relationship building process, by starting where the horse is and build the relationship with their horse.

1. Building a Relationship involves choices—allow participants to meet all horses and to choose the horse they want to work with.

2. Building a Relationship takes time and proximity—give participants time with no structured activity, to spend time with their horse.
3. Building a Relationship require involvement and participation from both the client and their horse.
4. Relationships flourish in an environment of support and honesty.
5. Relationships benefit both self and others.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Session 6

Activities

- Catch and Halter Horses
- Equine Billiards
- Grooming
- Emergency Dismount
- Horse and Human Actions and Reactions

Catch and Halter Horses

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

As teams and horses enter the arena, ask each team to release their horses.

Each team is responsible for the grooming of their horse. Personal accountability critical to childhood growth is the development of following through. Accountability breeds responsible children and adolescents who are able to make healthy choices. Being responsible for another living being is a powerful tool, coupled with the fact that the horse's well being relies on the consistent care and nurturing from the individual, sets the stage for a powerful attachment. The equine human bond, like other bonds, mirrors the inner private world of the individual. The therapeutic team uses this knowledge as a gateway into the inner workings of their clients, and during grooming process the horse's reaction to the client and what is going on with the client that elicited such behavior from the horse, this type of processing allows the individual to make insightful choices and lasting change.

Props: Instruct pairs on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, this will steadily decline as the participants grow in confidence and take ownership for caring for their horse.

Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.

Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Variation of Equine Billiards

Equine Billiards is a horse-based problem solving activity that is used with participants to help demonstrate non-verbal communication. At the end of the activity, the therapeutic team can help the group evaluate the problems they had and work on ways to improve communication.

Objective: To get a different horse in each billiard pocket

Setup: Before the group arrives set up 3 to 4 billiard pockets. Place pockets in different locations around the perimeter of the arena. Leave the front of the pocket open. You can use PCV poles or other material to make pockets. Set up 2 buckets filled with water, far enough apart for the entire group to form a line between the buckets.

The Activity: Let the group know that they will be playing Equine Billiards. Like pool, their goal is to get a horse in each of the pockets (a different horse for each pocket). A pocket is “good” only when the horse goes through the opening in the front and their entire body is in the pocket and the horse stays in the pocket for a few minutes. The horse can not get into the pocket by the sides.

Explain the rules:

- No physically touching the horse(s) in any way
- No using the halters or lead ropes
- No bribing or simulating bribing
- No verbally talking while standing in line between the bucket
- Everyone must take a turn at being the “brain” who can talk

Ask the group to form a line between the two buckets. Explain that everyone (except the brain) must stay in line between the two buckets at all times. Pick one person to start as the “Brain.” The person who is the “brain” can talk, but everyone standing in line between the buckets can not. Each person will have a time limit being the brain. Start out give the “brain” more time and gradually decrease the amount of time each person is the “brain”, 2 minutes is a good starting time, then 1 minutes, then 30 seconds etc. When the time keeper yells “TIME” the current ‘brain’ joins the others in line, and someone new must now act as the ‘brain.’ While you are the brain, you can tell the group what you want them to do. Such as: “everyone walk over to the brown horse” or “lets try” act. You keep going until all the horses have been in their pockets. Emphasize that this is a group goal, each individual person does not need to get each horse in a pocket.

Ask the group to decide, as a group, what the consequences will be if any of the rules are broken. When deciding a consequence, the consequence needs to be something that is done right here, right now. When a violation occurs, the group stops, does the consequence, and then returns to the activity. Allow the group up to 5 minutes to formulate a plan.

Clinical Observations:

- How long did the group continue doing the same things that did not work?
- Did they work as a team or individually?

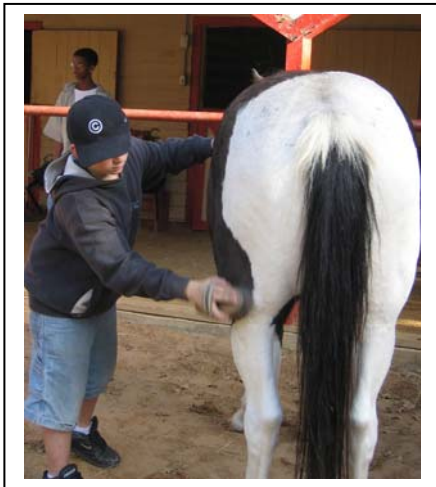
Clinical Processing Possibilities:

- How did group member arrive at new ideas and get out of old patterns of behaving?
- How did the time factor affect their behavior?

- Ask who got the horses into the pockets?
- Follow with, was there completion?
- Ask how did the horses respond to different actions?
- What worked and did not work?
- What does this activity resemble in life?

