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# **Effects of Reiki Treatment on Anxiety and Depression: A Randomized Control Trial**

Vera A. Porter, ThD, PhD, David A. Eicher, PhD and Nanci Avitable, PhD

#### **Abstract**

**Background:** The prevalence of anxiety disorder and depression are alarming and escalating worldwide. Reiki, a vibrational or subtle energy therapy, is believed to aid the body's innate ability to regain balance and wellness and therefore may prove invaluable in reducing anxiety disorder and depression.

**Objective:** This randomized, controlled study examined the effects of Reiki on anxiety and depression.

**Design and Setting:** From June to October, 2008, seventy-six individuals were randomly divided into two groups, Treatment Group 1 (n=39) and Treatment Group 2 (n=37). All participants completed three weekly Reiki treatments given by the Principal Investigator in the office of the Principal Investigator.

**Participants:** Participants were a sample of convenience, from the general population.

**Outcome Measures:** The State-Trait Anxiety InventoryTM and Zung Self-Rating Depression Scale provided data on two types of anxiety (state and trait) and depression. While both groups received Reiki treatments, the timing and data collection points differed for each.

Group 1: First data collection occurred at initial meeting, immediately before starting 3 weekly treatments, second, on completion of treatments, and third, 30 days after final treatment.

Group 2: First data collection occurred at initial meeting, then, after a three week waiting period, the second collection occurred before treatments were started. The third data collection point was 30 days after final treatment.

**Results:** There were statistically-significant levels of improvement in all three measures in Group 1: State Anxiety (p<.001), Trait Anxiety (p<.001) and Depression (p<.001) from Baseline to Post-test. In Group 2 change in State Anxiety was not significant for time (p=.07), however, changes in both Trait Anxiety (p<.001) and Depression (p<.001) were significant.

**Conclusions:** Findings indicate approximately 10% reduction in State Anxiety, Trait Anxiety and Depression after completion of the three Reiki treatments. These reductions were maintained at the 30-day Post-Intervention measure.

Keywords: Reiki, subtle energy therapy, vibrational energy therapy, state anxiety, trait anxiety, depression.

#### Introduction and background

The World Health Organization (WHO) projects that depressive disorders alone will increase at least 50% by 2020, and identifies depressive disorders as one of the most important targets for intervention in the 21<sup>st</sup> Century (Ustun, 2001). It has been determined that Major Depressive Disorder (MDD) is currently the second largest healthcare problem worldwide in terms of limitations caused by illness (Levav and Rutz, 2002) and that depression is the leading cause of disability for women throughout the world (Mazure and Puryear, 2007).

In addition to the tremendous costs of these conditions to physical health, the financial costs are staggering. MDD causes high rates of subjective suffering, absenteeism, and utilization of medical services (Simon, et al., 2002). Depression costs the US \$30 to 44 billion in direct medical, mortality and productivity costs (Stewart, et al., 2003, Greenberg, et al., 2001, Elinson, et al., 2004).

Further, research has consistently shown a strong link between suicide and depression Balazs, et al., 2006). Suicide is therefore a significant risk in unrecognized and untreated depression. It is estimated that 30% of patients seen by a physician are suffering from depression (WHO, 2000). Doctors are usually more attentive to patients' physical symptoms than their mental state, and so are prone to treat mental stresses symptomatically by prescribing pharmaceuticals in the absence of a specific disease (Calloway, 2007).

Anxiety disorders are also among the most common psychiatric illnesses, with 28.8% of American adults diagnosed with anxiety at some time in their lives (Kessler, et al., 2005). The National Institute of Mental Health (NIMH) states that approximately 40 million American adults 18 and older, or about 18 percent of people in this age group in a given year, have an anxiety disorder (Kessler, et al., 2005). In comparison with other conditions in the US, anxiety disorder is more prevalent than heart disease (12%) (NCHS, 1989), asthma (4.8%),(NCHS, 2005), or diabetes (7%) (NDS, 2007).

