

Running Header: COGNITIVE BEHAVIORAL THERAPY AND EYE MOVEMENT  
DESENSITIZATION AND REPROCESSING: A COMPARATIVE ANALYSIS FOR  
THE TREATMENT OF POST-TRAUMATIC STRESS DISORDER (DRAFT)

Cognitive Behavioral Therapy and Eye Movement Desensitization and Reprocessing: A  
Comparative Analysis for the Treatment of Post-Traumatic Stress Disorder

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### Abstract

Post-Traumatic Stress Disorder is the primary mental health issue resulting in tours of duty in combat operations. The soldiers returning home from these operations often require treatment in dealing with many of their physical and emotional changes. The therapist who treats these brave men and women needs to understand the treatment methods available for the successful recovery of their clients. After identifying the terms necessary to understand the principles and the historical and etiological background of the disorder and the treatments available, this paper will illuminate several treatment modalities and their success rates in the treatment of PTSD. Cognitive Behavioral Therapy and Eye Movement Desensitization and Reprocessing will be the primary focus of comparison through out this work.

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## CHAPTER I

The United States has been at conflict with one country or another for the past sixteen years. Given the nature of war or conflict, we can conclude that many American men and women will be returning home with broken bodies, spirits, and minds. Mental Illness is fairly common among returning veterans of war, so in preparation of these soldiers returning from duty, organizations such as the Department of Veterans Affairs need to develop strategies to assist these men and women. The ability for counselors to diagnose and treat this disorder is crucial to the livelihood of American Veterans. Understanding the options available and the means to utilize these treatment options are necessary for counselors to be effective in their role. There are several modalities to choose from when determining the method of treatment. Because everyone is different, not all styles of treatment will work on everyone.

### Mental Illness

Mental Illness is the disturbance in a person's thoughts, emotions, or behaviors (as defined by the Cohen & Kleinman 2006). The way society defines what is and is not a Mental Illness greatly depends on the viewpoint of society at the time. As society progresses or regresses dependant on your own point of view the definition or idealism of what is a mental issue will change. An example would be how society viewed self-pleasure in mid 20<sup>th</sup> century. Those who engaged in masturbation thought to have a mental disturbance and thus were treated as such. In today's society, this is an acceptable behavior, in the privacy of ones own home.

Mental disturbances can range in severity. Some forms of Mental Illness can completely debilitate an individual while other forms or levels of symptoms can cause very little effect. There are many forms of Mental Illnesses and causes for these disorders, many of which professionals today have no answers. The treatment modalities of mental disorders have come a long way from trepanning in ancient culture to the psychoanalysis and psychotherapy utilized in today's treatment facilities.

Hippocrates believed that mental disorders stemmed from original origins and not from supernatural spirits as those in his era believed. Plato, who incorporated the idea that adult behavior resulted from issues and learning during early childhood years, adopted the learning's of Hippocrates to form what is known as psychodynamic theories (Cohen & Klieinman 2006). Both of these early, philosophers believed that rest and exercise were instrumental in the recovery of the individual.

During the time of the "Middle Ages", the treatment of the mentally ill turned dramatically as those who were stricken with these disorders were thought possessed by Satan as a punishment for wickedness. However, not all societies of this era believed as such. Islamic societies held to the ideals that God held favor for those inflicted thus creating the idea for asylums. These places for the mentally ill were areas of rest and pleasure, frequent bathing and special diets incorporated as a means to ease their suffering (Cohen & Klieinman 2006). The ideal for compassionate treatment did not take full hold until late 1700's when fundamentalist such as Philippe Pinel and Jean-Baptiste Pussin ordered the care of patients in their charge to be treated with care, kindness, and compassion (Cohen & Klieinman 2006).

The reform in the United States began in the early 1800's with institutional reforms and community housing for the mentally ill. After World War II, the de-institutional phase began, as physicians believed these overcrowded hospitals were a contributor to the misery of the patients. Congressional acts such as the 1946 National Mental Health Act established an institute for the research of mental illness (Cohen & Kleinman 2006).

Historically there have been a number of classified mental disorders. With each new disorder, there are new means of treatment and ideas for the care of these individuals. In recent years, these disorders categorized in specific areas for ease of understanding. The categories do not implicate the level of distress the individual faces. Some of these groups include Anxiety disorders, Mood Disorders, Psychotic Disorders, Personality and Cognitive Disorders, and Somatoform Disorders to name a few. Anxiety disorders are of special interest to this research paper.

### Anxiety

Anxiety Disorders are common in today's society. These disorders defined as an emotional state in which a person feels uneasy, apprehensive, or fearful (Bufka & Barlow, 2006). The American Psychiatric Association. (2004) Diagnostic and Statistical Manual of Mental Disorders, (4th ed Text Revision) describes several varieties of Anxiety Disorders to include general anxiety disorder (GAD), panic disorder, obsessive-compulsive disorder (OCD), and post-traumatic stress disorder (PTSD). Although most people will feel some level of anxiety at points in their lives, this does not mean that all persons have an anxiety disorder. Anxiety in itself is not inherently a bad thing. At times anxiety can be a good thing in that it causes individuals to stay focused and aware of their

surroundings and situations. When the level of anxiety stays at a high level or begins to cause social, employment, and family issues is when the anxiety becomes a disorder.

The American Psychiatric Association. (2004) *Diagnostic and Statistical Manual of Mental Disorders*, (4th ed Text Revision) offers a general description of the specific varieties of anxiety disorders. General Anxiety disorder (GAD) is the tendency to feel anxious most of the time. Those stricken with this variety tend to worry in excess about common occurrences in their daily lives. GAD affects about 3% of the general population in American society. Panic Disorders are an overpowering sense of fear with an onset that is generally very quick. These periods of attacks can induce a sense of intense fear and emotional discomfort as well as psychical symptoms such as a rapid heartbeat, trembling, shortness of breath, dizziness, and nausea (Bufka & Barlow, 2006).

The two other forms of Anxiety Disorders mentioned in this paper are Obsessive-Compulsive Disorder (OCD) and Post-Traumatic Stress Disorders (PTSD). OCD is entails the experience of intrusive thoughts or images or the feeling to perform certain behaviors (Bufka & Barlow, 2006). Constant hand washing can be an example of OCD. Post-Traumatic Stress Disorder found in veterans of war, rape victims, and those affected by terrorist activities. This disorder is the primary focal point of this research paper and covered in detail.

### PTSD

With the onset of the War in Iraq and operations in Afghanistan, the likelihood of soldiers exposed to traumatic events in combat has increased. These soldiers will all experience some emotional affect due to the level and frequency of the trauma and their current mental state. Charles W. Hoge, M.D, et au (2004) discussed the percentage of

soldiers returning from combat operation in Iraq in an article published in The New England Journal of Medicine, Hoge states that as many as 17% of all returning veterans will be diagnosed with some level of PTSD. With the number of troops exceeding 500,000 in the past five years, this would place the number of veterans with this potentially debilitating disorder to be around 85,000. Determining the most effective treatment modality for this disorder is crucial for the mental health and well-being of these veterans. Having the understanding and training to utilize multiple modalities is also necessary as a therapist. Cognitive Behavior Therapy is the most common and effective proven way of treating Post-traumatic Stress Disorder (PTSD). However, this approach is not always a viable option, Eye Movement Desensitization and Reprocessing proved just as effective in the treatment of PTSD.