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Grooming



*Interacting with
such, a large
and powerful
animal
empowers the
client,*

Each team is responsible for the grooming of their horse. Personal accountability critical to childhood growth is the development of following through. Accountability breeds responsible children and adolescents who are able to make healthy choices. Being responsible for another living being is a powerful tool, coupled with the fact that the horse's well being relies on the consistent care and nurturing from the individual, sets the stage for a powerful attachment. The equine human bond, like other bonds, mirrors the inner private world of the individual. The therapeutic team uses this knowledge as a gateway into the inner workings of their clients, and during grooming process the horses reaction to the client and what is going on with the client that elicited such behavior from the horse, this type of processing allows the individual to make insightful choices and lasting change.

Props: Instruct pairs on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, this will steadily decline as the participants grow in confidence and take ownership for caring for their horse.

Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.

Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Emergency Dismount

Objective: When riding bareback, there may be times the client becomes unbalanced and needs a safety outlet. Hence, by instructing clients on performing an Emergency Dismount, the client can retain a sense of control while ridding bareback.

Set-Up: You will need one horse for the group to learn and practice the Emergency Dismount

The Activity: If the client feels unbalanced, uncentered, and worried they might fall, instruct the client to perform the Emergent Dismount by:

1. Placing their head into the neck of the horse
2. Wrap their arms around the horses neck
3. Allow your legs to slide off the horse (your head should be on the same side as the legs slide off).
4. After your legs slide off, let go when your feet touch the ground.

Clinical Observation: The fundamental premise of the Emergency Dismount involves allowing the feet to hit the ground before the upper body. Slamming your head into the horse neck, even though it is a split second, will accomplish that goal.

Clinical Processing: The Emergency Dismount is not about giving up. It is taking responsibility and making a conscious decision to take care of yourself. The Emergency Dismount is about a deliberate decision to come off the horse, and on one's own terms.

Reference: Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA). Reproduced with permission.

Session 7

Activities

- Catch Horse
- Give and Take
- Assertive vs. Aggressive Processing
- Grooming

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Give and Take

We live in an age of amazing modern worldwide lines of communication phone, fax, and email. However, how clients communicate, with self and others, is often closely related to the lines of communication used. The path to better communication begins with exploring how different lines of communication influence individual perceptions and actions, and the resulting reactions of others.



Objective: To help clients investigate lines of communication. This activity builds productive, mindful teams as part of the on-going, long-term process woven through-out this treatment; successful teams recognize the need to constantly adapt in order to facilitate change.

Set-Up: Each team of two works with their chosen horse in the corral (mult-teams can do this activity at the same time, as long as there is one therapeutic team member with each group). Set up two PVC pipes horizontal to each other, making a road. Place plastic cones down the center of the road. Clip thin nylon rope to each side of the horses halter, giving the ends to each team member.

The Activity: Instruct clients that they are to lead the horse down and back up road, weaving in and out of the orange cones. The clients must stay outside the PVC pipe or road, and must hold only the end portion of the nylon rope.

Clinical Observation:

- Did the clients work as a team or independently?
- How did the clients communicate with each other and with the horse?
- Who took the leadership role?
- How did the client approach the horse? How did the horse respond?
- What was the client’s reaction to the horse—quit, try new ideas, get frustrated?
- Where was the client’s focus?
- What worked, what did not work?

Clinical Processing:

- What was their communication like with one another?
- Was there clear communication?
- How did this experience relate to human interactions?
- Share a little of your experience.
- Explore how pair worked or did not work as a team.
- Explore the various roles each client assumed during the activity.
- How is this activity like life experiences?

Reference: Annie and David Tidmarsh (2005). Equine Assisted Psychotherapy and Learning Association Annual Conference. Las Vegas, NV.

Assertive, Aggressive, and Passive Behavior
Communication Styles

It is possible to communicate with others in varying ways. How you communicate with others is defined according to patterns of interpersonal behavior, that is, passive, aggressive, or assertive. Whether you respond passively, aggressively, or assertively will to a large degree determine how people and animals respond to you. Here are some of the various ways different behavior styles are expressed, and the effect they may have on others.

Assertive

Being assertive allows a person to express his/her feelings, preferences, needs, or opinions while respecting others. Saying to others that WE BOTH are important. WE BOTH matter. I think WE ARE EQUAL.

Aggressive

Aggressive behavior allow you to get what you want or force your opinion on others, but usually without respect for others. Saying to others your feelings is not important. You do not matter. I am superior.