Approximately 50 – 60% of depressed people in the US and Europe do not seek treatment (Dietrich, et al, 2010). According to the World Health Organization, less than 25% of those affected receive treatment, and that percentage drops to less than 10% in some areas (WHO, 2010). A variety of barriers separate depressed people from the treatment they need, including emotional concerns (sense of stigma, fear, and shame), feeling hopeless, lacking enough energy to seek help (Blumenthal and Endicott, 1997). Educational campaigns to counter negative perceptions of mental illnesses are urgently required to inform the public, eliminate the stigma of mental illness, and reduce prejudices (Kovess-Masfety, et al., 2007).

There are effective pharmaceutical treatments for anxiety and depression, but there is concern about their rising use, especially in vulnerable populations. This is of particular concern for the elderly, who often take medications from several sources without primary supervision, and the young (Howland, 2009). More than 10 million anti-depressant prescriptions were filled for American children aged 1-17 in 2002. Of them, 2.2 million were for Paxil, an antidepressant without FDA approval for pediatric use (MEDCO, 2008). There is also a growing concern that antidepressants may increase the incidence of suicide, particularly in teenagers.

While pharmaceuticals offer lifesaving benefits for some, this treatment approach presents a number of serious problems in dealing with the growing health issues of anxiety and depression. Pharmaceuticals address symptoms, but do not address the issues that underlie and accompany anxiety and depression, such as traumas, low self-esteem, maladaptive behaviors, and problems in socialization (Zito, et al., 2003).

Accessibility to effective, non-pharmacologic approaches for managing anxiety and depression would help avoid these concerns. It would also put treatment within reach of people who, for a variety of reasons, are reluctant to use medications.

Complementary and alternative medicine (CAM) use is common in North America. A 2007 U.S. survey found that almost four of ten adults and one of nine children had used CAM and that people were more likely to use CAM when they were concerned about the cost of conventional care and delayed treatment. CAM is used to take control of health care, improve health and wellbeing, manage symptoms, and reduce side effects of conventional care. Anxiety and depression are among the top ten conditions treated with CAM in North America and Europe (Untzer, et al., 2000; Eisenberg, et al., 1997; Kemper, 2004).

A rapidly growing type of CAM is biological energy healing, available in through a variety of therapies (Barnes and Bloom, 2007). One of the most well known of these is Reiki. Reiki is a non-invasive energy healing therapy which can lead to relief from symptoms. The recipient of a Reiki treatment lies on a treatment table or sits in a chair, fully clothed, while the Reiki practitioner places hands lightly on or just above a series of points on the body (True and Miles, 2003; Miles, 2007; NIH, 2008).

In the United States, the National Center for Complementary and Alternative Medicine (NCCAM) of the National Institute of Health (NIH) has designated Reiki as a biofield therapy in the Energy Medicine category (NIH, 2009). Trends in adult use of complementary and alternative medicine have shown an increased use of biofield therapies such as Reiki over recent decades (Barnes and Bloom, 2007).

Physicians and nurses have begun to recognize Reiki's value and many are adding it to the services provided by hospitals, medical clinics, and hospice programs (Bhanoo, 2008). Due to the consensus of safety and the strength of anecdotal evidence (Burden, et al., 2005) and despite the lack of adequate quality research documenting benefits, Reiki treatment and/or training are offered to patients, staff and communities at prestigious health care centers such as Memorial Sloan Kettering Cancer Center in New York City, Dana Farber Cancer Center (Boston) and M.D. Anderson Cancer Center (Houston) (Rand, 2011).

Until recently there has been only preliminary research into Reiki's usefulness to manage symptoms or improve well-being. However, a number of studies and program evaluations with various populations suggest that Reiki can be useful for the management of anxiety and pain. A growing body of evidence supports Reiki's ability to increase parasympathetic nervous system activity, thereby facilitating self-healing. Studies document reductions in anxiety and/or depression in a range of populations including people suffering chronic diseases (Shore, 2004; Dressen and Singg, 1998; Tsang, et al., 2007; Cassileth and Vickers, 2005) and post-surgical problems (Vitale and O'Connor, 2006).