#### *Definition*

The American Heritage Stedman's Medical Dictionary defines Post-traumatic Stress Disorder (PTSD) as "An anxiety disorder affecting individuals who have experienced profound emotional trauma, such as torture, rape, military combat, or a natural disaster, characterized by recurrent flashbacks of the traumatic event, nightmares, eating disorders, anxiety, fatigue, forgetfulness, and social withdrawal." As noted in the introduction we can conclude there will be many Americans who fall under this definition in terms of combat operations. In the past four years, 500,000 Americans have cycled through the war in Iraq many of them serving directly on the front lines. Even those in support fields, such as Doctors and medical staff continually exposed to the horrors of wars when treating casualties. Post-Traumatic Stress does not only affect those serving our country. Every man and woman can be susceptible to this disorder given the

proper circumstances; for the purpose of this paper, we will be focusing primarily on military personnel.

### *History*

PTSD, though not recognized until 1980 by the American Psychiatric Association, has come by several different names. Post-Traumatic Stress Disorder (PTSD) is certainly not new to the Human experience. Since the beginning of recorded history PTSD existed by one name or another. Several Greek, Egyptian, and Roman historians have captured this disorder in memoirs of battles and wars fought. They have detailed the symptoms of Post-Traumatic Stress Disorder but without an understanding of what was actually going on in the minds of those soldiers.

In an article written for the *Voice of Vietnam Veterans*, Steve Bentley (2005) enlightens the reader as to the history of PTSD. In that article, there are several passages where historians described the psychological condition of soldiers on the front line. The Greek historian Herodotus discussed one soldier's permanent blindness in the battle of Marathon in 490 B.C. brought on by witnessing another soldier's death that was standing next to him. Herodotus later tells tale of a commander who relieved his soldiers from battle after making notice of their psychological condition following the previous battle. His fellow soldiers gave one Spartan named Aristodemus the nickname of "The Trembler" after experiencing battle; he later hung himself in shame. Nostalgia was the term given by Swiss physicians in 1678 after identifying the group of behaviors that thought to make up Post-traumatic Stress. Around the same era, the German and French also coined their own terms for these symptoms. The Spanish formulated a term called "estar roto" or "to be broken".

Through each Great War in history, every country that engaged in battle continued to see the casualties caused by their actions. These casualties were not just those who suffered physically but also those mentally wounded. With each passing battle and decade, physicians and psychologists came up with new ways to diagnose and treat these conditions. It was not until 1905 that a nation as a whole would understand the results of PTSD. The Russian army concluded that mental collapse was a direct result of combat operations. This was to be a milestone in the advancement and treatment of Post-Traumatic Stress.

During the Civil War, those suffering from this disorder thought to have “Soldiers Heart” (Bentley, 2005). These soldiers were ridiculed for lack of courage in the line of duty; some were even executed for their inability to perform on the front lines. This type of treatment towards these individuals has continued to be a common practice among the military though not to the extreme as practiced in those early years. “Shell Shock” was the term used during the First World War followed by “Battle Fatigue” in the Second World War. This stigmatism would stay in place until the American Psychiatric Association’s decision to include it as an official diagnosis in the DSM-III. The DSM-IV-TR explains in detail the criteria and symptoms associated with Post-Traumatic Stress Disorder (see appendix A).

### Conclusion

History has shown that the act of war can be devastating on many levels. Throughout time, soldiers who have experienced these horrors have come home with the physical and emotional scars dictating this dreadfulness. Those who are willing and have

the ability to care for and treat these men and women on both the physical and emotional level are the saviors of those who suffer.

Mental illness is no one's fault though stigmatism often befall the individual who suffers from it. In the time since man's existence on earth, society has treated those with mental disorders in a typically cruel manner. There have been those who have tried to understand the origins of such disorders and treat the afflicted. Hippocrates, Pinel, and Pussin were the early pioneers of humane treatment and understanding. Men such as Plato, a student of Hippocrates, looked to understand the origins and develop means of treating those who suffer. Others believed that these persons, the mentally ill, needed to be cared for with compassion and kindness.

Although not all stigmatism have gone away, society has learned that those persons with mental illness suffer from no fault of their own. Many organizations have been established in recent decades to care for the mentally ill. Asylums and hospitals were built with the specific intention of caring for these persons. The department of Veterans Affairs is one such organization utilized to care for those who suffer due to military service.

Anxiety and Post-Traumatic Stress Disorders are just one type of mental disorder. Anxiety can come in multiple forms such as General Anxiety, Obsessive Compulsive disorders or PTSD. Anxiety in general is not a bad thing. It allows our senses to be keen to our environment and keeps the individual on his or her toes. When these levels of anxiety overwhelm the individual, it can interfere with the norms of daily living.

The affliction of Post-Traumatic Stress Disorder, known by many different names over the years, came to be recognized by the American Psychological Association in

1980. This disorder is not limited to those who have witnessed the tragedy of war, though they are the ones most recognized. Any person can become a victim given the proper circumstances. Hoge (as stated previously) stated that as many as 17% of all returning veterans will be diagnosis with some for of PTSD. With as many as 500,000 soldiers returning from or currently serving in combat areas this number could potentially reach 85,000 men and women.

Regardless of the name, whether it is Battle fatigue, Soldiers Heart, Nostalgia, or PTSD men and women alike will continue to suffer from this disorder. Those who care for these persons will need to understand the methodologies available for treating these individuals and have the compassion to understand and provide for them the best possible care. With the continuation of war and the everyday threat to persons in society, this disorder shows no signs of going away. Continued research into more effective treatment plans and the advancement of existing programs with make the difference in the lives of those afflicted and their families.

### Research Question

How does the success rate in the treatment of Post-Traumatic Stress Disorder differ when utilizing Cognitive Behavior Therapy compared to Eye Movement Desensitization and Reprocessing?

### Definition of Terms

Anxiety Interview Schedule for DSM-IV (ADIS IV): a structured detailed interview that assesses and diagnoses anxiety disorders in accordance with the differential diagnoses of the Diagnostic and Statistical Manual for Mental Disorders-IV (DSM-IV).

Beck Anxiety Inventory (BAI): an inventory used to diagnose the severity of anxiety in adolescents and adults.

Beck Depression Inventory (BDI): an inventory used to diagnose the severity of depression in adolescents and adults.

Clinical Administered PTSD Scale (CAPS): is a structured clinical interview designed to assess adults for the seventeen symptoms for Post Traumatic Stress Disorder (PTSD) outlined in DSM-IV.

Cognitive Behavioral Therapy (CBT): is a short term focused therapeutic approach for the treatment of depression, anxiety, anger, marital conflict, panic, and substance disorders to name a few. The therapist focuses the patient's attention on how he or she views certain behaviors and thought processes as well as communication skills.

Emotional Transformation Therapy (ETT): Refers to the use of a light and color device that projects rhythmic colored light into the person's eyes while he or she is seated in front of the machine.

Eye Movement Desensitization and Reprocessing (EMDR): is an eight-phase psychotherapy treatment designed to alleviate the distress associated with traumatic memories through the use of eye movement and controlled thoughts about the negative memories or situation.

