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Development of the Jewel Equestrian Scale

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Development of the Jewel Equestrian Scale

by

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Presented to the Faculty of the
Graduate School of Clinical Psychology
George Fox University
in partial fulfillment
of the requirements for the degree of
Doctor of Psychology
in Clinical Psychology

Newberg, Oregon

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Development of the Jewel Equestrian Scale

by

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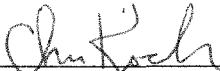
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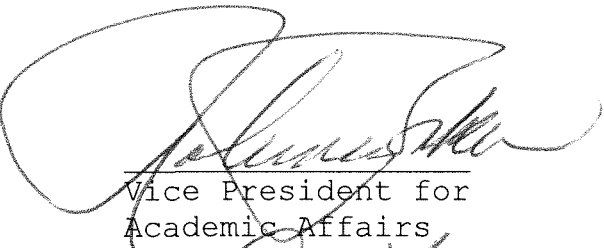
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as a Dissertation for the Psy.D. degree

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Development of the Jewel Equestrian Scale

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Abstract

Equestrian athletes have not been the topic of systematic study. There is a vast array of folklore and wisdom, lay study, and practice at the grassroots level regarding the relationship of horse and rider. The field of therapeutic horseback riding primarily consists of examining the benefits of riding for the physically handicapped. There is also the relatively fledgling movement of equine-assisted psychotherapy, that typically combines qualified therapists alongside qualified horse trainers. European study is more longstanding, extensive, and includes exploration of the psychotherapeutic benefits of equine therapy. The smattering of work is grounded on the study of the equestrian athlete, the unique aspects of the horse-human relationship, and how these animals serve in the healing of human minds, bodies, and souls. Levinson (1982) called for both intuitive and scientific approaches that address how humans and animals interact. He called for further study addressing the effects of animals on the human psyche, human-animal

communication, and the therapeutic use of animals in formal psychotherapy. The Jewel Equestrian Scale was developed to further the quantitative research while exploring the benefits and risks of equestrian activities. The impact of injury, the attraction to and fear of the horse, and the difference between performance anxiety and fear for one's safety is also explored. Thus far, the literature has addressed the computer-human interaction, the pet-human interaction, and this study will investigate the horse-human interaction.

Acknowledgements

I would like to gratefully acknowledge the role of my friend and horse trainer, Dave Williams, for the insight, opportunity, wisdom, and perseverance to begin this project and to continue learning from the horse for the rest of my life. The inspiration for the scale is directly credited to my first horse, Jewel. She is the one who first taught me about this mystical and powerful relationship, that supercedes species, and offers unquantifiable strength and connection. My sincere thanks to Chris Koch for allowing me to pursue this line of study.

Table of Contents

Approval Page.....	ii
Abstract.....	iii
Acknowledgements.....	v
Table of Tables.....	viii
Chapter 1 Introduction.....	1
Review of the Horse-Related Literature.....	2
Equine Therapy.....	3
Athletes and Equines.....	7
Human-Horse Relationship.....	9
Purpose of the Present Study.....	11
Chapter 2 Method.....	13
Participants.....	13
Instruments.....	13
Procedure.....	14
Chapter 3 Results.....	16
Additional Analyses.....	21
Chapter 4 Discussion.....	22
Limitations.....	23
Recommendations.....	23
Conclusion.....	24
References.....	25

Appendix A Jewel Equestrian Scale.....	28
Appendix B Demographic Questionnaire.....	31
Appendix C Other Works Reviewed.....	35
Appendix D Curriculum Vitae.....	39

List of Tables

Table 1	Example Items From Each of the Three Factors Removed From the Questionnaire Due to Low Internal Reliability	17
Table 2	Thirty-one Items Loading Onto the Satisfaction Factor	18
Table 3	Items For the Anxiety Factor with Factor Loadings	20

Chapter One

Introduction

The relationship between humans and animals is important. For instance, there are approximately 45 million dog owners in the United States owning nearly 63 million dogs. There are also over 76 million pet cats. These pets often hold a special place within the household. For instance, over 31 million dog owners buy Christmas gifts for their pet. Similarly, 39 million cat owners buy Christmas gifts for their cats. Almost 10 million dog owners celebrate the pet's birthday compared to 13.5 million cat owners. Furthermore, approximately 25 percent of pet dogs sleep on their owner's bed while 67 percent of cats sleep on their owner's bed or anywhere they want (American Pet Association, 2003). These statistics suggest that people form special relationships with their pets. In fact, research indicates that dogs do attach to their owners (Filiatre, Eckerlin, Millot, & Montagner, 1990). In addition, research indicates that pets can aid the elderly (e.g., Crowley-Robinson, Fenwick, & Blackshaw, 1996) and help reduce depression (e.g., Watson & Weinstein, 1993). However, relatively little research has been conducted specifically examining the human-animal interaction. A literature search produced only 33 articles focusing on this interaction. In comparison, there are over 2000 articles dealing with the human-computer interaction. Among the 33 articles on the human-animal interaction, none

focus on horses. This study attempts to quantify the relationship between a horse and its owner or rider.

Review of the Horse-Related Literature

There is a sizeable body of literature in the non-scientific arena regarding horses, our relationship with them, and how to utilize this relationship to improve one's riding skills and quality of life. For instance, Dorrance (1987) and Hunt (1978), both noted horsemen, have written about the relationship between man and horse. They note that it is particularly difficult to distinguish which factors are most important in the human-horse relationship. However, both Dorrance and Hunt focus on how humans can communicate to horses in ways the horses understand. This is commonly referred to as natural horsemanship or horse whispering. They further suggest that the ability to communicate with the horse requires a great deal of work, patience, and a lack of ego on the part of the human.

In addition to communication, Farmer-Dougan and Dougan (1999) note the importance of folk wisdom which they define as knowledge gained from within the equestrian culture and as a result of long-term practical experience with horses. Farmer-Dougan and Dougan (1999) further state that psychological principles, such as behavioral principles, are commonly used in training horses, thereby emphasizing the importance of psychology to understanding and working with horses. They also note that behavioral analysis can be used to help better understand the interaction between humans and horses,

particularly in the area of natural horsemanship. Despite the lack of scientific research regarding the human-horse interaction, horses are occasionally used in therapy.

Equine Therapy

A significant work, edited by Fine (2000), offers an in-depth study providing history and rationale regarding our relationships with animals and the numerous benefits of such. Fine cites guidelines for the selection of animals for animal-assisted therapy (AAT), explains how to set up programs, describes programs for a variety of populations, and concludes with special topics. These include companion animals within the family system and their implications for child development, nature therapy, welfare of animals, interdisciplinary collaboration, and future research. Fine notes that the research has been limited to the use of animals as "icebreakers", and the benefits of AAT for the physically handicapped.