Other studies document a range of physiological responses in the direction of relaxation, including decreased levels of stress hormones, improved salivary IgA, (Wardell and Engebretson, 1999) improved blood pressure, (Wardell and Engebretson, 1999; Mackay, 2004) and improved heart rate (Mackay, 2004). It was found that twenty-minute Reiki treatments, self-administered or received from another Reiki student, significantly reduced anxiety and pain for outpatients learning to practice Reiki in classes held at an inner-city HIV clinic (Miles, 2003).

Systematic reviews of Reiki studies have resulted in apparent contradictions. In most of the studies reviewed, sample sizes were very small, less than 15 participants, and methodological standards were weak, resulting in limited statistical power of the studies. The studies of Shiflett (2002) and

Gillespie (2007) indicated no difference between Reiki and sham Reiki, while the studies of Shore (2004) and Dressen/Singg (1998) indicated statistically significant differences between the effects of Reiki and sham Reiki. The Reiki practitioners in the latter two studies were Reiki Masters and Reiki II practitioners. This was not the case with the Shiflett and Gillespie studies. In the Shiflett study (2002) the treatment group (n=10) was too small to have statistical power. While the Gillespie study (2007) was larger (n=157), the intention was to assess multiple factors, including the efficacy of Reiki therapy to alleviate pain, improve mobility, and improve quality of life in subjects with Type 2 Diabetes and Painful Diabetic Neuropathy. Both groups, Reiki and sham Reiki, demonstrated greater improvement than a conventional care group.

One reason for the limited number of methodologically sound research studies may be that practitioners of Reiki tend not to be conventional researchers, and conversely, researchers tend not to be Reiki practitioners. Because of the limited number of quality research studies on Reiki and the magnitude of the problems of anxiety and depression, this study was designed to focus on the effects of Reiki treatment on these major health issues.

### Study objectives

The goal of this study was to explore the effects of Reiki on measures of anxiety and depression, specifically testing the hypothesis that three 60-minute Reiki treatments, over a period of 15 days, would measurably decrease anxiety and depression.

#### Methodology

#### **Participants**

The participants were recruited by a leaflet posted at various local businesses including coffee shops, health food stores and wellness clinics in Guelph, Ontario, Canada. The leaflet offered three free Reiki treatments, conducted by a traditional Usui Reiki Master, for study into effects of Reiki treatment. Participants were informed that this study was a requirement for a Doctorate in Energy Medicine and Integrative Healthcare.

The initial response was by email or telephone. Of the 84 individuals who completed the baseline assessments, 8 withdrew for personal reasons or time constraints, leaving an overall compliance rate of 90.5%. The data of the 76 remaining participants were included in the statistical analysis.

All participants, with the exception of one, had not been diagnosed with either anxiety disorder or depression. The one individual who had been diagnosed with depression was included in the study. She chose to delay her conventional treatment, which began after the completion of her participation in the study. To include individuals, diagnosed and in the process of being treated for either of these conditions, would have introduced a confounding variable that would have made the measuring of the effects of Reiki treatment impossible.

The majority of the participants were university educated women (see Table 1).

able 1. Demographics of Participants							
Gender	Gender N						
Female	72						
Male	4						
Marital Status							
Divorced	10						
Married	35						
Single	31						
Education							
Elementary	2						
High School	12						
College	11						
University	51						

#### Dates of Recruitment and Follow-up

Participants were recruited from June to October, 2008. All data collection and interventions were conducted by the Principal Investigator (PI) in her office, in Guelph, Ontario.

#### Inclusion criteria:

- 1. minimum of 18 years of age at the study commencement date;
- 2. understood, signed, and returned the Informed Consent Form;
- 3. completed a questionnaire and pre-intervention self-assessment surveys.