Heart Rate: Measures the subjects Heart Rate as a means for establishing a baseline initially and at each treatment interval.

Impact of Event Scale (IES): Assesses the level of stress experienced by people after specific life events and identifies the impact of the stress for the person completing the scale.

Mental Illness: Any of various conditions characterized by impairment of an individual's normal cognitive, emotional, or behavioral functioning, and caused by social, psychological, biochemical, genetic, or other factors, such as infection or head trauma.

Minnesota Multiphasic Personality Inventory -2 (MMPI-2): this is the second version of the original personality test used to identify specific personality traits.

Mississippi Scale for Combat-related PTSD (MISS): a 35-item scale based off the DSM criteria for PTSD. The scale is used to classify non-PTSD patients and PTSD patients.

Post-Traumatic Stress Disorder: An anxiety disorder affecting individuals who have experienced profound emotional trauma, such as torture, rape, military combat, or a natural disaster, characterized by recurrent flashbacks of the traumatic event, nightmares, eating disorders, anxiety, fatigue, forgetfulness, and social withdrawal.

Validity of Cognition (VOC): a self-report scale used as a standard part of EMDR protocol which produces a self-rating of a subject's belief of a newly formed positive cognition.

Wolpe's Subjective Unit of Disturbance Scale (SUDS): a self-report scale used as a standard part of the protocol for EMDR treatment, which assesses the impact of disturbance, associated with the traumatic event.

Acronym	Dependant Variable
BDI-II	Beck Depression Inventory-Second Edition Total Score
SCL-90-R GSI	Symptom Checklist-90-Revised Global Severity Index
SCL-90-R PST	Symptom Checklist-90-Revised Positive Symptom Total
SCL-90-R PSDI	Symptom Checklist-90-Revised Positive Symptom Distress Index

## CHAPTER II

## Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) has undergone several changes since its inception in the late 1950's. Dr. Albert Ellis (as an alternative to Psychoanalysis) (History of Cognitive Behavioral Therapy, 2006) first developed this approach. Rational Emotive Therapy (RET), the initial term used to describe what is now known as CBT.

Though not formally acknowledged as such, Stoic Philosophers such as Epictetus and Marcus Aurelius utilized similar methods. Epictetus authored a book entitled "*The Enchiridion*", "Men are Disturbed not by things, but by the view which they take of them". Alfred Alder was another influential psychotherapist in the creation of RET. Alder said, "I am convinced that a person's behavior springs from his ideas". After thirty years of history to draw from Aaron Beck, M.D. developed, a similar approach called Cognitive Therapy in the 1990's. This therapeutic approach has become widely used in the treatment of depression. Regardless of its formal title or from who defined the latest update, Cognitive Behavioral Therapy has been proven repeatedly as a useful tool in the treatment of Depression.

*Application*

Cognitive Behavioral Therapy is a short term focused therapeutic approach for the treatment of depression, anxiety, anger, marital conflict, panic, and substance disorders to name a few (Post-traumatic Stress Disorder. (n.d.). *The American Heritage® Stedman's Medical Dictionary*, 2003). The therapist focuses the patient's attention on how he or she views certain behaviors and thought processes as well as communication skills.

Cognitive Therapy as with all manners of treatment has a general flow or pattern

to its treatment plan. Initial Assessments are a key element to both the patient and the therapist to understand exactly where the patient is emotionally. These assessments typically performed via a questionnaire or by the therapist ask a multitude of general questions. By having a basis to start, the patient / therapist team can produce a plan for treatment. This plan will include follow up appointments, self-help techniques for between sessions, goal setting, and points of work. The therapist must have a good idea of what is wrong or troubling to the patient.

Cognitive Therapy according the Aaron Beck, is an insight-focused therapeutic design that looks to change the client's way of thinking. The focus is on discovering how the client views either his or her self and reality as a whole. The idea is to illuminate the negative irrational thoughts and replace them with thoughts that reflect reality (Corey, 2001). Beck, (as cited in Corey, 2001) states, "cognitive therapy consists of all the approaches that alleviate psychological distress through the medium of converting faulty conceptions and self-signals" (p. 311).

Cognitive Therapy may hold some likeness to other treatment modalities in its basic principles. One difference is in the therapist / client relationship. Beck believed that the key element that differentiates Cognitive Therapy with other similar therapeutic designs is that with Cognitive Therapy there is an established relationship between the therapist and client (Corey, 2001). These relationships' built on trust between both parties. The therapist must be open and nonjudgmental as well as be caring and empathetic towards the clients needs.

Donald Meichenbaum (as cited in Cory, 2001) believes the change process to be three fold. All three of the phases must be equal in significance, in order to be effective.

Meichenbaum proposed, “behavior change occurs through a sequence of mediation processes involving the interaction of inner speech, cognitive structures, and behaviors and their resultant outcomes” (p. 319). The first phase would be the self-observation phase where clients taught to observe their own behavior and identify with the negative thoughts. Within phase one the client must be willing to look at the actions without self-judgment or condemnation (Corey, 2001). The thought process, behaviors, and beliefs about themselves have become a contributing factor in the clients own depression cycle; this knowledge must be made aware to the client. Phase two of the process teaches the clients to utilize a different self-dialog to use when addressing matters of the self. The idea is to understand what they say to themselves directly relates to how they feel about themselves. The new dialog must be accompanied by a change in behavior. The new way of thinking must be compatible with the client’s behavior or conflict will ensue in the client. The dialog can be used as a guide to a behavioral change. Phase 3 entertains the client’s need for new coping skills. These skills utilize in real-life situations to cope with existing problems. These problems may include dealing with areas of life in which they may have failed at previously and are afraid to try again because of the inability to handle failure. These new techniques or skills will allow the clients to be able to try new experiences with the thought that it is ok to fail. Incorporating the self-dialog and self-observation techniques previously learned would enable the clients to address any failure that may come.

The Self-Help aspect of the treatment is an important method in assisting the patient through difficult moments between sessions (Corey, 2001). These techniques also allow the patient a sense of control in his or her treatment plan. There are several avenues

or approaches a person can take when looking for self-help ideas. A therapist may suggest audiotapes to listen to when the patient notices the cues that they are getting angry or feeling depressed. Literature is always available in many different media; the Internet has become a useful tool in providing persons with information on his or her diagnosed condition and matters of self-help.

The Association for Behavioral and Cognitive Therapies (ABCT) (2007) has developed a list of what is expected during a treatment program. These exercises and self-help tools are utilized both during the sessions and while the client is not accessible to therapy.