Tyler (1994) notes that equine psychotherapy, originally developed in Europe, is a therapeutic tool that can be used for a wide range of diagnoses. She described her use of equestrian therapy with fearful, depressed, angry, and dissociative clients in conjunction with traditional therapy. Therapeutic benefits she highlights include a new perspective and change in defensive behaviors, the development of fresh insights, and new perspectives on old relationships and behavior patterns. She believes horses demand affective and behavioral consistency of the client, in a way that the therapist cannot demand. A

specific treatment plan, trustworthy horses and therapists, volunteers, location, and equipment are essential components of successful treatment.

Scheidhacker (1987) offers equestrian therapy within the framework of Gunter Ammon's Berlin School of Dynamic Psychiatry (German). Within this therapeutic system, the horse reflects the client's emotional state and individuals are made aware of the horses' physical and psychic states. This is particularly beneficial to those who suffer from a lack of trust in human relations. Scheidhacker believes that there is a lack of transference in the relationship with the horse. The insinuation is that this is of benefit to the client. The relationship with the horse is the key element of the therapy, as opposed to learning a new skill (i.e., how to ride). Scheidhacker seeks to qualify different characteristics of riding and the levels of contact the patients have with the horse, the group, the therapist, and the riding stable. There is emphasis on the integration of the therapeutic progress made with the horses into the context of the broader therapeutic work, goals, and desired outcomes.

Scheidhacker (1987) notes that caring for a horse early in the morning appears to combat depression. Clients who have body image issues benefit because the horse does not register concern or judgment regarding body type or appearance. She believes contact with the horse's body, with and without a saddle, is essential for understanding the horse and its movements. Constructive aggression or assertion may be learned by directing

the horse. She believes depressed persons may gain self-esteem by riding horses. However, common sense dictates that riding out in the countryside is not recommended for acute psychotics, for example, due to their break from reality. Clients with dissociative disorders may benefit from the necessity to "stay present" with the horse and their environment. Opportunity is given at the end of sessions in a group setting to reflect on the day's riding experiences.

Guilloy, Salle, Malbrut, and Anton (1985) used a horseback riding program as adjunctive therapy for mentally ill adult patients. Guilloy et al. are affiliated with the Hospital Center of Cholet, France where the roles of the instructor, group members, and the riding activity in the overall treatment are discussed. This mode of therapy appears to be particularly efficacious for persons in inhibited states. When they reviewed the literature they addressed the need for the "Development of tools to assess and quantify meaningful improvements in functional outcomes...to accurately assess the improvement that qualitative research has reported with horseback riding" (p. 10). In response to the lack of rigorous methodology, longitudinal studies were also recommended, as well as interdisciplinary teams for this typically adjunctive therapy.

Riding programs for the handicapped have become better established and regulated in the United States in the last few decades. For instance, Minner, Lawton, and Rusk (1983) discussed the possible social, emotional, and physical benefits of a therapeutic riding program (i.e., Horsemanship

Opportunities and Riding for Special Equestrians [HORSE]) for the handicapped and outlined how to develop such a program. In addition, Fox, Lawlor, and Luttges (1984) devised a practical means of measuring the physical benefits of an equestrian rehabilitation program. Specifically, they developed a device that measured balance and coordination, strength, and posture. They tested 19 handicapped children before and after riding and found an 18% increase in balance and coordination (7.2% immediately after riding), an 8.1% increase in arm strength, a 13.8% increase in leg strength, and an 18% increase in overall posture improvements. They conjectured that these results were due to the tendency to relax after riding or exercise. Parents and facilitators also noted increased self-confidence and social interaction among the participants.

Anderson, Friend, Evans, and Bushong (1998) addressed the selection of horses for therapeutic riding programs. They presented a group of horses with a series of unusual stimuli and gauged reactivity. They also measured plasma cortisol, norepinephrine, and epinephrine in the horses. Further, they gave a survey regarding the individual horse's temperament to the trainers. Interestingly, there was no significant agreement or correlation regarding the suitability of a horse for a rehabilitation program. In other words, the quantitative and qualitative means employed were not predictive of a horse's success as a participant in a therapeutic riding program.

Additionally, Vidrine, Owen-Smith, and Faulkner (2002) found equine-facilitated group psychotherapy to be an effective

therapeutic tool. The specific strategy they described involved therapeutic vaulting which entailed precise exercises and moves off the back of a horse. In these exercises the therapist or co-facilitator lunges the horse (directs the movement and velocity of the horse with a line) while the client rides. Although they found the strategy to be clinically beneficial, they also reported that quantitative studies on equine-facilitated psychotherapy do not exist in English. Therefore, they suggest that the non-English research needs to be translated to more widely disseminate information regarding the utility of equine therapy and to encourage research on this therapeutic tool.

Athletes and Equines

In focusing on the equestrian athlete, no research had been published regarding the competitive mindset of the equestrian athlete until Myers, Bourgeois, LeUnes, and Murray (1999) considered the mood and psychological skills of what they termed elite and sub-elite equestrian athletes. The group gave a battery of psychometric inventories, including Profile of Mood States and the Psychological Skills Inventory of Sport, to athletes during the Olympic Trials or during various equestrian competitions throughout the country. Data was evaluated in groups categorized as elite (those athletes who were members of the United States Equestrian Team that qualifies for the Olympics) or sub-elite (team members who did not qualify for the Olympics), by events, and gender. Elite competitors displayed significantly higher levels of anxiety management and

concentration than the sub-elite athletes (Myers et al., 1999). Men were found to rank higher in vigor, and lower in numerous measures of mood disturbance. Men also scored higher in anxiety management and confidence than females, but females scored higher than males in motivation (Myers et al., 1999).

Wipper (2000) analyzed the horse-rider relationship in eventing. She describes eventing as the equestrian version of the modern triathlon. It consists of three tests, including basic dressage, show jumping, and a cross-country gallop that involves natural obstacles, such as ditches, stone walls, hedges, banks, and water. She chose accomplished riders as examples, stating that their successes meant they had an advanced understanding of the horse. She found in these equestrians a need for horse-human relationships based on respect, trust, confidence, and close communication.