#### 4. Agreed

- To complete three 60-minute Reiki treatments.
- to complete self-assessment surveys after treatment.
- to complete follow-up self-assessment surveys one month after end of Reiki treatments.
- to have no other Reiki treatments or other forms of energy medicine, as well as no massage therapy or chiropractic treatment until the conclusion of their participation in this study;
- . to refrain from discussing any aspect of this study with the PI or anyone else until its conclusion.

At the initial meeting, the random assignment was made to Treatment Group 1 and Treatment Group 2 and baseline measures were completed. An information package in the form of an unmarked, sealed 9"x12" manila envelope was drawn from a basket by each participant at the initial meeting. Neither the PI nor the participant were able to pre-determine whether the package contained a card marked A or B, which was the determining factor for Treatment Group 1 or Treatment Group 2 designation. Scheduling of further meetings was made based on group allocation.

This study was completed and funded exclusively by the PI. Participants were not financially compensated.

#### Interventions

During the Reiki treatments, the participants lay, fully clothed, on a massage table. The interventions were conducted by the PI, a Reiki Master, using light touch on twelve locations, including the eyes, temples, back of head, throat, upper chest, upper and mid belly, proceeding to the back with the shoulders, upper, mid and lower back, and feet. The PI held her hands on each location for five minutes.

During this 5-month study, between June and October, 2008, all subjects completed the STAI and ZSRDS on 3 occasions and received 3, weekly, Reiki treatments. For Treatment Group 1 (n=39) and Treatment Group 2 (n=37), the first data collected defined the baseline and were obtained at the initial meeting with the PI. For Treatment Group 1, the second data collection was completed immediately after the third Reiki treatment) and the third data collection four weeks after completion of Reiki treatments. For Treatment Group 2, the second collection of data was completed immediately prior to the intervention, three weeks after baseline measure, and the third data collection was four weeks after completion of the Reiki treatments. (See table 2).

Table 2. Test measurement/intervention times

Treatment Group 1	Treatment Group 2
T1 baseline (at initial meeting, immediately	T1 baseline (at initial meeting, three weeks prior
prior to start of intervention)	to start of intervention)
T2 posttest (immediately post-intervention)	T2 posttest (immediately prior to intervention)
T3 follow-up (four weeks after completion	T3 follow-up (four weeks after completion
of intervention)	of intervention)

#### **Assessments**

The State-Trait Anxiety InventoryTM (STAI) and Zung Self-Rating Depression Scale (ZSRDS) were utilized. STAI is a 40-item self-report questionnaire designed to assess "state anxiety" (temporary anxiety) and "trait anxiety" (long term anxiety). Scores can range from a minimum of 20 to a maximum of 80 with higher scores reflecting a greater degree of anxiety. ZSRDS is a 20-item self-report instrument that assesses depression's four common characteristics: the persuasive effect; the physiological equivalents; psychometric activities and other disturbances. The range of raw scores is from 20–80, with a higher score indicating a greater degree of depression.

#### Design and statistical methods

The original design, Group 1 Time 2 scores (relative to Time 1) were to be compared with Group 2 Time 2 (wait list control) scores (relative to Time 1). This would have compared the treated Group 1 to the still untreated Group 2. Treatment for Group 2 began after the 2nd measure. The original statistical analyses would have compared the Time 2 scores of the two groups. This is a standard protocol for controlled studies.

An additional comparison would have been the Group 2 Time 2 vs time 3 change scores, compared with Group 2 Time 1 to Time 2 change scores, providing further information regarding the efficacy of the intervention.

The statistical analyses were changed when it became apparent that there were 9 people in Group 1 Time 1 with very high scores. There were several people in Group 2 who had high scores, but these scores did not impact the means in the dramatic way that occurred with Group 1.