- Exercises and discussions to help you increase your awareness of the interplay of events, emotions, thoughts, and behaviors in problem areas of your life.
- Exercises to help you stay in and learn from situations you commonly avoid due to fear and anxiety. A therapist may call this “exposure therapy”
- Help in returning to, or developing new, enjoyable and valued activities.
- Learning to evaluate the accuracy and impact of thoughts on emotions and behavior, and developing more useful ways of thinking.
- Learning to set goals and reward yourself when you meet goals. A therapist may call this “contingency management” or “reinforcement”
- Learning to identify high-risk situations and events so that you can better deal with problem behaviors. A therapist may call this “relapse prevention”
- Practicing new ways for interacting with others. For example, a therapist may use “assertiveness training” to help individuals say “no” when they need to
- Developing a way of discovering alternative solutions to problems and to evaluate likely outcomes
- Practicing understanding and accepting emotions and negative thoughts while pursuing one’s values and goals.
- Having the opportunity to discover how you feel about the possibility of change. A therapist may call this “motivational enhancement therapy”
- Skills to regulate stress, sleep, body tension, or pain
- Learning to understand child or family problems and developing new communication skills or more effective parenting skills. A therapist may call this “behavioral family therapy” or “parent training”

*Experience**Continuing to research**Outcomes*

In searching for quantitative data, as a means for a comparative analysis between CBT and EMDR, several archival research dissertations and publications were utilized to form a database. Grant Devilly and Susan Spence (1999) produced a research paper that has been published in the *Journal of Anxiety Disorders*. This research offers a comparative look at the efficacy of Cognitive Behavior Therapy and Eye Movement Desensitization and Reprocessing in the treatment of Post-Traumatic Stress Disorder. The research concludes with a graphical comparison for treatment using TTP against EMDR. The research suggests that TTP is more effective than EMDR across the board. This researcher will be utilizing the graphs and detailed findings within this research as a means of data collection to perform a final comparative analysis in the conclusion of this research paper. The research utilized 20 participants who were randomly chosen to an assigned treatment modality. Ten participants were treated utilizing TTP and 10 using EMDR. Data was collected at three different intervals, once at the pre-treatment screening, once following treatment plus two weeks, and finally at the three-month follow up appointment.

The research utilized some of the same research measures as will be seen in the EMDR section. The following are a list of the measurement tools utilized to capture data for comparison purposes:

- The Beck Depression Inventory (BDI)
- The Symptom Checklist-90-R (SCL)
- Subjective Units of Disturbance (SUDS)
- The Personal Problem Definition Rating Scale (PPD)

- The Civilian Mississippi Scale for PTSD (CMS)
- The Impact of Events Scale (IES)
- The PTSD Symptom Scale Self-Report (PSS-SR)
- The PTSD Interview (PTSD-I)

The results displayed for the comparative analysis between TTP, a method of CBT, and EMDR comes from the research by Devilly and Spence (1999). The study has shown the validity of both treatment methods as a comparison. The results of these findings will be compared at a later point in this paper with those found in the research noted earlier.

Table 1

TTP vs. EMDR

Information	BDI		GDI		SUDS		PPD		IES	
	TTP	EMDR	TTP	EMDR	TTP	EMDR	TTP	EMDR	TTP	EMDR
Pre-Treatment	28.83	28.18	1.88	1.69	8.25	8.68	3.4	3.3	54.08	48.36
Post Treatment	13.25	18.0	.94	1.3	2.54	3.68	1.53	2.05	20.75	35.64
Three-month follow-up	13.58	22.82	.90	1.69	2.29	5.27	1.55	2.82	21.08	41.72
Percentage of Change	52.90	19.02	52.13	0.0	72.22	39.27	54.18	14.57	61.02	13.73

Devilly, Grant J., Spence, Susan H., (1999), The Relative Efficacy and Treatment Distress of EMDR and a Cognitive Behavioral Trauma Treatment Protocol in the Amelioration of Post-traumatic Stress Disorder. *Journal of Anxiety Disorders*, 13 (1-2) 131-157.

BDI = Beck’s Depression Inventory  
 GDI = Global Distress Inventory  
 SUDS = Subjective Unit of Disturbance Scale  
 PPD = Personal Problem Definition Rating Scale  
 IES = Impact of Event Scale

The Beck Depression Inventory was given to the subject groups prior to treatment and after completion as well as at the three-month follow-up. The results concluded as

follows (Devilley and Spence, 1999). The TTP group displayed an average 28.83 in the pre-treatment analysis. The post-treatment results came in with a decrease of 54.04% to 13.25. The three-month follow-up showed a slight increase in BDI resulting in a final BDI figure of 13.58. The EMDR showed slightly weaker results at all phases coming in at 28.18 during the pre-treatment and decreasing by 32.16% at the end of treatment. The three-month follow-up showed a significant increase to 22.82.

The results of the GDI tests (Devilley and Spence, 1999) were not as favorable for the EMDR group as were the TTP group. The EMDR group showed no decrease in symptoms at the three-month follow-up and only resulted in a temporary decrease on 23.08% at the conclusion of treatment. The TTP group displayed significant results of treatment and at the three-month follow-up. The TTP group began with a pre-treatment start point of 1.88 and decreased by 50% at the end of treatment followed by an additional 2.13% at the three-month follow-up.

The results of the SUDS test (Devilley and Spence, 1999) were consistent with those of the BDI and GDI in this study. The TTP methodology again showed greater results both in the post-treatment analysis and at the three-month follow-up. The TTP group displayed a pre-treatment point of 8.25 and decreased to 3.08 at the end of treatment and 2.29 at the three-month follow-up. This is a decrease in disturbances by 69.91% and 72.22% respectfully.

The EMDR group (Devilley and Spence, 1999) showed progressive results in at the end of treatment but again digressed at the three-month follow-up. The EMDR group began with a start point of 8.68 and declined to 3.68 at the end of treatment. This is a decrease in disturbances by 57.59%. The issue of concern is the increase in disturbances

at the three-month follow-up. Through not at high as the pre-treatment numbers the indication is that the disturbances are increasing over time. The three-month follow-up came in at 4.31.

The results of the PPD scale (Devilley and Spence, 1999) continue to favor the TTP treatment modality for PTSD in this case study. The results of this scale are desirable for both treatment options but lack consistency in the three-month follow-up. The TTP method showed a flat rate of productivity between the end of treatment survey and the three-month follow-up. The EMDR group displayed an increase in the PPD scale following the end of treatment. To this point, the results have been consistent with the EMDR group regressing at the three-month follow-up. The TTP group pre-treatment average for PPD was 3.4 with a decrease of 54.91% and the end of treatment. The three-month follow-up showed no significant signs of change from the end of treatment figures. The EMDR group showed favorable signs at the end of treatment survey dropping to 2.05 from 3.3, a decrease of 37.09%. However, the three-month follow-up showed a distressing sign of regression increasing the overall score to 2.82.

The IES (Devilley and Spence, 1999) is the final measurement tool utilized in this study. The results, as noted previously, are consistent with the over all treatment findings of this research. The TTP participants showed an Impact of Event average of 54.08 at the pre-treatment phase and decreased by 61.63% then remained flat through the three-month follow-up. The EMDR group again showed promising results of treatment survey dropping the overall rating from 48.36 to 41.72 (26.30%) only to lose ground at the three-month follow-up increasing to 41.72 on the Impact of Event Scale.

## Conclusion

Cognitive Behavioral Therapy is a short term focused therapeutic approach designed to look to change the client's way of thinking. Contributors to the development of CBT are Ellis, Beck, Alder, and Meichenbaum. These persons have laid the foundation for what is now one of the most utilized methodologies of treating depression, anxiety, anger, panic, and other such related mental disorders.