On the other hand, success in riding competition may not necessarily confirm a superior relationship or level of communication between horse and rider. Wipper (2000) also presents a case study of a world class rider who had a very rocky relationship with one of her horses. The case calls into question Wipper's premise that "successful" riders offer the best measure of insight into horses' physical and psychological states and needs. Horses require a depth of knowing that may take a lifetime to learn. Each one is as unique within its species as humans are in theirs. Wipper (2000) rightly quotes an Olympic gold medalist "It's not just one athlete, it's two athletes and a combination of personalities, a combination of

physical skills, and a combination of minds. So that distinguishes it very much from other sports" (p. 48). She also noted that no other studies deal in-depth with the horse-rider relationship. Crowell-Davis (1992) also noted the absence of quantifiable studies on the human-horse relationship and believes such studies would be invaluable to the horse industry.

In addition to the many benefits of the human-horse relationship, there are also some risks involved. The American Medical Equestrian Association conducted a survey that was cited by Cowmeadow (2001) found that 80.6% of all respondents had received injuries while riding. Similar to the present study, they gathered data regarding participant involvement in equestrian events and self-reported ability level. The benefits and risks of riding have begun to be quantifiably assessed by the Jewel Equestrian Scale. The frequency and effect of injury were also explored.

Human-Horse Relationship

The limited research on equine therapy coupled with the lack of research on humans and horses in general, illustrate the relative neglect researchers have given to interspecies (human-animal) relationships. Arluke and Sanders (1996) have argued that research on human-animal interaction is needed. Wipper (2000) suggests that researchers need to acknowledge that people who work with animals have a better understanding of the relationship between animals and people than do researchers. Using observational methods, Wipper (2000) found a common theme throughout the horse world. The theme centers on the ability of

the rider to view the riding situation from the perspective of the horse. She also found that issues of control are important. For instance, she found that, "Horses appear to take advantage of riders who do not demonstrate that they are in charge" (Wipper, 2000, p.57). She quotes another rider, "It's a paradox. The horse must be allowed to think and sort things out for himself and at the same time the horse must be doing what you want him to do" (Wipper, 2000, pp. 57-58).

Wipper (2000) believes that the advanced rider can anticipate what the horse will do; although advanced or experienced riders are not always successful in competition. Horses are also very sensitive to human moods and physical changes. It appears that horses often read humans' moods far better than humans read horses' moods. In fact, Wipper argues that no animal is more sensitive to human moods than a horse. Therefore, riders should not telegraph their mood to their horse unless they want the horse to respond according to that mood.

In addressing the mutual relationship between man and horse, Lynch, Fergin, Mackie, and Monroe (1974) tested the results of human contact on two horses. They measured the horses' heart rates with an EKG. They sought to test the effects of a passive presence, as well as the effect of a person petting the horse. When a human entered or exited the horse's area, there was a temporary increase in heart rate. Petting the horse elicited a lowering or slowing of the horse's heart rate. The calming effect of petting animals on humans, and the subsequent lowered heart rate for humans is documented. It is

interesting that humans have the same effect on horses. These findings were replicated by Hama, Yogo, & Matsuyama (1996). They suggest an affectional interaction between humans and companion animals. Wipper (2000) further suggests that the relationship between humans and horses is influenced by traits similar to those that aid human-human relationships including compatibility, mutual respect, trust, confidence, and close communication.

Purpose of the Present Study

The literature clearly delineates the need for quantifiable research in regards to animal-assisted therapies in general, and for equestrian athletes in particular. The purpose of this study was to develop an instrument to assess the human-horse interaction. It explored which aspects of riding were significant to the individual rider, as well as the attraction to and fear of the horse. The inherent risks of working with and riding horses were examined. The ultimate goal was to refine the instrument so that results may be generalized to the equestrian athlete, the human-horse relationship, and the therapeutic benefits of equestrian activities. A prescriptive course of treatment may subsequently follow.

Thus far, the literature has addressed the human-computer interaction, and the pet-human interaction, but not the horse-human interaction. Those participants who are primarily interested in riding or using the horse as a tool, those who are connected to the animal, and those that enjoy both aspects of the sport are identified. This study investigated the

relationship between the level of experience of the individual rider and the level of anxiety he or she experiences during equestrian activities.

Chapter Two

Method

Participants

Fifty-three equestrian athletes from the Pacific Northwest volunteered to participate in the study. Participants ranged in age from 13 to 70 with a mean of 37.87 ($SD = 15.07$). Ninety percent of the participants were females. Although all participants had riding experience, the amount of experience varied from 1 to 50 years with a mean of 23.18 ($SD = 14.24$). However, all participants had a minimum of 20 rides or lessons. Participants rode their horses between one and three times per week ($M = 1.60$, $SD = .80$). Ninety percent of the participants owned their own horse. The mean length of ownership was 15.18 years ($SD = 12.63$) ranging between 1 and 50 years. Participants ranged from novice to professional riders with most participants (56.82 percent) being intermediate to advanced riders. Participants also represented a variety riding categories or activities including leisure, dressage, and ranch work.

Instruments

After reviewing the literature on equestrian athletes, their relationships with horses, and the therapeutic aspects of this relationship, an instrument was developed to begin to quantify the human-horse interaction. Seventy-nine items were constructed to examine the complex relationship between humans and horses (Appendix A). Items addressed both attraction to and

fear of the horse, the rider's perspective on his or her relationship to the horse, reasons for riding, how riding impacts the rider, and the influence of other riders. The response scale was a five-point Likert scale.

Three horse experts (two veterinarians and one trainer) were given the items to evaluate using a five-point Likert scale. The scale ranged from *strongly disagree* to *strongly agree*. Experts were asked to rate each item in regard to how important the item was to the human-horse interaction. There was 95% agreement among the experts over the items (based on those having positive correlations for items in common). The average correlation among the raters was .79. Percent agreement between the experts was also calculated by converting the Likert scale to a dichotomous scale. Items rated either *agree* or *strongly agree* were taken to indicate that the item should be included in the questionnaire while items with a *neutral* or *disagree* rating indicated that the item should not be included. The percent agreement between experts for which items should be included or removed was 95%. Thus, the percent agreement shows that experts agreed on the content of the questionnaire and the correlation shows that the content was appropriate for examining the horse-rider interaction.

Procedure

Participants were given a packet including the Jewel Equestrian Scale and a demographic questionnaire (Appendix B). The demographic questionnaire included items regarding type of riding, level of riding, horse ownership, relationships with the

horse and trainer, and the impact of injury. Participants were provided as much time as needed to complete the questionnaires. In general, it took approximately 30 minutes to complete both questionnaires.