Passive

When you do not express yourself (behaving passively) you open yourself up to being victimized and allow others to make decisions and choices for you. Saying my feelings is not important. I don’t matter. I am inferior.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Grooming



Props: Instruct teams on how to groom their horse. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the team grows in confidence and takes ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Session 8

Activities

- Catch Horse
- Grooming
- Learn about Tack and Tack Horse
- Horse and Human Actions and Reactions

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Grooming



Props: Instruct teams on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the teams grow in confidence and take ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Learn about Tack and Tack a Horse

All About Horse Tack



Have the equine specialists introduce and explain the various pieces of horse tack that the participants will be using. Going into detail why a particular item is used and how it is used. For example, we all know what a horse blanket is... there is little mystery there. However, did you know there are many different types of horse blankets, each with their own distinct functions and benefits? These are the types of questions that often bring about some confusion, and those are the types of questions that the horse specialist needs to address. Horse tack is a term that includes bridles, saddles and riding equipment, but also encompasses all horse tools and accessories, such as lead lines, curry combs, halters and more.

Saddles are seats for the rider, fastened to the horse's back by means of a *girth* or *cinch*, a wide strap that goes around the horse at a point about four inches behind the forelegs. Some saddles will also have a second strap known as a *flank cinch* that fastens at the rear of the saddle and goes around the widest part of the horse's belly. It is important that the saddle is comfortable for both the rider and the horse—an improperly fitting saddle may rub and cause the horse pain and can lead to the horse, rider, or both getting injured.

A Saddle Blanket is the woven blanket, usually made of wool, which is folded and inserted under the Saddle in order to absorb sweat, cushion the saddle, and help it conform to the horse's back.

Bridles and Halters are an arrangement of straps around the horse's head used for communicating with the animal. Bridles contain a *bit* attached to *reins* and are used for riding and driving horses. On the other hand, halters have no bit, are more general-purpose, and most often equipped for leading or tethering a horse with a lead rope.

Reins consist of leather straps or rope attached to the outer ends of a *bit* and to the rider or driver's hands. Reins are the means by which a horse rider or driver communicates directional commands to the horse's head. Pulling on the reins can be used to steer or stop the horse. The sides of a horse's mouth are sensitive, so pulling on the rein pulls the bit, which then pulls the horse's head from side to side, which is how the horse is controlled.

A bit is piece of metal that is placed in the horse's mouth. Despite popular opinion, the bit does not rest on the teeth of the horse. The bit hangs in a space behind the front "cutting" teeth and in front of the back "grinding" teeth. This space is known as the "bar." When a horse is said to "grab the bit in its teeth" they actually mean that the horse hardens its lips and mouth against the bit to ignore the rider's commands. Bits offer varying degrees of control and communication between rider and horse depending upon their design and on the skill of the rider. It is important that the style of bit is appropriate to the horse's needs and is fitted properly for it to function properly and be as comfortable as possible for the horse.

Reference: Ken Burrill, Equine Specialists (personal communication March 21, 2005)

Horse and Human Actions and Reactions

The Value of "*The Journey*"

The lessons taught by the horse helps each client along their quest of discovering their place in the world, seeking purpose and meaning in life.

Clinical Observation: Getting close and personal with their horse, and learning how the horse's instinctual, natural, non-verbal cues can help the participant understand self and others, naturally leads to how the basics of "horse interactions" can be transferred to "people interactions."

Clinical Processing: Do you say what you mean and mean what you say?

Illustrate how the horse's actions and reactions can help the client to recognize reinforcing cues, rewards, and behaviors that get in the way. Illustrate through the human-horse relationship that like people, horses treat you the way you communicate.

Elements of communication that you can explore:

- Active listening with your ears and your eyes
- Nonverbal cues—the horse's body language and the client's body language
- How do you communicate to the horse that you are safe or you are not safe?

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2006)

Session 9

Activities:

- Catch Horse
- Grooming
- Tack Horse
- Horse and Rider

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Grooming



Props: Instruct teams on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the teams grow in confidence and take ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Tack Horse

After each pair has groomed their horse, have them tack and saddle their horse.

Horse and Rider

Objective: This activity is an effective way of teaching participants how difficult it is for a horse and rider to communicate.

Set-Up: Have a bridle, with the bit, and reins for each pair.

The Activity: Have participant's pair up or utilize the pairings from horse selection. Have a bridle, with the bit, and reins for each pair. One from each pairing will be the horse, and the other the rider. Each participant will have a chance to play each role. The "horses" will place top of the bridles around their neck and hold onto the bit, with the reins running under the arms and behind, so that the "rider" will be directly behind the "horse."

“Horses” will be separate from “riders” while “riders” are given instructions. Each rider is given a different series of tasks to get their horse to perform – i.e., touch the rail, go under the bar, and move the feed pan. The “riders” are released to claim their horses and perform the given tasks. “Riders” are not allowed to talk to their horse or lead their horse, and must remain directly behind the horse.

When everyone has completed their tasks, reverse roles giving the new “riders,” new tasks.

Clinical Observation:

- Did the pairs work as a team?
- How did the pairs communicate with each other?

Clinical Processing:

- What was more difficult – playing the horse or the rider?
- What was difficult about it?
- What did you like about what your partner did when they were the rider?
- What would you have liked your partner to do differently?
- How was playing the horse difficult?
- How did you feel about the way your rider treated you?