Albert Ellis established the first method of utilization called Cognitive Therapy in the 1950's. Alfred Alder developed the Rational Emotional Therapeutic approach some thirty years prior to Beck's Cognitive Behavioral Therapy. Ellis and Alder's work was the inspiration for Aaron Beck's work in developing The Cognitive counter part to REBT in the 1990's. Meichenbaum established the 3-phase approach entailing self-observation, positive self-dialog and coping skills. These methods were developed in contradiction to earlier utilized theories such as Psychoanalysis. The therapist / client relationship is built on trust, compassion, and understanding in which an open and honest relationship can be founded on both sides.

Through the course of time, several studies have been completed comparing the effectiveness of CBT and other treatment modalities. The study conducted by Devilly and Spence (1999) produced results depicting CBT as a favorable means of treatment for PTSD over its comparative treatment of EMDR. These results were based on findings utilizing multiple scales and 20 participants. The study did show the validity of both treatment methods but favored CBT and a formable leader.

The development of Cognitive Behavioral Therapy can be traced through several key persons in history. Not one can claim ownership of what is now known as CBT but

each of those mentioned was influential in its creation. Epictetus' book "The Enchiridion" is an example of the history of idealism of how man is effected by his depiction of events for "Men are not disturbed by things, but by the view which they take of them".

## CHAPTER III

## Eye Movement Desensitization and Reprocessing

Eye Movement Desensitization and Reprocessing (EMDR), first conceptualized in 1987 by Francine Shapiro. She noted that eye movement appeared to decrease negative emotions associated with past traumatic memories (EMDR Institute 2004). Shapiro began conducting research and case studies on EMDR in treatment of Post-Traumatic Stress Disorder in 1989. Shapiro claimed to have success-treating PTSD after only five sessions. In 1981, Shapiro altered the name from EMD to EMDR to accurately reflect the use of Reprocessing techniques associated with the treatment. Using feedback from patients and insights learned during therapy Shapiro began to see the cognitive changes that develop during the course of treatment.

In 1995, after several years of research, EMDR finally lost the stigma of being an “experimental” treatment. Before 1995, Shapiro established the EMDR Institute to train fellow clinicians in the utilization of EMDR. By having first establishing the institute, she was able to ensure all clinicians, trained in the same manner, had a resource available to call upon should questions or issues arise.

In a randomized study Carlson et al., (1998) stated the following:

Twelve sessions of EMDR eliminated post-traumatic stress disorder in 77% of the multiply traumatized combat veterans studied. Effects maintained at follow-up. This is the only randomized study to provide a full course of treatment with combat veterans. Other studies (e.g., Pitman et al. /Macklin et al.) evaluated treatment of only one or two memories, which, according to the International Society for Traumatic Stress Studies Practice Guidelines, is inappropriate for multiple-trauma survivors. The VA/DoD Practice Guideline also indicates these studies (often with only two sessions) offered insufficient treatment doses for veterans.

As effective as EMDR is, it has not applied to every clinical disorder. Shapiro stated that EMDR's best utilized when treating disorders that follow stressful or traumatic events. EMDR is used with other clinical disorders in conjunction with additional treatment to subside the troubling memories associated with the existing disorder.

### *Application*

Eye Movement Desensitization and Reprocessing (EMDR) is a psychotherapeutic approach targeted at alleviating distressful memories. This is done through directed Eye movement by having the patient focus on a specific point such as the therapist's finger or other object controlled by the therapist as it is moved rhythmically back and forth. While the patient is focusing on the object, the therapist will assist the patient in remembering the troubling thoughts and walking him or her through a series of processes to work through the memories. These troubling thoughts are not brought up all at once. The therapist must be responsive to the patient's tolerance of the stressful memories and not flood the patient with too many disturbing thoughts. These sessions must be completed in the patient's time frame and not the therapists. There have been multiple studies performed to understand the duration required to adequately treat particular diagnoses.

### *Experience*

#### *Continuing to research*

### Outcome

Zeper (1996) investigated the effects of EMDR against three participants suffering from Post-Traumatic Stress Disorder. The research was conducted over a period of several weeks. The subjects were given the titles of X, Y, and Z. All subjects began the treatment at the same time with a baseline session; the administration of the actual

EMDR treatment however was staggered. The instruments of measure for the study would include the Wolpe’s Subjective Unit of Disturbance Scale (SUDS), the Validity of Cognition Scale (VOCs), the Impact of Event Scale (IES), the Beck Depression Inventory (BDI), and the Beck Anxiety Inventory (BAI).

Each subject was given a series of baseline treatments (Zeper, 1996). Subject X was given five such treatments and each subject afterwards would increase by three treatments. Baseline treatments involved the researcher or therapist giving the subjects the following measurements to complete as a means to establish a baseline: BDI, BAI, IES, SUDS, VCS, as well as monitoring the subjects Heart Rate. In each baseline session, the subject was asked to picture in their mind the worst part of the event and rate their current feelings about it utilizing the SUDS scale. The rating scale measured from 0 to 10 with 10 reflecting the highest emotional disturbance.

Table 2  
Effects of EMDR for Treating PTSD

Information	SUDS			IES			VOC			BDI			BAI			HR		
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z
Baseline	9.4	10	9.3	57.8	49	57.5	2	1	2	36.2	31.5	34.9	34.2	42	47	78.2	81	82.9
Treatment	2.2	3.8	2.2	14.8	25.4	26.6	6	5.2	5.8	7.2	19.4	21.6	6.6	25.4	22.6	77.8	79.4	81
Follow-up	3	3	2	16	16	22	6	6	6	6	13	17	4	22	15	78	80	82
Percent Change	68.1	70	78.5	72.3	67.4	61.7	200	500	200	83.4	58.7	51.3	88.3	47.6	68.1	n/a	n/a	n/a

Zeper, Robbi S., (1996). Eye Movement Desensitization and Reprocessing: A Multiple Baseline Study. (UMI No. 9701084)

Note: See Appendix C for Range of Values

SUDS = Subjective Unit of Disturbance Scale  
 IES = Impact of Events  
 VOC = Validity of Cognition  
 BDI = Beck Depression Inventory  
 BAI = Beck Anxiety Inventory  
 HR = Heart rate

Subject X was given five baseline treatments followed by five EMDR sessions and one follow-up session. Subject Y was administered eight baseline treatments followed by five EMDR sessions and one follow-up session. Subject Z was given eleven baseline treatments followed by five EMDR sessions and one follow-up session (Zeper, 1996).

The result of the treatment as shown shows a significant decrease in the SUDS rating for each of the participants (Zeper, 1996). Subject X decreased by 76.6% from baseline to completion of treatment. The three-month follow-up saw a final rating of 3 or a 68% decrease from baseline. Subject Y saw a decrease of 62.0% from baseline to completion of treatment. The three-month follow-up saw a final rating of 3 or a 70% decrease from baseline. Subject Z saw a decrease of 76.34% from baseline to completion of treatment. The three-month follow-up saw a final rating of 2 or a 78.49% decrease from baseline. The average decrease for all subjects was 71.88% decrease in completion and follow-up.