Chapter Three

Results

A principal component factor analysis was conducted on the items for the Jewel Equestrian Scale. Only items with a factor loading of .35 or higher were included in a factor. Further, items with equivalent loadings on more than one factor were eliminated. Although five factors were found, the majority of items loaded onto two factors. Specifically, 31 items loaded onto one factor and 18 loaded onto a second factor. The remaining factors had nine, nine, and six items. Given the relatively few number of items in these factors, a reliability analysis was conducted. Alpha coefficients for the three smaller factors were all below .6. Representative items from these removed factors are presented in Table 1. In addition to the low internal reliability for these items, there is also little face validity or clinical significance. Therefore, these factors were removed from the questionnaire. Removing these three factors left two factors for the Jewel Equestrian Scale.

The 31 items in the first factor had an internal reliability of .94. Items from this factor are presented in Table 2. The majority of these items dealt with self-esteem and positive aspects of the rider-horse relationship. Therefore, the factor was labeled Satisfaction. Examples of these items include "Riding improves my sense of well-being" and "I feel physically refreshed after riding."

Table 1

Example Items From Each of the Three Factors Removed From the Questionnaire Due to Low Internal Reliability

Factor	Example Items
Factor 3 (9 items)	<p>Riding decreases my anxiety.</p> <p>I like to ride because you spend time outdoors.</p> <p>My sense of well-being comes from grooming my horse.</p>
Factor 4 (9 items)	<p>Trust between rider and trainer.</p> <p>Trust between horse and trainer.</p> <p>The principles of riding apply to life.</p>
Factor 5 (6 items)	<p>I'm only limited by my beliefs.</p> <p>I'm only limited by my expectations.</p> <p>Riding connects me to God.</p>

Table 2

Thirty-one Items Loading onto the Satisfaction Factor

Item	Loading
I feel mentally refreshed after riding.	.703
My horse usually picks up on my feelings.	.703
The horse usually picks up on my state of mind.	.703
I try to speak my horse's language.	.700
I feel a special connection with my horse.	.695
Riding is about trust between horse and rider.	.686
Being "in tune" with my horse effects my ride.	.683
I enjoy being with my horse.	.681
If I could never ride again I would still keep my horse.	.658
Riding improves my self-esteem.	.636
I try to recapture that feeling of being one with the horse.	.632
Riding is a spiritual experience.	.632
I feel physically refreshed after riding.	.627
The reason I ride is the relationship with my horse.	.627
The horse lets me know what it needs.	.610
Riding causes me to examine myself.	.609
Riding is an exercise in positive mental health.	.605
I'd like to work with the horse so it's both our idea.	.602
The principles of riding apply to life.	.588
I've felt as one with my horse.	.585
Riding improves my sense of well-being.	.585
I understand the basic tenants of natural horsemanship.	.573

I learn more about myself each time I ride.	.556
Horses learn my feel.	.545
My sense of well-being comes from being with my horse.	.504
I can do whatever I set my mind to.	.481
We need to have clear boundaries with people.	.479
We need to have clear boundaries with horses.	.473
My thoughts impact my ride.	.460
This connection is different from that between myself and dog/cat.	.399
Riding tests my competence.	.350

Since the Satisfaction factor is relatively large, a second factor analysis was conducted to determine possible subfactors. However, all but two of the 31 items had primary loadings on one factor. A two factor solution produced interesting yet unreliable subfactors. One subfactor focused on the positive aspect of riding (e.g., "Riding is a spiritual experience") while the other dealt with the relationship with the horse in general (e.g., "If I could never ride again I would still keep my horse"). The internal reliability of the subfactors, however, was .40 and .58 respectively.

The second factor was composed of 18 items and had an internal reliability of .90. Items in this factor are presented in Table 3. These items deal with being nervous and scared, particularly regarding being evaluated by others. Examples of these items include "I get nervous because of my trainer," "I

get scared because of my horse," and "I get nervous because of other people watching." Thus, this factor was labeled Anxiety.

Table 3

Items for the Anxiety Factor with Factor Loadings

Item	Loading
I get nervous at my lesson.	.851
I get nervous because of my trainer.	.819
I get scared at my lesson.	.810
I get scared because of my horse.	.783
I get scared because of my trainer.	.726
I get scared because of other people watching me.	.698
I get nervous because of my horse.	.695
I get nervous because of other people watching me.	.684
I get scared riding with my friends.	.669
I get nervous riding with my friends.	.659
I get scared going to clinics.	.648
Usually the horse is right.	.634
I make the horse go where I want.	-.612
I get nervous performing.	.566
I get scared riding alone.	.553
I get scared performing.	.541
The reason I ride is the relationship with my trainer.	.485
My sense of well-being comes from watching my horse.	.361

Additional Analyses

The agreement among the expert reviewers concerning the items in the questionnaire provides evidence of strong content validity. To obtain information regarding construct validity, the factor totals were analyzed according to two variables obtained from the demographic questionnaire. Specifically, if the Satisfaction factor is related, at least in part, to the rider's relationship with the horse, then there should be differences on this factor in regard to riding level (i.e., novice, intermediate, professional). Although a one-way ANOVA yielded only a marginal effect of level, $F(4, 42) = 2.05, p = .10$, a Tuckey's post hoc analysis showed that the novice riders were significantly lower on the Satisfaction factor than all other levels of riders. Likewise, it was hypothesized that the Anxiety factor would be related to control over the horse. If this were true, riders who had been injured riding would show higher levels of anxiety. In the present sample, 75% of the riders had been hurt while riding. For those not injured, the mean on the Anxiety scale was 24.36 ($SD = 10.28$), while the mean on the anxiety scale for those who were injured while riding was 33.39 ($SD = 11.42$). This difference was significantly different, $F(1, 42) = 5.41, p = .025$. These results based on demographic information provide evidence of the scale's construct validity.

Chapter Four

Discussion

This study was conducted to develop an instrument to examine the relationship between humans and horses. The two factors that were identified through factor analysis pertained to satisfaction and anxiety. Satisfaction was related to the rider's satisfaction with the riding experience and satisfaction gained through the relationship with the horse. Anxiety was generally related to the rider's feeling of being in control (or not in control) while riding the horse and being uncomfortable being evaluated by trainers or spectators. The two factors have excellent internal reliability and a preliminary analysis based on demographic data suggests acceptable construct validity as well.

Irwin (1998) refers to the ways the horse speaks to our unbridled passions, as well as our inner polarities. This may be an explanation for the two factors, Satisfaction and Anxiety, found by the Jewel Equestrian Scale. Performance anxiety versus physical safety was explored. Equestrian athletes may find great satisfaction through the willing partnership with such powerful animals, while concurrently fearing the horse's great strength.