Since the groups were not equal it became necessary to use a pretest/posttest/follow-up design. For each of the three conditions of interest, State Anxiety (STAI), Trait Anxiety (STAI), and Depression (ZSRDS), the first step in the analysis was to conduct a 2-way repeated measures ANOVA that examined the study groups (Treatment Group 1 vs. Treatment Group 2) across three data collection time points (Baseline, Post, Follow-up). The group by time interaction term tests if there are any differences between groups and across times. When this was significant additional analyses were then conducted to identify where the differences occurred.

The research protocol was approved by the Quantum Institutional Review Board (IRB) for Holos University Graduate Seminary on April 8, 2008.

#### Results

#### Trait Anxiety

The trait by time interaction from the 2-way repeated measures analysis was significant (F<sub>2,148</sub>=11.46, p<.001) suggesting that Reiki intervention may have impacted Trait Anxiety level. Follow-up analyses comparing groups at each time point and changes within group over time (see Tables 3 and 4) found Group 1 to have higher levels of Trait Anxiety at Baseline and 30-day Follow-up than Group 2. Group 1 levels at Post and 30-day Follow-up were lower than Baseline, while Group 2's levels at 30-day Follow-up were lower than those at Baseline and Post. As the intervention for Treatment Group 1 took place between Baseline and Post and Treatment Group 2 took place between Post and 30-Day follow-up, this suggests that the intervention may have helped lower the level of Trait Anxiety.

Table 3. Trait Anxiety Means, Standard Deviations, Reduction, Group Comparisons at Baseline, Post, and 30-day Follow-up

	Treatment Group 1	Treatment Group 2	F	р
Baseline	45.67 ± 11.22	39.03 ± 11.52	6.48	.01
Post	39.87 ± 11.76	39.89 ± 11.61	0.00	.99
30-day follow-up	40.90 ± 11.27	36.00 ± 10.07	3.97	.05
Reduction Baseline to 30-day follow-up	4.77 (10.44%)	3.03 (7.76%)		

**Table 4. Time Comparisons for Trait Anxiety by Treatment Group** 

	Treatment Group 1			ment up 2
Comparison	F P		F	Р
Time 1 vs. Time 2	24.80	<.001	1.11	.30
Time 1 vs. Time 3	18.37	<.001	7.92	.008
Time 2 vs. Time 3	1.04	.31	20.18	<.001

#### **State Anxiety**

The state anxiety by time interaction from the 2-way repeated measures analysis was significant ( $F_{2,148}$ =20.68, p < .001) suggesting that Reiki intervention may have impacted anxiety level. Follow-up analyses comparing groups at each time point and changes within group over time (see Tables 5 and 6) found that found Group 1 to have a higher level of State Anxiety at Baseline than Group 2, but a lower level at Group 1 Post-treatment.

There was no difference at the 30-day Follow-up. Group 1's levels at Post and 30-day Follow-up were lower than Baseline although the 30-day level was significantly higher than Post-treatment. There was no significant change across time difference for Group 2, so no individual time comparisons were done.

Table 5. State Anxiety Means, Standard Deviations, Reduction, Group Comparisons at Baseline, Post, and 30-day Follow-up

	Treatment Group 1	Treatment Group 2	F	р
Baseline	41.23 ± 11.038	35.16 ± 8.33	7.26	.01
Post-treatment	$28.67 \pm 6.90$	$37.30 \pm 8.73$	22.98	<.001
30-day follow-up	37.03 ±	$33.59 \pm 7.40$	2.37	.13
Reduction Baseline to 30-day follow-up	4.20 (10.19%)	1.57 (4.47%)		

Table 6. Time Comparisons for State Anxiety by Treatment Group 1

	Treatment Group 1		
Comparison	F p		
Time 1 vs. Time 2	52.29	<.001	
Time 1 vs. Time 3	4.83	.03	
Time 2 vs. Time 3	19.60	<.001	

#### **Depression**

The Depression by time interaction from the 2-way repeated measures analysis was significant ( $F_{2,148}$ =10.07, p < .001), suggesting that Reiki intervention may have impacted Depression level. Follow-up analyses comparing groups at each time point and changes within group over time (see Tables 7 and 8) found Group 1 to have a higher level of Depression at Baseline than Group 2 and no differences at the other time points.