The IES exhibited similar results as the SUDS measurements (Zeper, 1996). Subject X saw a decrease of 74.39% from baseline to completion of treatment. The three-month follow-up saw a final rating of 16 or a 72.32% decrease from baseline. Subject Y saw a decrease of 48.16% from baseline to completion of treatment. The three-month follow-up saw a final rating of 16 or a 67.35% decrease from baseline. Subject Z saw a decrease of 53.74% from baseline to completion of treatment. The three-month follow-up saw a final rating of 22 or a 61.74% decrease from baseline. The average rating for all

subject after completion of treatment displayed a decrease of 59.38% and 67.21% at follow-up.

The subjects were asked to bring up a mental picture on their self, then what would he or she like to believe about himself or herself. The subject was asked to rate the positive thought on the level of truth they found of this thought, one being untrue and 7 being completely true. As the results suggest each subject increased their VOC and maintained that level thru Follow-Up (Zeper, 1996). Subject X increased by 4 points on an 8-point scale. This would be a 200% increase from a starting point of two. Subject Y went from a starting point of one to an end of treatment point of 4.2 increasing the VOC by 420%. Subject Z had slightly weaker results than either Subject X or Y with an increase of 190% having a baseline of two and end of 3.8. The average increase in Validity of Cognition for all subjects was 235% or 4 points. Each subject submitted a rating of six at the three-month follow-up.

The Beck Depression Inventory provided consistent results as compared to the other charts. Subject X displayed the greatest decrease in BDI and maintenance at follow-up. Subject X saw a decrease of 80.11% from baseline to completion of treatment. The three-month follow-up saw a final rating of 6 or an 83.43% decrease from baseline. Subject Y saw a decrease of 38.41% from baseline to completion of treatment. The three-month follow-up saw a final rating of 13 or a 58.73% decrease from baseline. Subject Z saw a decrease of 38.11% from baseline to completion of treatment. The three-month follow-up saw a final rating of 17 or a 51.29% decrease from baseline. The average decrease in BDI for the subject group was 52.92% (Zeper, 1996).

The Beck Anxiety Inventory Scale was another tool utilized to measure the efficacy of the treatment with each subject. The subjects showed consistent results with regard to the rest of the study. The average decrease in BAI for the subject group was 55.72%. Subject X saw a decrease of 80.7% from baseline to completion of treatment; this was the greatest increase in the group. The three-month follow-up saw a final rating of 4 or an 88.30% decrease from baseline. Subject Y saw a decrease of 39.52% from baseline to completion of treatment. The three-month follow-up saw a final rating of 22 or a 47.62% decrease from baseline. Subject Z saw a decrease of 51.91% from baseline to completion of treatment. The three-month follow-up saw a final rating of 15 or a 68.09% decrease from baseline (Zeper, 1996).

Tye (2001) conducted a research dissertation on the treatment of PTSD utilizing EMDR. Within the paper, she noted multiple studies that have been conducted to show the efficacy of EMDR as compared to other modalities associated with the treatment of PTSD. This researcher will examine and highlight several of these studies as a means of gaining data in use for a comparative analysis against Cognitive Behavioral Therapy.

In a controlled study by Carlson, et al., (1998) (as mentioned in Tye, 2001) the efficacy of EMDR was conducted in a comparative framework against biofeedback assisted relaxation and routine clinical care. For purposes of this research, this researcher will primarily be utilizing the data associated with the efficacy of EMDR in treating PTSD.

The purpose of the investigation was to analyze the effectiveness of several methods of treatment for PTSD. The participants were broken down into treatment groups with 10 participants being assigned to treatment by way of EMDR. Each of the

participants were given a series of test or questionnaires to complete before beginning treatment. These included the Mississippi Scale for Combat-related PTSD (MISS), Clinical Administered PTSD Scale (CAPS), and the Minnesota Multiphasic Personality Inventory -2 (MMPI-2). Other units of measurements included the Beck Anxiety Inventory (BAI) and the Impact of Event Scale (IES) (Tye, 2001). The study concluded that 75% of the subjects exposed to EMDR therapy no longer met the criteria for PTSD and that after 12 sessions all of the participants were symptom free. The effects of the treatment were maintained after three months and followed up at a blind nine-month follow up session.

The Doctorial Dissertation written by William Hogan (2001) introduced a study conducted as a means for a comparative analysis between EMDR and CBT in the treatment of PTSD. This study was performed using 30 participants who received EMDR or CBT as a means of treatment. The participants were assessed before and after completion of treatment. The results are depicted in Table 3.

This comparative analysis of EMDR and CBT in this research study shows EMDT to be the superior treatment modality for PTSD. As a measure of validity, a comparison has been conducted utilizing the results to pre-existing other studies. The results of this particular study will be displayed with out comparison in this section.

Table 3

## EMDR vs. CBT in Treating PTSD

Information	BDI		GSI		PST		PSDI	
	EMDR	CBT	EMDR	CBT	EMDR	CBT	EMDR	CBT
Pre-Treatment	26.6	27	1.71	1.7	56.8	57.4	2.6	2.57
Post Treatment	15.93	22.07	1.23	1.5	45.47	52.67	2.22	2.46
Percentage of Change	40.11	18.26	28.07	11.76	19.95	8.24	14.62	4.28

Hogan, William A., (2001)., The comparative Effects of Eye Movement Desensitization and Reprocessing and Cognitive Behavioral Therapy in the Treatment of Depression. (UMI No. 3004753)

Note: See Appendix D for Range of Values

BDI = Beck's Depression Inventory

GDI = Global Severity Inventory

PST = Positive Symptoms Total

PSDI = Positive Symptoms Distress Index

The Beck Depression Inventory results created the following results for the participants in this study. Pre-treatment results for BDI with regard to the EMDR participants were in the moderate to severe range at 26.6. Post-treatment results found a decrease in BDI by 40.11%. The results for CBT participants saw weaker results with a pre-treatment range of 27 followed by a post-treatment decrease of only 18.26. The results of the CBT treatment would find those receiving this treatment to be in the moderate to severe category (Hogan, 2001).

The Global Severity Index scale is based off a 5 point system from 0 – 4 with 0 being the least disturbing and 4 being the extremely disturbing. Pre and Post-treatment results for GSI were akin to the BDI results in that those in the EMDR treatment category showed greater results. The EMDR group established a Pre-Treatment rating of 1.71

followed by a decrease of 28.07% to 1.23. Those in the CBT treatment group showed results ranging from 1.7 in the Pre-Treatment to 1.5 after completion decreasing by 11.76% (Hogan, 2001).

The results of the PST in both the EMDR group and the CBT group showed unfavorable after each treatment was completed. The EMDR group had slightly higher results than the CBT group but still maintained a high level of symptoms. The EMDR pre-treatment group began with an average of 56.8 symptoms and decreased to 45.47 demonstrating a 19.95% decrease in overall symptoms. The CBT group began with an average of 57.4 and decreased by 8.24% to 52.67(Hogan, 2001).

The PSDI results concluded with greater results than the PSI in both treatment modalities. The EMDR group again displayed more prominent findings than the CBT group in this study. The pre-treatment PSDI average for the EMDR group was 2.6 decreasing by 14.62% to 2.22. The CBT treatment group decreased their average value by only 4.28% from a start point of 2.57 to 2.46 (Hogan, 2001).

The overall finding for the two studies conducted for the comparison of EMDR to CBT demonstrated the validity of EMDR as a viable treatment modality for Post-traumatic Stress disorder. This of course must be considered with the understanding that this was the intention of the study and all results should be compared to additional non-bias studies comparing the same topics.