The Satisfaction factor, in particular, suggests that some riders are especially drawn to the activity of riding, while others to the horse itself, and still others to different

aspects of equestrian activities. This is indicative of the human-horse interaction and signifies a distinction found within the equestrian community. Elite competitors or those with working horses may be more likely to focus on the function rather than the relationship. Kohanov's (2001) work would support the idea that the predominance of females in equestrian circles may be explained by their strong preference for relationship with functionality.

Limitations

Although two reliable factors were found in this study, three factors were deleted due to small factor size, low clinical significance, and poor internal reliability. However, these deleted factors suggest that the human-horse interaction is based upon more than satisfaction and anxiety. In addition, it also appears that the Satisfaction scale may be composed of a number of subscales. Therefore, additional items need to be created to develop a questionnaire that more fully addresses the human-horse interaction.

Recommendations

It is recommended that the scale continue to be developed in order to strengthen its validity and perhaps develop additional factors related to the human-horse interaction. It is further recommended the Jewel Equestrian Scale be given with other personality scales to equestrian athletes in an effort to discern what is unique and definitive about the equestrian athlete. One question that could be investigated is whether a certain type of individual chooses to ride, or whether riding

develops certain characteristics and benefits in it's participants, as in all sports. Similarly, it is suggested that future research determine and define what precisely is unique about equestrian athletes compared to athletes that do not use animals in training or competition. Finally, in an effort to meet the need for quantifiable research in the area of animal-assisted therapy, ongoing efforts to build on the existing body of knowledge is recommended. Initial research could focus on changes in anxiety and increase in satisfaction, especially self-confidence, over the course of equestrian therapy.

Conclusion

The Jewel Equestrian Scale is a strong and reliable instrument for equestrian athletes measuring the interaction between humans and horses. There is a pressing need for additional quantitative research defining the benefits of horse-human interactions. Such research could help evaluate equestrian therapy in a variety of psychiatric populations. Ongoing research may begin to define the precise gains and risks. The particular benefits of human relationships with horses should continue to be explored in both the scientific and practical arenas.

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Appendix A
Jewel Equestrian Scale

Please answer the following questions using the scale below:

- SA = Strongly Agree
- A = Agree
- N = Neutral
- D = Disagree
- SD = Strongly Disagree

1	Riding improves my sense of well-being.	SA	A	N	D	SD	N/A
2	Riding improves my self-esteem.	SA	A	N	D	SD	N/A
3	Riding decreases my depression.	SA	A	N	D	SD	N/A
4	Riding decreases my anxiety.	SA	A	N	D	SD	N/A
5	Riding decreases my desire to use alcohol/drugs.	SA	A	N	D	SD	N/A
6	Riding is an exercise in positive mental health.	SA	A	N	D	SD	N/A
7	I feel physically refreshed after riding.	SA	A	N	D	SD	N/A
8	I feel mentally refreshed after riding.	SA	A	N	D	SD	N/A
9	I feel spiritually refreshed after riding.	SA	A	N	D	SD	N/A
10	I learn more about my horse each time I ride.	SA	A	N	D	SD	N/A
11	I learn more about myself each time I ride.	SA	A	N	D	SD	N/A
12	The reason I ride is my relationship to my horse.	SA	A	N	D	SD	N/A
13	The reason I ride is my relationship to my trainer.	SA	A	N	D	SD	N/A
14	The reason I ride is my relationship to the people at my barn.	SA	A	N	D	SD	N/A
15	I ride because of the social interaction.	SA	A	N	D	SD	N/A
16	I enjoy being with my horse.	SA	A	N	D	SD	N/A
17	I like to ride because you can spend time outdoors.	SA	A	N	D	SD	N/A
18	My sense of well-being comes from grooming my horse.	SA	A	N	D	SD	N/A
19	My sense of well-being comes from watching my horse.	SA	A	N	D	SD	N/A
20	My sense of well-being comes from being with my horse.	SA	A	N	D	SD	N/A
21	My sense of well-being comes from riding my horse.	SA	A	N	D	SD	N/A
22	I get nervous performing.	SA	A	N	D	SD	N/A
23	I get scared performing.	SA	A	N	D	SD	N/A
24	I get nervous riding with my friends.	SA	A	N	D	SD	N/A
25	I get scared riding with my friends.	SA	A	N	D	SD	N/A
26	I get nervous going to clinics.	SA	A	N	D	SD	N/A
27	I get scared going to clinics.	SA	A	N	D	SD	N/A
28	I get nervous at my lesson.	SA	A	N	D	SD	N/A
29	I get scared at my lesson.	SA	A	N	D	SD	N/A
30	I get nervous riding alone.	SA	A	N	D	SD	N/A
31	I get scared riding alone.	SA	A	N	D	SD	N/A
32	I get nervous because of my horse.	SA	A	N	D	SD	N/A
33	I get scared because of my horse.	SA	A	N	D	SD	N/A
34	I get nervous because of my trainer.	SA	A	N	D	SD	N/A
35	I get scared because of my trainer.	SA	A	N	D	SD	N/A
36	I get nervous because of other people watching.	SA	A	N	D	SD	N/A
37	I get scared because of other people watching.	SA	A	N	D	SD	N/A
38	Horses learn by feel.	SA	A	N	D	SD	N/A
39	I understand the basic tenants of natural horsemanship.	SA	A	N	D	SD	N/A
40	I try to speak my horse's language.	SA	A	N	D	SD	N/A