Group 1's levels at Post and 30-day Follow-up were lower than Baseline. Group 2 differed from Baseline at Post and 30-day Follow-up. This pattern is the same as that seen with Trait Anxiety and suggests the Reiki treatment may reduce Depression.

Table 7. Depression Means, Standard Deviations, Reduction, Group Comparisons at Baseline, Post-treatment, and 30-day Follow-up

• •	,	•	•	•
	Treatment	Treatment	_	
	Group 1	Group 2	F	р
Baseline	41.26 ± 10.85	36.46 ± 9.59	4.16	.05
Post	35.69 ± 10.25	36.68 ± 9.31	0.19	.66
30-day Follow-up	36.85 ± 10.09	33.73 ± 7.38	2.34	.13
Reduction Baseline to				
30-day Follow-up	4.41 (10.69%)	2.73 (7.49%)		

**Table 8. Time Comparisons for Trait Anxiety by Treatment Group** 

	Treatment Group 1			ment up 2
Comparison	F P		F	Р
Time 1 vs. Time 2	32.37 <.001		0.08	.78
Time 1 vs. Time 3	23.22	<.001	6.46	.02
Time 2 vs. Time 3	1.29	.26	13.08	<.001

#### **Protocol Deviations**

Participants were for the most part compliant with the protocol, waiting until completion of the study to resume related activities or to discuss the study. There were three cases of deviation from protocol. After the random draw, one participant was visibly upset when she drew an envelope indicating she was in Treatment Group 2 and would not begin Reiki treatments for three weeks; she was in the process of being tested for possible institutionalization for depression. The PI considered deleting this participant from the study to work with her outside the study, but was advised simply to report this as a deviation from protocol. The participant remained in the study within Treatment Group 1. A second participant had to leave the province within 10 days of beginning the intervention, so the three interventions were conducted within a 10-day period, rather than 15 days. A third participant, suffering from vertigo, felt she needed treatment from her naturopath for her condition during the intervention period.

#### Discussion

The results suggest a statistically significant relationship between the Reiki intervention and measurable changes in levels of State Anxiety, Trait Anxiety and Depression. From anecdotal reports the intervention also resulted in pain reduction, improved sleep, and greater mental clarity.

Findings indicate the intervention resulted in benefit for both groups. There were statistically-significant levels of improvements in all three measures from Baseline to Post-test in Treatment Group 1: State Anxiety, Trait Anxiety and Depression Post-intervention measures in Treatment Group 1 decreased significantly after intervention and after 30-days for Trait Anxiety and Depression.

Post-intervention measure after 30-days was for Trait Anxiety and for Depression, indicating no significant increase either in the measure of Trait Anxiety or Depression during the 30-day Post-Intervention period. For State Anxiety measures, the repeated measures ANOVA for Treatment Group 2 was not significant for time, indicating that State Anxiety measures for Treatment Group 2 did not change significantly from Pretest, Posttest, to Follow-up.

#### Anecdotal research results

The most frequent comments after the study was completed suggested deep and lasting relaxation and better quality of sleep. Below are a few participant comments.

- "I find Reiki uplifting and attitude-changing."
- "When you had your hand on my back, the pain went away."
- "The warmth of your hands seemed to be not just on the surface, but much deeper."
- "After the first Reiki treatment I had a deep, uninterrupted sleep, right through the night. This is unusual for me. The next day I had much more energy."
- "I felt well rested during and after treatment."
- "Reiki relaxes me and I feel lighter and more spiritually connected to others afterwards."