### Conclusion

Francine Shapiro first conceptualized Eye Movement Desensitization and Reprocessing in 1997. The notion of this modality is that eye movement can be utilized in the therapeutic process as a desensitization technique for troubling memories. The origins

of EMDR go back to Shapiro's earlier work in EMD. Several studies have been concluded in recent years that have shown the validity of EMDR and its effects on treating PTSD.

Studies conducted by Carlson, Zepher, and Tye have all shown similar results in the effectiveness of treating PTSD. Some of these studies were performed as a means of comparing the efficacy of EMDR to such traditional treatment modalities as CBT. One study (Zepher, 1996) was conducted solely to show the efficiency of EMDR as a stand-alone treatment for PTSD without the use of a comparative analysis. Within each of these studies, the results were favorable towards the EMDR program.

## CHAPTER IV

### Other Treatment Modalities

#### *Emotional Transformation Therapy*

Dr. Steven Vazquez developed Emotional Transformation Therapy in 1991. He envisioned the use of light and color as a means to achieve his goals in therapy (Lippermann, 2005). Vazquez utilized previous research and studies on the uses of light stimulation as a foundation for his development of Emotional Transformation Therapy. Dr. Normal Shealy (as cited in Lippermann, 2001) presented at the 1990 conference of the *American Academy of Neurological & Orthopedic Surgery*, concluded the following results. After having been exposed to one 30-minute session of light therapy, the volunteers who participated in the study exhibited increases in serotonin levels at 23%, increases of nor-epinephrine by 18% and beta-endorphin levels by 14%.

Each color utilized in the treatment is selected by the human reactions caused by its very nature. Clinicians associated with Light Therapy believe that the human body is sensitive to different colors of light and that people take what is need from them. In brief, specific colors provide certain benefits as follows:

- Red: Creates energy and strength, heightens sexuality, rejuvenates, adds vitality, stimulates blood circulation
- Orange: Stimulates the lymphatic system, releases blocked energies within organs
- Yellow: Stimulates, cleanses circulatory system and skin, improves concentration
- Green: Heals, balances, purifies
- Blue: Relaxes and reduces stress, calms
- Violet: Calms metabolic system, controls appetite, and calms nerves

The use of these colored lights can also be shown to the client or patient in a rhythmic fashion. Studies have shown that brain waves respond to different rhythmic

patterns of light. As the patterns of stimulation change, the brain waves adjust to match the speed of the stimulation. Brain wave patterns correspond to different personal experiences and our memories. Strobic light can be used in association with specific color to change these patterns to achieve a level of consciousness desirable for the therapy (Lippermann, 2001).

During the session, the patients placed 1 1/2 to 2 feet in front of the device that is transmitting the strobic and colored light. The patient needs to be comfortable and relaxed as best as possible during the session. Honesty and openness throughout the session is vital for maximum effectiveness of the treatment. During the session, the patients guided through emotions and memories by the facilitator via verbal interaction. Emotions can be strong during the session and the facilitator must monitor the patients at all times. Flooding is a method by which the facilitator deliberately assists the patient in bringing up powerful emotions through traumatic re-exposure. This is both the most dangerous part and the most rewarding part of the session. The client taught to work through these emotions and calmed by the light and the facilitator. After the session, the client should have the means necessary to combat these memories on his or her own (Lippermann, 2001).

Entrainment is the synchronization of biological rhythms by external cues. This can be performed by many different methods. Rhythmic tapping or clicking, strobic light, pendulums, and other such devices are used. The Lumatron and the Photron are therapeutic devices commonly utilized in this form of therapy. They have been chosen for their durability and precision. Both of these devices are similar in mannerism and technology. Both are equipped to direct a strobic light up to 40 watts at a cycle rate of 1

to 60 cycles per second. They also are equally equipped to display up to eleven different colors plus white. These are necessary to facilitate the transition of emotional states during a clinical session (Lippermann, 2001).

### *Psychodynamic Psychotherapy*

Psychodynamic Therapy is defined in the article “*A Guide to Psychotherapy and its Practice*” as an interaction between a psychotherapist and a client that leads to changes—from a less adaptive state to a more adaptive state—in the client’s thoughts, feelings, and behaviors (Guide to Psychology and its’ Practice, 2006). A commonly used joke in the psychological realm goes as follows: “How many psychologists does it take to change a light bulb? Only one, but the light bulb must really want to be changed.” This humorous antidote is actually a true statement about the use of many treatments for mental illnesses. Regardless of what the therapist can do, only the patient can make change happen.

Psychodynamic Psychotherapy utilizes some of the same principles as Psychoanalysis in the way of looking at the mind. The interactive aspect of the treatment is opposite. In Psychodynamic Psychotherapy, the therapist and the client sit face to face and generally, the therapist does much of the talking. This is more of an interactive process than Psychoanalysis. The sessions are usually once a week based upon the clients needs. The purpose of the therapist is to assist the client in understanding his or her emotions and thoughts then find ways of dealing with them in a logical and rational manner. The typical treatment regiment generally established at 12 weeks again this is dependant upon the clients needs (Guide to Psychology and its’ Practice, 2006).

### *Rational Emotive Behavioral Therapy*

One form of treatment utilized for treating PTSD is Rational Emotive Behavioral Therapy (REBT). Developed by Dr. Albert Ellis in 1955 this modality of therapy has been the inspiration to the development of additional Cognitive Behavioral Therapies (Edelstein, 2007). The success of REBT lies in its simplicity. With concentrating on only a few steps, the therapist and the client can maintain a focus to the treatment. The underlying principle behind this treatment method is that the outcome is dependant on the client. The therapist will utilize such terms as “Your feelings” and “You are responsible”. This is not to suggest that the patient is responsible for the mental illness, but that the thoughts of the patient and the behaviors caused by them action are the responsibility of the client.

The principles of REBT are easy. They (Edelstein, 2007) list, in simplicity for both the therapist and the client. Understanding and accepting these principles is mandatory before beginning the treatment. The principles are:

- You are responsible for your own emotions and actions,
- Your harmful emotions and dysfunctional behaviors are the product of your irrational thinking,
- You can learn more realistic views and, with practice, make them part of you,
- You will experience a deeper acceptance of yourself and greater satisfaction in life by developing a reality-based perspective (Edelstein, 2007).

### *Pharmacology*

Many treatment modalities will adhere to the beneficial effects of medication as a supplement to the selected treatment method. Certain medications prove constructive in the treatment program. These medications can include Selective Serotonin Reuptake Inhibitors (SSRI), Tricyclic Antidepressants (TCA), and Monoamine Oxidase Inhibitors

(MAOI). Each of these medication classes performs differently and only a qualified person can prescribe them. With all forms of medication, each variety of these will have their various side effects and down sides (Post-Traumatic Stress Disorder (PTSD) Pharmacotherapy, 2006).