41	The principles of riding apply to life.	SA	A	N	D	SD	N/A
42	We need to have clear boundaries with people.	SA	A	N	D	SD	N/A
43	We need to have clear boundaries with horses.	SA	A	N	D	SD	N/A
44	I can do whatever I set my mind to.	SA	A	N	D	SD	N/A
45	I'm only limited by my beliefs.	SA	A	N	D	SD	N/A
46	I'm only limited by my expectations.	SA	A	N	D	SD	N/A
47	Usually the horse is right.	SA	A	N	D	SD	N/A
48	The horse lets me know what they need.	SA	A	N	D	SD	N/A
49	My thoughts impact my ride.	SA	A	N	D	SD	N/A
50	I make the horse go where I want.	SA	A	N	D	SD	N/A
51	I 'let go' when the horse has a better idea.	SA	A	N	D	SD	N/A
52	I relax when the horse wants to go.	SA	A	N	D	SD	N/A
53	I'd like to work with the horse so it's both our idea.	SA	A	N	D	SD	N/A
54	Sometimes it's best to give up my agenda when riding.	SA	A	N	D	SD	N/A
55	Being 'in-tune' with my horse effects my ride.	SA	A	N	D	SD	N/A
56	The horse usually picks up on my state of my mind.	SA	A	N	D	SD	N/A
57	My horse usually picks up on my feelings.	SA	A	N	D	SD	N/A
58	My horse fills in for me.	SA	A	N	D	SD	N/A
59	Mine doesn't, but I know other horses that do.	SA	A	N	D	SD	N/A
60	I feel a special connection to my horse.	SA	A	N	D	SD	N/A
61	This connection is different from that between myself and my dogs/cats.	SA	A	N	D	SD	N/A
62	My horse takes care of me.	SA	A	N	D	SD	N/A
63	My horse waits for me to catch on.	SA	A	N	D	SD	N/A
64	My horse takes advantage of my weaknesses.	SA	A	N	D	SD	N/A
65	I've felt at one with my horse.	SA	A	N	D	SD	N/A
66	I try to recapture that feeling.	SA	A	N	D	SD	N/A
67	Riding enables me to perform better in other areas of my life (explain if you like).	SA	A	N	D	SD	N/A
68	Riding connects me to my true self.	SA	A	N	D	SD	N/A
69	Riding is a spiritual experience.	SA	A	N	D	SD	N/A
70	Riding connects me to God.	SA	A	N	D	SD	N/A
71	Riding gives me peace.	SA	A	N	D	SD	N/A
72	Riding tests my competence.	SA	A	N	D	SD	N/A
73	Riding tests my confidence.	SA	A	N	D	SD	N/A
74	Riding causes me to examine myself.	SA	A	N	D	SD	N/A
75	If I could never ride again I would still keep my horse.	SA	A	N	D	SD	N/A
76	Riding is about trust.	SA	A	N	D	SD	N/A
77	Trust between horse and rider.	SA	A	N	D	SD	N/A
78	Trust between rider and trainer.	SA	A	N	D	SD	N/A
79	Trust between horse and trainer.	SA	A	N	D	SD	N/A

Appendix B

Demographic Questionnaire

Demographic Questionnaire

Age: _____ Sex: female male

Race: Caucasian

Hispanic

Native American

African American

Asian

Other: _____

Ethnicity: _____

How long have you been riding (in years): _____

Last year of school completed? _____

Occupation: _____

Why do you ride?

How often do you ride? Daily 4-6 times/week 1-3 times/week

Do you own your own horse(s)? yes no

If yes, how long have you owned your horse(s)? _____

If no, whose horse do you ride?

What kind (breed) of horse do you ride most? _____

What kind of breed do you prefer? _____

Have you had a significant relationship with one particular horse? yes no

Does the horse reside at your residence? yes no

Do you stable within a half an hour of your home? yes no

How many times a week are you at the barn? Daily 4-6 times/week

1-3 times/week

If your horse is at your residence, how many times a day (average) do you interact (i.e., make trips to the barn, to the field, to ride, to groom, to feed, etc.) with it? _____

On the average, how much time a day do you spend with your horse? _____

How much time per week do you spend with your horse? _____

Why do you have a horse (i.e., fun, companionship, to ride, to exercise, competition, etc.)?

Have you had a horse-related mishap in the past (i.e., fallen off, broken limb etc.)? yes no

In the last year? yes no

In the last six months? yes no

Did it impact your ability to ride/ frequency of riding? yes no

Did it impact your desire to ride? yes no

Did it impact your self- esteem? yes no

Are you afraid to ride? yes no

Are you afraid of your horse on the ground? yes no

Are you afraid of your horse on the trails? yes no

What diminishes your fear?

What helps your fear?

What doesn't help your fear?

Would you like more help with this fear? yes no

Do you have a physical handicap/restriction? yes no

Do you work with a trainer? yes no

If yes, how often? _____

What is your trainer's school of thought? _____

What is your trainer's style of teaching? _____

Do you have lessons? yes no

If yes, how often? _____

Talk about the "goodness of fit" between you, your horse, and your trainer.

Have you tried other things such as clinics, videos, tapes, books, etc? yes no

How are you impacted by the other horses and people where you ride?

The category(ies)/activities that best describe my riding is/are (circle all that apply):

- 1) leisure
- 2) dressage/show
- 3) driving
- 4) drill team
- 5) team penning
- 6) barrel racing
- 7) rodeo
- 8) long distance
- 9) jockey
- 10) professional trainer
- 11) polo
- 12) working ranch/ farm riding
- 13) other(s) _____

My level of riding is best described as:

- beginning/novice
- beginning/ intermediate
- intermediate/ advanced
- advanced
- professional

Appendix C

Other Works Reviewed

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- Biery, M. J., & Kauffman, N. (1989). The effects of therapeutic horseback riding on balance. *Adapted Physical Activity Quarterly, 6*(3), 221-229.
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- Goldberg, L. R. (1990). An alternative "description of personality": The big-five factor structure. *Journal of Personality and Social Psychology, 59*, 1216-1229.
- Gosling, S., & Bonnenburg, A. (1998). An integrative approach to personality research in anthro-zoology: Ratings of six species of pets and their owners. *Anthozooes, 11*(3), 148-156.

- Grzimek, B. (1944). Recognition of human beings by horses. *Zeitschrift Fuer Tierpsychologie*, 6, 110-126.
- Kilpela, G. (1997). *Factor structure of the perceived ability scale*. Unpublished doctoral dissertation, George Fox University, Newberg, Oregon.
- Lawshee, C. H. (1975). A quantitative approach to content validity. *Personnel Psychology*, 28, 563-575.
- Le Scolan, N., Hausberger, M., & Wolff, A. (1997). Stability over situations in temperamental traits of horses as revealed by experimental and scoring approaches. *Behavioral Processes*, 41(3), 257-266.
- Levinson, B. (1984). Human/companion animal therapy. *Journal of Contemporary Psychotherapy*, 14(2), 131-144.
- O'Sullivan, D. M., Zuckerman, M., & Kraft, M. (1998). Personality characteristics of male and female participants in team sports. *Personality and Individual Differences*, 25, 119-128.
- Pierson, M. H. (2000). *Dark horses and black beauties*. New York, NY: W.W. Norton.
- Podhajsky, A. (1968). *My horses, my teachers*. N. Pomfret, VT: Trafalgar Square.
- Pony Boy, G. (1998). *Horse, follow closely*. Irvine, CA: Bow Tie Press.
- Randenberg, A. Von. (1978). The horse as a medium for sport-therapy and social education in institutional work. *Praxis der Kinderpsychologie und Kinderpsychiatrie*, 27(4), 144-148.

Seboek, T. A. & Rosenthal, R. (Eds.). (1981). *The Clever Hans phenomenon: Communication with horses, whales, apes, and people*. New York, NY: The New York Academy of Sciences.

Wilson, C., & Turner, D. (Eds.). (1998). *Companion animals in human health*. Thousand Oaks, CA: Sage.