#### Limitation of Design and Study

The sample was a self-selected sample of convenience from the general population rather than a sample diagnosed with anxiety disorder or depression. The limiting factor in this decision is that studies are rarely acknowledged if measures are based on results from healthy participants, rather than from participants with a pre-existing condition. Valid and very informative studies are frequently overlooked when the participants are healthy individuals.

#### Acceptance of Reiki as an effective intervention

Westerners often find it hard to believe in the presence of an invisible healing energy, perhaps because the mechanism of energetic healing is not understood at this time. Reiki practitioners facilitate the balancing of the system as a whole rather than diagnosing in order to address specific problems in the ways that medical practitioners do. The restoration of balance achieved with Reiki treatments suggests that medical science might benefit from research in the promotion of wellness and prevention of illness rather than focusing on disease management. This study focuses on the effectiveness of Reiki in reducing anxiety and depression, which may affect physical wellness. At this early stage in Reiki research, the focus must be on empirically measurable effects of treatment, rather than on how it works. We hope, however, this study and others like it may encourage further inquiry into the science of energy medicine and spiritual healing.

While many conventional healthcare practitioners are unwilling to participate in or support the study or practice of Reiki and other CAM therapies, there are many who are open to these treatments. According to the American Hospital Association, in 2007, 15% or over 800 American hospitals offered Reiki as part of hospital services (Gill, 2010). Reiki practitioners are now being invited to speak about Reiki at major medical conferences, bringing the language and practice of Reiki in line with mainstream medicine. As this evolution occurs, at some point in the not too distance future, Reiki and other forms of energy medicine and spiritual healing will be viewed, by all medical practitioners, as simply one more method of promoting the physical and mental health of the patient. The implications for humanity of the acceptance of integrative healthcare are powerful and exciting.

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**Vera Porter, PhD, ThD**, is a graduate in Energy Medicine from Holos University Graduate Seminary. She practices and teaches various biofield therapies including Reiki and Integrated Energy Therapy. Her company, Stress Management Clinic, is located in Guelph, ON. For the past three years Vera has been presenting a workshop titled 'Introduction to Energy Medicine' in the greater Toronto area.

#### Contact:

vera@veraporter.ca www.veraporter.ca



**David Eichler, PhD,** is an associate professor of Energy Medicine and Spiritual Healing at Holos University. David lives in a straw bale home on the Kansas prairie with his wife and daughters. He is a behavior analyst, working as an educational and behavioral consultant in public and private schools across Kansas as part of a multi-disciplinary supports team. David also co-founded the first Waldorf school in Kansas, and presents across the Midwest region on Waldorf education.



Contact: david4847@sbcglobal.net.

**Nanci Avitable, PhD,** has a multidisciplinary background in Psychology and Statistics. She has a Doctorate in School Psychology with a cognate in Psychology from the University of Denver; a Bachelors degree in Statistics from the University of Wyoming; and a Masters in Statistics from the University of Denver; and did Masters level course work in Psychology at the University of Wyoming.

As a Licensed School Psychologist in private practice, Dr. Avitable provides evaluations on parenting, custody, immigration, and forensic questions and provides expert witness testimony for youth and adults. She performs the cognitive and adaptive functioning assessments for the Smith Agency's Serenity Education and Day Treatment and Third Way Center's schools. Serenity is a school for dually diagnosed individuals who have significant cognitive and emotional difficulties that are sequelae of disorders such as Autism, Fragile X, and Charge Syndrome. The Third Way program is for at-risk youth many of whom have been in detention. Dr. Avitable has also taught graduate level statistics and tests and measurements classes at the University of Denver as a member of the Adjunct faculty in the College of Education.

Dr. Avitable also has experience as a research consultant in the areas of education and psychology for various projects including program evaluation and development of the first set of Neuropsychological T-score norms.

#### Contact:

3615 S. Tamarac Drive, #130

Denver, CO 80237

Phones: (720) 353-1004 (303) 751-1764 Fax: (303) 751-1764 DrA@aaahawk.com

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