Reference: Deborah Bond (personal communication, April 26, 2005)

Session 10

Activities

- Catch Horse
- Grooming
- Ride Bareback with Leader
- Take Graduation Pictures
- Send Graduation Innovations Home

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Grooming



Props: Instruct teams on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the teams grow in confidence and take ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

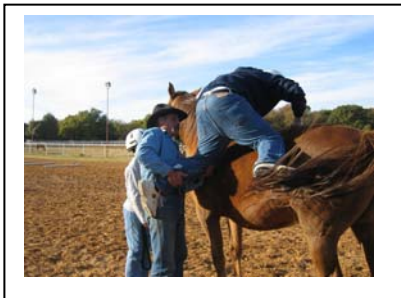
Riding Bareback with a Leader



The focus of this activity is not on riding nor horsemanship. The activity focuses on communication, assertiveness,

Objective: Clients learn to take care of themselves, effectively communicate with their partner, and getting in harmony with their horse.

Set-Up: Have clients hatch and halter their horse, and bring to corral, be sure that each client get a riding helmet and brings it to the corral. Also instructing participants on the proper fitting and placement of the helmet.



Mounting: This method of mounting the horse offers “support” and allows the client to take most of the responsibility for getting on the horse. It is best if each pair mounts each other.

1. Tell client to align him or herself horizontal to the horse’s front leg.
2. With their left hand, grab a handful of the horse’s mane.
3. Bend their left leg at the knee.

4. Their partner places one hand under the bent knee and the other hand under the left foot.

5. The rider counts to three and together the rider jumps up throwing their right leg over the horse, while their partner lifts up.

The Activity: Have each team member take turns riding and leading. Focusing on feeling the rhythm of the horse and getting in harmony with their horse. As each client gets comfortable on the back of the horse and they feel safe ask them to let go of what ever they are holding and hold their arms out parallel with the ground. Once they are comfortable doing this, ask them to now close their eyes as their partner leads them around the arena.

Clinical Observation:

As for the physical part—look for a straight alignment, shoulder, hip, and bottom.

- Is the rider taking the leadership role?
- Effectively communicating to the leader how fast to go?
- Where to go? Etc.
- Is the leader responding to what the rider is communicating to him?

- Is the leader acting responsibly?

Clinical Processing:

- Share a little of your experience.
- Explore how clients worked or did not work as a team.
- Clear communication?
- Explore the various roles each client assumed during the activity.
- How is this activity like life experiences?
- Useful metaphors you can use regarding—balanced, centered, and looking where you want to go.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Take Graduation Pictures

Use this session to take a digital photo of each participant, to be printed on his or her graduation certificated that is handed out during the last session.

Send Innovations Home

Because research shows that parent involvement is crucial to children and adolescent’s emotional health, this treatment plan reaches out to the client’s support network. We have broadened the understanding of clients support network to include any person from the perspective of the client who plays a central role in that client’s life. Such as: family members, teachers, school principles, community leaders, religious leaders, and friends, and invite them to attend and support the participant on his or her last session. Innovations can be sent home with the clients, or given to the client’s parent when they pick them up after this session, or if working with a school, the innovation can be given to the school counselor to give to the parents.

Reference: Deborah Goodwin Bond LPC (personal communication May, 2005)



Session 11

Activities

- Catch Horse
- Grooming
- Tack Horses
- Ride with Saddle and with Leader
- Independent Riding (if time allows)

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Grooming



Props: Instruct teams on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the teams grow in confidence and take ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Tack Horse

After each pair has groomed their horse, have them tack and saddle their horse.

Ride with Saddle and with Leader

Have the entire group has groomed and saddled their horses. Some pairs will be ready faster then others and often get frustrated waiting for the entire group. When this happens process how they might expedite this situation such as helping the other pairs groom and saddle their horses, but do not offer this idea, let the participants figure this out. When the entire group is ready, have one member for each pair get a riding helmet and take the group to the arena. Once inside the arena, have each pair mount the first rider, then have the other team member lead the mounted horse around the arena, after a while have the pair switch riders and leaders.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Independent Riding

Have the entire group has groomed and saddled their horses. When the entire group is ready, have one member for each pair get a riding helmet and take the group to the arena.

Once inside the arena, have each pair mount the first rider and instruct on how to hold and use the reins. Most often the participants can not effectively communicate with their horses where they want them to go, and the horse goes where ever they want, usually to eat some grass. Gently guide and encourage the rider how to communicate with their horse, trying not to rescue the client too much.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Session 12

Activities

- Horseshoe Closing
- Welcome Parents
- Catch Horse
- Grooming
- Tack, Ride in Trail Pattern
- Graduation Certifications

Horseshoe Closing

Objective: Provide closure

Set-up: You will need enough used horseshoes of different sizes and shapes for all group members, a spool of Lanyard and a scissors for cutting.