Appendix D
Curriculum Vitae

VALERIE ANN TSOHANTARIDIS, M.E.D., M.A.

19825 Kings Grade Road

Newberg, OR 97132

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EDUCATION AND HONORS

1999-present George Fox University Newberg, OR

- Doctoral Intern in Psy.D. Program, Graduate School of Clinical Psychology, APA Accredited.
- Master of Arts in Psychology.
- Licensed Mental Health Counselor/ Commonwealth of Massachusetts.

1983-1986 Cleveland State University Cleveland, OH

- Masters of Education/Community Agency Counseling.
- Graduated Cum Laude.

1975-1979 Barrington College Barrington, RI

- B.A. Psychology.
- Graduated Summa Cum Laude.
- Graduated Honor Society.

EXPERIENCE

Sept. 2002-present The Confederated Tribes of Grand Ronde Health and Wellness Center. Grand Ronde, OR

Preinternship and Internship, Joseph Stone, PhD, Supervisor

- Individual psychosocial and substance abuse assessments.
- Individual, family, and group therapy.
- Group therapy with women following an Interpersonal model integrating a cultural component.
- Several meetings with community members, leaders and healers to discuss culture and spirituality.
- Personality and intellectual testing, scoring, interpretation, and report writing, including work on court involved cases.
- Specialized training in culturally sensitive intervention and assessment strategies, and crisis intervention.

- Weekly supervision with Dr. Stone on-site, psychiatrist, Dr. Bellville scheduled and as needed, Dr. Rusunen, psychologist, bi-weekly, and the Oregon Psychoanalytic Institute, individual and group supervision bi-weekly, Dr. Harold Boverman.

Sept. 2001-May 2002 Tualatin Valley Centers Portland, OR
Second Year Practicum Student

- Individual psychosocial assessments.
- Adult outpatient therapy.
- Weekly individual supervision with Dr. Ken Ihli and group supervision with education and case review with masters and doctoral students.

Sept. 2000-May 2001 Springbrook Northwest Newberg, OR
Practicum Student

- Group psychotherapy.
- Individual psychosocial assessments.
- Milieu management.
- Weekly individual supervision with Dr. Shane Haydon. and group supervision with the entire multi-disciplinary staff.

1995-1999 Springbrook Northwest Newberg, OR
Detox/Evaluation Case Manager/Counselor

- Triage, care, and case management of detox and evaluation patients.
- Individual/group counseling and milieu management with appropriate documentation, clinical on-call duties.
- Coordinate/participate/summarize biopsychosocial evaluations and assessments of health care professionals with physicians, psychiatrists, and psychologists and complete discharge summaries.

1994-present Valley Psychological Associates Newberg, OR
Counselor

- Individual, couples, and adolescent counseling for a broad range of community clients, specializing in substance abuse, domestic violence, and women's issues.
- Psychoeducational presentations at local churches and schools (i.e. divorce, grief, parenting).
- Clinical crisis coverage for colleagues on an as needed basis.

1991-1993 Harvard Cocaine Recovery Project Providence, RI
Program Director

- Conducted psychosocial evaluations, screening interviews, and individual counseling and family sessions for group members.
- Facilitated weekly cocaine recovery group, initiated group member recruitment, marketing and agency networking.
- Hired and supervised Recovery Group Leader, coordinated monthly Social Recreational Activity, relocated and maintained Providence-based program.

- Completed appropriate documentation and clinical duties for this research program and attended supervision meetings in Cambridge, MA.

1990-1991 New Hope Battered Women's Program Attleboro, MA
Primary Therapist for the Shelter and Outreach Programs

- Individual and psychoeducational group counseling in the shelter and agency offices.
- Attended casework and shelter meetings, clinical on-call duties.
- Trained volunteers/hot-line workers in counseling and domestic violence.
- Presentations and education in the community.

1986-1990 Valley Psychological Associates Newberg, OR
Counselor

- Individual counseling for a broad range of community clients.
- Psychoeducational seminars in local churches and schools.

1987-1989 George Fox University Newberg, OR
Director of Counseling

- Intake interviews and triage, supervised interns
- Individual Counseling, Group Counseling for substance abuse and victims of childhood abuse, speaking upon community request
- Panel presentation on sexual abuse for staff, to Academic Success students, to Residence Life Staff
- initiated drug education in Freshman Orientation
- hosted OACSD
- Student Government Advisor
- Applied for federal grant for drug education and prevention

1986-1987 George Fox College Newberg, OR
Coordinator of Counseling/Student Government/Activities Advisor

- Co-founder of Counseling Center, supervised interns, triage, individual and group counseling, led "New Beginnings," student leaders group, and diet group.
- Presentation to staff on substance abuse, founded Oregon Association of Christians in Student Development to address crucial issues of college students.
- Guidance to student government and activities.

1985-1986 George Fox College Newberg, OR
Counselor

- Individual and group counseling
- Organized "New Beginnings" support group for alcohol/substance abusers and their families/friends.

1986-1989 George Fox College Newberg, OR
Summer ESL Student Life Director/ ESL Instructor

1983-1985 North Ridgeville Middle School N. Ridgeville, OH
Tutor, I.D.E.A. Help

1980-1981 Barrington College Barrington, RI
Director of Student Activities

PRESENTATIONS / PUBLICATIONS

- Presentation preparation "Physician's Health Programs within the Treatment Setting," International Society of Addiction Medicine, Reyjavik, Iceland, 2002
- Tsohantaris, V., & Koch, C. (submitted). Development of the Jewel equestrian scale.
- "Parenting Styles," C.S. Lewis Community School, Newberg, OR, 2001 "Divorce Recovery: Grief," Newberg, OR, 1997.
- "Alcoholism," United Methodist Church, Newberg, OR, 1995.
- "Adult Children of Alcoholics," Gordon College, Wenham, MA, 1992.
- "Domestic Violence," Bridgewater State College, Bridgewater, MA, 1990.
- "Women and Spirituality," George Fox University, Newberg, OR, 1990.
- "Overcoming Childhood Trauma," Newberg Friends Church, Newberg, OR, 1989.
- "Alcohol/Substance Abuse," "Eating Disorders," "Responding to Abuse," NWYM Youth Workers Conference, Bend, OR, 1988.
- "Alcohol and Substance Abuse," George Fox University, HRM Saturday Seminar, Newberg, OR 1989.
- "Suicide Policy," Residence Life, George Fox University, Newberg, OR 1988.