Time: 30 minutes, depending on the number of group members

The Activity: The Horseshoe closing ritual helps participants step back and view themselves and the group with objectivity and sensitivity. Horseshoes of various shapes and sizes are placed in the center of the group, each group member is asked to choose a horseshoe. The therapeutic team then guides the group on a discussion about how each horseshoe is different and links this to how we all are different, but because of this group experience, we have come together as one. As each group member guides the lanyard string through one of the holes of their horseshoe, the therapist guides the conversation as to the highlights of personal awareness and growth for the individual and the group as a whole. This allows the participants to cognitively integrate the changing experiences of the past 12-weeks.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2006)

Welcome Parents

Welcome parents as they arrive to the ranch, and briefly explain that the children and adolescents will be going into the pastures to catch and halter their horses. Bringing them back here to be groomed and saddled. Then the group will walk to the arena where they will share with you activities with their horse.

Encourage parents to accompany their child into the pasture, and to be actively involved with the activities of their child or adolescent.

NOTE: Do not be surprised or alarmed if the participant's behavior changes dramatically when their parents arrive at the ranch. If this occurs, process with the client how their behavior has changed and various options they have in response.

Catch Horse

Teams of two are handed a halter, lead rope, and asked to go into the pasture and halter a horse to their best ability, and bring the horse back to the arena or round pen. Members of the treatment team also accompany the participant teams into the pasture, to address safety concerns, and may/may not choose to process what is taking place.

Grooming



Props: Instruct teams on how to groom their horse. Show them the various tools used. At first, the therapeutic team will be actively involved in the grooming process, which will steadily decline as the teams grow in confidence and take ownership for caring for their horse.



Rubber Curry: Flat and oval with three or four concentric rings of notched ridges. Suitable of currying the body to loosen hair, duct and mud. Do not use on boney area.

Soft Brush: Used to remove duct and hair from the body, head, and legs, also used on the mane and tail.



Stiff Brush: Stiff bristles remove loosened dirt and hair from the body and legs. Do not use on the head.

Hoof Pick: Provides a means of cleaning the crevices of the frog.

Tack, Ride with Saddles in Trail Pattern

Before the group goes to the arena, set up a trail pattern for the participants to follow. Such as having them weave in and out of cones, go around barrels, back the horse up into a pocket made with PVC pipe, etc. Once the entire group has groomed and saddled their horses, have one member for each pair get a riding helmet and take the group to the arena.

Once inside the arena, explain to the group the train pattern that you have laded out, and then have each pair mount the first rider, and take their horse through the pattern. Offering encouragement and guidance with needed. Encouraging the parent or other support group member of each client to join everyone in the arena, you can use this time to talk with each parent explaining what their child is doing and various accomplishments over the past 12- weeks.

Reference: Deborah Goodwin Bond LPC (personal communication March 21, 2005)

Graduation Certifications

Gather everyone into a circle and hand out the graduation certifications. You can choose to add personal comments about each client if you choose.



Courageous Chris
Has Successfully Completed
NewTrail at Stone Canyon

REFERENCES

- American School Counseling Association, (2006a). *American School Counseling Association highlights professional trends in serving student needs*. Retrieved February 2006, from <http://www.schoolcounselor.org>
- American School Counseling Association, (2006b). *Why elementary school counselors*. Retrieved February 2006, from: <http://www.schoolcounselor.org>
- American School Counseling Association, (2006c). *Why middle school counselors*. Retrieved February 2006, from <http://www.schoolcounselor.org>
- American School Counselor Association, (2003). *The American School Counselor Association national model: A framework for school counseling programs*. Alexandria, VA: Author.
- Baker, R., G., & Wright, H., F., (1951). *One boy's day: A specimen record of behavior*. New York, NY: Harper.
- Baker, S., (2001). Reflections on forty years in the school counseling profession: Is the glass half full or half empty. *Professional School Counselor*, 5(2), 75-83.
- Barker, S., & Dawson, K. (1998). The effects of animal assisted therapy on anxiety ratings of hospitalized psychiatric patients. *Psychiatric Services*, 49(6), 797-801.
- Batson, K., McCabe, B., Baun, M., & Wilson, C. (1998). The effect of therapy dog on socialization and physiological indicators of stress in persons diagnosed with Alzheimer's disease. In C. Wilson & D. Turner (Eds.), *Companion animals in human health* (pp. 203-215). Thousand Oaks, CA: Sage.
- Beck, A., M., (2000). The use of animals to benefit humans: Animal assisted therapy. In A. Fine (Ed.), *Animal assisted therapy*, (pp. 21-40). San Diego, CA: Academic Press.
- Beck, A., M., & Katcher, A., H., (2003). Future directions in human-animal bond research. *American Behavioral Scientist*, 47(1), 79-93.
- Berman, D., S., & Davis-Berman, J., (2001). Critical and emerging issues for therapeutic adventures. *Journal of Experiential Education*, 24(2), 68-69.
- Bowers, M., J., & MacDonald, P., M., (2001). The effectiveness of equine-facilitated psychotherapy with at-risk adolescents. *Journal of Psychology and the Behavioral Sciences*, 15, 62-76.
- Burch, M., R., (2000). Program evaluation and quality assurance in animal assisted therapy. In A. Fine (Ed.), *Animal assisted therapy*, (pp. 129-149). San Diego, CA: Academic Press.
- Bratton, S., Ray, D., Rhine, T., & Jones, L., (2005). The efficacy of play therapy with children: A meta-analysis review of treatment outcomes. *Professional Psychology: Research and Practice*, 36(4), 376-390.

- Bruyere, B., L., (2002). Appropriate benefits for outdoor programs targeting juvenile male offenders. *Journal of Experiential Education*, 25(1), 207-213.
- Cain, J., & Smith, T., (2006). *The revised and expanded book of raccoon circles: A facilitator's guide to building unity, community, connection, and teamwork through active learning*. Dubuque, Iowa: Kendall/Hunt Publishing Co.
- Carey, S., (1985). *Conceptual changes in childhood*. Cambridge, MA: MIT Press.
- Cavert, C., (1999). *Affordable portables: Revised & expanded version*. Oklahoma City, OK: Wood 'N' Barnes Publishing.
- Chandler, C., K., (2005). *Animal assisted therapy in counseling*. New York, NY: Routledge.
- City of Keller Texas, (2005). Retrieved July 2005, from: <http://www.cityofkeller.com>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Academic Press.
- Colclasure, D., (2004). To greener pastures: Women recovering from eating disorders find healing, hope at Remuda Ranch. Wickenburg, AZ: Remuda Ranch. Retrieved February 2006, from http://www.findarticles.com/p/articles/mi_m0675/is_4_22/ai_n6113360
- Delta Society, (1996). *Animal assisted therapy: Therapeutic interventions*. Renton, WA: Delta Society.
- Delta Society (2006). *About Delta Society*. Retrieved March 2006, from <http://www.deltasociety.org/>
- Dorrance, T., (1987). *True unity: Willing communication between horse and human*. Edited by M.H. Porter. Brueneau, ID: Give-It-A-Go-enterprises.
- Dumas, J., E., (1997). Home and school correlates of early at-risk status. In R.F. Kronick (Ed.), *At-risk youth: Theory, practice, reform*, (pp. 97-117). New York, NY: Garland Publishing, Inc.
- Equine Assisted Growth and Learning Association [EAGALA], (2005). Retrieved June 2005, from <http://www.eagala.org>
- Fall, K., A., Holden, J., M., & Marquis, A., (2004). *Theoretical models of counseling and psychotherapy*. New York, NY: Brunner-Routledge.
- Fine, A., H., (2000). Animals and therapists: Incorporating animals in outpatient psychotherapy. In A. Fine (Ed.), *Animal assisted therapy*, (pp. 179-1211). San Diego, CA: Academic Press.
- Folse, E., Minder, C., Aycock, M., & Santana, R., (1994). Animal assisted therapy and depression in adult college students. *Anthrozoos*, 7(3), 188-194.

- Foran, A., (2005). The experience of pedagogic intensity in outdoor education. *Journal of Experiential Education*, 28(2), 147-163.
- Gall, M., D., Gall, J., P., & Borg, W., R., (2003). *Educational research: An introduction*. Boston, PA: Allyn & Bacon Publishers.
- Garrity, T., F., & Stallones, L., (1998). Effect of pet contact on human well-being. In Wilson & Turner (Eds.), *Companion animals in human health*, (pp. 3-22). Thousand Oaks, CA: Sage Publications, Inc.
- Garza, Y., & Bratton, S., (2004). School-based child-centered play therapy with Hispanic children: Outcomes and cultural considerations. *International Journal of Play Therapy*, 14(1), 51-80.
- George, D., & Mallery, P., (2005). *SPSS for Windows step by step: A simple guide and reference 12.0 update*. Boston, PA: Pearson Education, Inc.
- Glass, J., S., & Myers, J., E., (2001). Combining the old and the new to help adolescents: Individual psychology and adventure-based counseling. *Journal of Mental Health Counseling*, 23(2), 104-114.
- Glass, J., S., & Shoffner, M., F., (2001) Adventure-based counseling in schools. *Professional School Counseling*, 5(1), 42-48.
- Goleman, D., (1995). *Emotional intelligence*. New York, NY: Bantam.
- Golenberg, M., A., Klenosky, D., B., O'Leary, J., T., & Templin, T., J., (2000). A means-end investigation of ropes course experiences. *Journal of Leisure Research*, 32(2), 208-224.
- Graham, B., (2000). *Creature comfort*. Amherst, NY: Prometheus Books.
- Gysbers, N., C., (2004). Comprehensive guidance and counseling programs: The evolution of accountability. *Professional School Counseling*, 8(1), 1-14.
- Gysbers, N., C., & Henderson, P., (1994). *Developing and managing your schools guidance program*. Alexandria, VA: American Counseling Association.
- Gysbers, N., C., & Henderson, P., (2001). Comprehensive guidance and counseling programs: A rich history and bright future. *Professional School Counseling*, 4(4), 246-258.
- Haley, J., (1976). *Problem solving therapy*. San Francisco, CA: Jossey Bass.
- Hansen, K., Messinger, C., Baun, M., & Megel, M. (1999). Companion animals alleviating distress in children. *Anthrozoos*, 12(3), 142-148.
- Hart, A., M., (2000). Methods, standards, guidelines, and considerations in selecting animals for animal assisted therapy. In A. Fine (Ed.), *Animal assisted therapy*, (pp. 81-114). San Diego, CA: Academic Press.