RECENT COURSE LIST

Core Coursework:

- Theories of Personality and Psychotherapy
- Psychopathology
- Ethics for Psychologists
- Learning and Cognition
- Statistical Methods
- Social Psychology
- Psychometrics in Assessment
- Child Development

- History and Systems
- Research Design
- Adult Development
- Psychopharmacology
- Psychoneurology
- Religious Issues in Psychotherapy

Clinical Theory and Practice:

- Cognitive Behavioral Psychotherapy
- Human Sexuality and Sexual Dysfunction
- Therapy with Men
- Psychodynamic Psychotherapy
- Family/Couples Therapy
- Object Relations Psychotherapy
- Rural Community Mental Health
- Multicultural Therapy
- Group Psychotherapy
- Substance Abuse

Clinical Assessment:

- Personality Assessment
- Intelligence and Cognitive Assessment
- Projective Assessment
- Comprehensive Assessment

Theology and Religion:

- Old Testament Studies and Interpretation
- New Testament Studies and Interpretation
- Historical Theology and Church Tradition
- Christian Theology
- World Views
- Humor Integrative Seminar
- Prayer and Healing Integrative Seminar
- Dynamic Therapy Integrative Seminar
- Spiritual Formation
- Systems of Integration

Additional study:

- Psychodynamic Study Group 2001-2003
- Oregon Psychoanalytic Institute Supervision Fall 2003- present

ADDITIONAL CLINICAL TRAINING

- "Animal Assisted Therapy," Aubrey H. Fine, Ed.D., Portland, OR, December 14, 2003.
- "Family Violence Prevention & Intervention Conference", Indian Health Services, Portland, OR, December 9-11, 2003.
- "Understanding HIPAA and Overview," Julie Carr, Sharpless, Inc., Health Care Management Consulting, Confederated Tribes of Grand Ronde, April 17, 2003.
- "Assessment and Treatment of Traumatized Children," Sophie Lovinger, Ph.D. ABPP, and "Integration of Religion and Psychotherapy: Explicit, Implicit, or What?," Robert Lovinger, Ph.D. ABPP, George Fox University, Fall 2002.
- "Attachment Disorder, Post-Traumatic Stress and Intergenerational Trauma: Etiological Implications for Brain Function in Tribal/Native Behavioral Health Treatment," Joseph Stone, Ph.D. and "Prevalence Rates of Full and Partial PTSD and Lifetime Trauma in a Sample of Adult Members of an American Indian Tribe," Thomas Ball, Ph.D. George Fox University, Newberg, OR, Spring 2002.
- "Why Memory is a Fiction," Regina Pally, M.D., Oregon Psychoanalytic Society & Institute, Legacy Good Samaritan Hospital, Portland, OR, 2001.
- "Substance Use Disorders: Diagnosis and Treatment and Related Topics," Shane Haydon, Ph.D., George Fox University, 2001.
- "Postmodernism," Hendrika VandeKamp, Ph.D., George Fox University, 2000.
- "Shalom: Entering God's Rest," Christian Association for Psychological Studies, Scotts Valley, CA, 2000.
- "Psychotherapy with African-American Clients," Kumea Shorter-Gooden, Ph.D., Portland, OR, 2000.
- "Issues in the Treatment of Geriatric Clients," Cliff Singer, M.D., Oregon Health Sciences University, Newberg, OR, 1999.
- "12th Annual Northwest Conference on the Addictions," Seattle, WA, 1999.
- "The Twelfth Cape Cod Symposium on Addictive Disorders-Violence, Abuse, Addiction: Dialogue and Techniques for Identification and Healing," Cape Cod, MA, 1999.
- "Dual Diagnosis Treatment Considerations," Glenn Brasington, Ph.D., Springbrook Northwest, 1998.
- "Pharmacology of Drugs of Abuse," Robert M. Julien, M.D., Ph.D., Northwest Psychopharmacology Seminars, 1998.
- "EMDR, TIR, & Energy Psychotherapies," Trauma Relief Services, Wilsonville, OR, 1998.
- "Anxiety Disorders throughout the Life Cycle and Ethical Issues in the Managed Care Environment," Sacred Heart Medical Center & Northwest Mental Health Associates, Gleneden Beach, OR, 1998.

- "How to Lead Others through Complicated Grief," Marilyn Gryte, RN, The American Academy of Grief, Portland, OR, 1998.
- "Jungian Psychology: Past, Present, and Future," Oregon Friends of C.G. Jung, Portland, OR, 1997.
- "DSM-IV Made Easy," Glenn Brasington, Ph.D., Springbrook Northwest, 1996.
- "Trauma, Loss and Dissociation," Georgetown University Medical Center, VA, 1996.
- "Legal Aspects of Counseling," American Counseling Association, Portland, OR, 1995.
- "Healing the Shame That Binds You," John Bradshaw, Hartford, CT, 1992.
- "Growing Beyond Codependency," Minirth-Meier & Byrd Clinic, Wakefield, MA, 1992.
- "Beyond the Road Less Traveled," M. Scott Peck, M.D., Woburn, MA, 1991.
- "Double Jeopardy- Substance Abuse and Violence," Lakeville Hospital, Lakeville, MA, 1991.
- "Addictions and Pregnancy," March of Dimes Birth Defects Foundation, Sturbridge, MA, 1990.
- "The Borderline Client," Pacific Gateway, McMinnville, OR, 1989.
- "Changing the Culture on Campus," Third Annual Conference on Alcohol and Other Drug Problems in Oregon Higher Education, 1989.
- Graduate Course: "Assessment II: Objective," Oregon Graduate School of Professional Psychology, Forest Grove, OR, Spring 1989.
- Graduate Course: "Assessment I: Intelligence," Oregon Graduate School of Professional Psychology, Forest Grove, OR, Fall 1988.
- Graduate Course: "Interviewing and Mental Status," Oregon Graduate School of Professional Psychology, Forest Grove, OR, Fall 1987.
- "Childhood Sexual Trauma," Kings View Center, Portland, OR, 1988.
- "The Disease of Addiction," David Ohlms, Serenity Lane, 1988.
- "Assessment and Intervention," Second Annual Conference on Alcohol and Other Drug Problems in Oregon Higher Education, 1988.
- "Physiological Effects of Alcohol and Other Drugs," First Annual Conference and Alcohol and Other Drug Problems in Oregon Higher Education," 1987.
- "Cognitive-Behavioral Approach with Adults, Adolescents, and Children," Donald Michenbaum, Oregon Psychological Association, 1987.
- "DSM-III," American Association of Counseling and Development, 1986.
- "Treatment Planning," American Association of Counseling and Development, 1986.
- "Adult Children of Alcoholics," Janet Woititz, Oregon Institute of Alcoholism Studies, 1986.