- Hirschman, E., C., (1994). Consumers and their animal companions. *Journal of Consumer Research*, 20, 616-632.
- Hines, L., (2003). Historical perspectives on the human-animal bond. *American Behavioral Scientist*, 47, 7-15.
- Holcomb, R., Jendro, C., Weber, B., & Nahan, U. (1997). Use of an aviary to relieve depression in elderly males. *Anthrozoos*, 10(1), 32-36.
- Huang, L., Stroul, B., Friedman, R., Mrazek., Friesen, B., Pires, S., & Mayberg, S., (2005). Transforming mental health care of children and their families. *American Psychologist*, 60(6), 615-627.
- Hubner, J., & Wolfson, J., (2000). *Handle with care: Serving the mental health needs of young offenders*. Washington, DC: Coalition for Juvenile Justice.
- Irwin, C., & Weber, B., (2001). *Horses don't lie: What horses teach us about our natural capacity for awareness, confidence, courage, and trust*. New York, NY: Marlow & Company.
- Kahn, P., H., (1997). Developmental psychology and the biophilia hypothesis: Children's affiliation with nature. *Developmental Review*, 17, 1-16.
- Katcher, A., & Wilkins, G., G., (1998). Animal assisted therapy in the treatment of disruptive behavior disorders in children. In Lundberg (Ed.), *The environment and mental health* (pp. 193-204). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Kazdin, A., E., & Weisz, J., R., (2003). *Evidence-based psychotherapies for children and adolescents*. New York, NY: The Guilford Press.
- Kellert, S., R., (1996). *The value of life*. Washington, DC: Island Press.
- Kersten, G., & Thomas, L., (2004). *Equine assisted psychotherapy and learning un-training manual*. Santaquin, UT: Equine Assisted Psychotherapy and Learning Association (EAGALA).
- Kruger, K., A., Trachtenberg, S., W., & Serpell, J., a., (2004). *Can animals help humans heal? Animal assisted interventions in adolescent mental health*. Center of the Interaction of Animals and Society (CIAS). Philadelphia, PA. University of Pennsylvania School of Veterinary Medicine.
- Landreth, G. L. (2002). *Play therapy: The art of the relationship*. Bristol, PA: Accelerated Development Inc.
- Levinson, B., M., (1962). The dog as co-therapist. *Mental hygiene*, 46, 59-65.
- Levinson, B., M., (1972). *Pets and human development*. Springfield, IL: Charles C. Thomas Publisher.

- Lieberman, A., (2004). Confusion regarding school counselor functions: School leadership. *Education, 124*(3), 552-558.
- 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, PA. University of Pennsylvania School of Veterinary Medicine. Available: <http://www.vet.upenn.edu/research/centers/cias/pdf/Proceedings.pdf>.
- McGuire, D. (2001). Child-centered group play therapy with children experiencing adjustment difficulties (Doctoral dissertation, University of North Texas, 2000). *Dissertation Abstracts International, 61*(10).
- Mann, D., S., & Williams, D., (2002). *Equine-assisted family therapy for high-risk youth: Defining a model of treatment and measuring effectiveness*. Journey Home, Inc. Walsenburg, CO: Author.
- McCarthy, G., D., (2003). Book review: The clinician's guide to the behavioral assessment system for children (BASC). *Clinical Social Work Journal, 31*, 440-442.
- McVarish, C. (1995). The effects of pet facilitated therapy on depressed institutionalized inpatients. *Dissertation Abstracts International, 55*(7-B), 3019.
- Melson, G., F., (2003). Child development and the human-companion animal bond. *American Behavioral Scientist, 47*(1), 31-39.
- Melson, G., F., (1998). The role of companion animals in human development. In Wilson & Turner (Eds.), *Companion animals in human health* (pp. 219-266). Thousand Oaks, CA:
- Myers, G., (1998). *Children & animals*. Boulder, CO: Westview Press.
- Mental Health Commission, (2003). *The President's new freedom commission on mental health final report to the President*. Washington, DC: Author.
- National Institute of Mental Health, (2001). *Blueprint for change: Research on child and adolescent mental health. National advisory mental health council workgroup on child and adolescent mental health Intervention development and deployment*. Washington, DC: Author.
- Needham, B., L., Crosnoe, R., & Muller, C., (2004). Academic failure in secondary school: The inter-related role of health problems and educational context. *Social Problems, 51*(4), 569-586.
- Neill, J., T., (2003). Reviewing and benchmarking adventure therapy outcomes: Applications for meta-analysis. *The Journal of Experiential Education, 25*(3), 316-321.
- O'Connor, C., (2006). *The silent therapist: a review of the development of equine assisted psychotherapy*. Retrieved March 2006, from: <http://www.catra.net/info/silent.html>

- Rainbow Days, Inc., (1998). *Kids' Connection: A support group curriculum for children, ages 4-12*. Dallas, TX: Rainbow Day, Inc.
- Rainbow Days, Inc., (2006). Retrieved February, 2006, from <http://www.rdikids.org/awards.shtml>
- Ray D., (2004). Supervision of basic and advanced skills in play therapy. *Journal of Professional Counseling*, 32(2), 28-41.
- Ray, D., Muro, J. & Schumann, B. (2004). Implementing play therapy in the schools: Lessons learned. *International Journal of Play Therapy*, 13(1), 79-100.
- Rennie, R. (2000). A comparison study of the effectiveness of individual and group play therapy in treating kindergarten children with adjustment problems. (Doctoral dissertation, University of North Texas, 2000). *Dissertation Abstracts International*, A63 (09), 3117.
- Reynolds, C., R., & Kamphaus, R., W., (1992). *Manual for the behavior assessment systems for children*. Circle Pines, MN: American Guidance Service.
- Rohnke, K. (1984) *Silver bullets: A guide to initiative problems, adventure games and trust activities*. Dubuque, IA: Kendall/Hunt Publishing.
- Rohnke, K., & Bulter, S., (1995). *Quicksilver adventure games: Initiative problems, trust activities and a guide to effective leadership*. Dubuque, IA: Kendall/Hunt Publishing.
- Roth, A., & Fonagy, P., (1996). *What works for whom? A critical review of psychotherapy research*. New York, NY: The Guilford Press.
- Russell, K., C., (2001). What is wilderness therapy? *The Journal of Experiential Education*, 24(2), 70-79.
- Serpell, J., A., (2000). Animal companions and human well-being: An historical exploration of the value of human-animal relationships. In A. Fine (Ed.), *Animal assisted therapy*, (pp. 3-19). San Diego, CA: Academic Press.
- Sink, C., (2002). Comprehensive guidance and counseling programs and the development of multicultural student-citizens. *Professional School Counselor*, 6(2), 130-138.
- Slade, E., P., (2003). The relationship between school characteristics and the availability of mental health services in middle and high school in the United States. *Journal of Behavioral Health Sciences & Research*, 124(3), 382-392.
- Surgeon General, (2000). *United States public health services, report of the Surgeon General's conference on children's mental health: A national action agenda*. Washington, DC: Department of Health and Human Services.
- Taylor, S., M., (2001). *Equine facilitated psychotherapy: An emerging field*. Unpublished master's theses, Saint Michael's College, Colchester, Vermont.

- Texas Education Agency, (2004). *A model comprehensive, developmental guidance and counseling program for Texas public schools: A guide for program development pre-K through 12th grade*. Austin, TX: Publications Distribution Office.
- Thomas, L., (2001). More than magic. *Equine Assisted Growth and Learning News*, 5-6.
- Thompson, B. (2002). "Statistical," "practical," and "clinical": How many kinds of significance do counselors need to consider? *Journal of Counseling & Development*, 80, 64-71.
- Washburn, Pamelyn, M., (2004). *The effectiveness of equine-facilitated therapy with at-risk adolescents: A summary of empirical research across multiple centers and programs*. Presented at the Interdisciplinary Conference on Human Relations with Animals and the Natural World. Philadelphia, PA.
- White, R., & Heerwagen, J., (1998). Nature and mental health: Biophilia and biophobia. In Lundberg (Ed.), *The environment and mental health* (pp. 175-192). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Wigfield, A., Lutz, S., & Wagner, A., L., (2005). Early adolescents development across the middle school years: Implications for school counselors. *Professional School Counseling*, 9(2), 112-119.
- Williams, J., M., (1999). Brief therapy: A problem solving model of change. *The Counselor*. 29-32.
- Vygotsky, L., (1978). *Mind in society*. Cambridge, MA: Harvard University Press.