The Department of Veterans Affairs has conducted many research studies on the usage of drug therapies in the treatment of PTSD. A Study conducted by Davison et al, 2001 (as cited in Post-Traumatic Stress Disorder (PTSD) Pharmacotherapy, 2006) stated that SSRI's have proven to be an effective first line of defense in treating PTSD. Selective Serotonin Reuptake Inhibitors (SSRI) are generally the type of medication utilized to treat anxiety disorders (Healthy Women, 2006). These medications can include Fluoxetine (Prozac), Sertraline (Zoloft), Paroxetine (Paxil), Citalopram (Celexa), Fluvoxamine (Luvox) (Healthy Women, 2006). The patients must understand the side effects of these medications before beginning treatment. Tricyclic Antidepressants (TCA) is primarily for blocking panic attacks as the medication itself block serotonin and nonadrenalin in the brain. Monoamine Oxidase Inhibitors (MAOI) is another such medication utilized in the treatment of panic attacks and depression (Healthy Women, 2006).

As stated earlier, all medications have established reaction times and may display some adverse effects in those taking them. The table inserted below is a breakdown of the top three recommended medications for the treatment of PTSD. This table is an excerpt from PTSD Pharmacotherapy, 2006.

Agent	Oral Dose	Absolute/Relative Contraindications	Adverse Events	Remarks
<b>Selective Reuptake Serotonin Inhibitors (SSRIs)</b>				
Fluoxetine	20 – 60 mg/d	Contraindications	Nausea	Avoid abrupt discontinuation of all except fluoxetine Citalopram and sertraline are less likely to be involved in hepatic enzyme drug interactions
Paroxetine	20 – 60 mg/d		Headache	
Sertraline	50 – 200 mg/d	MAO inhibitor within 14 days	Sexual dysfunction- Hyponatremia/SIADH (Syndrome of Inappropriate Antidiuretic Hormone)	Fluoxetine and fluvoxamine are generically available
Fluvoxamine	50 – 150 mg bid	Relative contraindication Hypersensitivity	Serotonin syndrome	Therapeutic blood levels not established for PTSD
Citalopram	20 – 60 mg/d			
<b>Tricyclic Antidepressants</b>				
Imipramine	150 – 300 mg/d	Contraindications	Anticholinergic effects	Therapeutic blood levels not established for PTSD
Amitriptyline	150 – 300 mg/d		Orthostatic hypotension	
Desipramine	100 – 300 mg/d	Clomipramine – seizure disorder	Increased heart rate	Desipramine and nortriptyline have lower rate of anticholinergic and hypotensive effects
Nortriptyline	50 – 150 mg/d	MAOI use within 14 days	Ventricular arrhythmias	
Protriptyline	30 – 60 mg/d	Acute MI within 3 months		
Clomipramine	150 – 250 mg/d	Relative Contraindications  Coronary artery disease Prostatic enlargement		
<b>Monoamine Oxidase Inhibitors</b>				
Phenelzine	Target 1 mg/kg/d	Contraindications	Hypertensive crisis with drug/tyramine interactions	Patient must maintain tyramine-free diet
Tranylcypromine	target 0.7 mg/kg/d		All antidepressants within 7 days of start of a MAOI, except fluoxetine is 5 weeks  CNS stimulants and decongestants	Bradycardia  Orthostatic hypotension  Insomnia

## Conclusion

Treatment modalities for PTSD are not limited to CBT or EMDR though these are the most recognized. Other treatment programs have shown success as well. Emotional Transformation Therapy, Psychodynamic Psychotherapy, rational Emotive Behavioral Therapy, and Pharmacology are all treatment programs utilized to treat PTSD as stand-alone treatments and in conjunction with other modalities.

Studies have shown that the use of colored light in a strobic pattern can be utilized to change brain wave patterns to achieve optimal conditions for therapy. Specific brain waves correspond to different experiences and memories, having the ability to position the mind in a state that to bring about these memories easily can assist therapist in directing the therapeutic approach at the targeted memory.

Psychodynamic Therapy much alike in principle to Psychoanalysis in principle is an interactive approach in which the therapist and the client work together to understand the clients way of thinking and then finding ways of dealing with the negative or destructive thoughts. This treatment plan is typically performed in a 12-week regiment.

REBT as noted earlier was developed by Albert Ellis and became the foundation to which CBT was born. Developed in 1955 this methodology has been utilized successfully in treating anxiety disorders with much credit for its success being given to its simplicity.

Pharmacology is a methodology utilized concurrently with other treatment methods and can be effective as a stand-alone treatment plan. Several medications have been noted as being productive in the reduction of anxiety symptoms. SSRI's are typically the first line of defense and have been proven effective as a general treatment

discipline in the reduction of depression and anxiety. Other medication such as MAOI's and TCA's have their place in treating certain disorders and depression. These medication, as with any chemical substance, do not come without side effects in which the client must be made aware of prior to beginning any treatment regiment.

## CHAPTER V

## Summary

The nature of war and conflict has been with man since the beginning of time. The event over the past sixteen years has shown that there is no end in sight for the casualties of war. These casualties are not limited to the physical devastation brought on by the weapons of man but by the actions of what men do and the way the human mind reacts to it. Post-traumatic Stress Disorder will continue to be a crippling effect of war until wars end. How therapists treat and care for the persons who subjected to this debilitating disorder lies in the research and determination of those who have the ability to administer the appropriate care.

Those persons who have dedicated their lives to the treatment of others in terms of mental care have the ability to make a difference in the lives of those afflicted. These men and women must have the knowledge and resources available to make the correct diagnosis and develop a treatment plan accordingly. Those conducting research and studies to better understand PTSD and the treatment modalities available for the care of those with such a disorder are providing the therapist and counselors with the data to make the proper assessments.

Cognitive Behavioral Therapy has been the fore front leader in the treatment of PTSD for some time now. Eye Movement Desensitization and Reprocessing has shown to be effective as a treatment method for treating PTSD. This paper has performed the research to compare these treatment modalities not as a means to discredit either but to show their effectiveness.

The onset of the war in Iraq and the ongoing conflict in Afghanistan Americans, as a nation, can expect to see an influx of soldiers returning home with a great deal of physical and emotional issues. The issues will have to deal with equally. Hoge, et al. (2001) discussed the percentage of soldiers returning from combat operations in Iraq in an article published in *The New England Journal of Medicine*. Hoge states that as many as 17% of all soldiers returning from operations in Iraq will develop some form of Post-traumatic Stress Disorder. With the number of soldiers, exceeding 500,000 in the past five years would place those with some level of PTSD at about 85,000.

Determining the most effective way to care for these veterans will be at the discretion of those who treat them. These counselors and therapist will have to have the training and knowledge of existing proven treatments and be at the forefront of new technology. The ability for these veterans to regain a sense of normalcy depends on those who treat these veterans ability and desire.

### Conclusion

This researcher performed utilizing an Archival approach to develop its content. The treatment modalities incorporated into the study comes from the understanding of the leading methods of treatment for PTSD. Not be bogged down in every treatment method only the top two treatment plans were to be compared. The two treatment modalities were Cognitive Behavioral Therapy and Eye Movement Desensitization and reprocessing. The archival design utilized to pull from the body of knowledge the necessary information and quantitative data to construct an informed comparison. Various studies utilized to formulate a non-bias analysis of each treatment. A synthesized comparative analysis conducted to show the results of all studies.

The results of this table are a compilation of all data found through out the research utilized in this study. The results of this measure shows CBT and EMDR to both be an effective method of treatment for PTSD. However, CBT does show a measurable advantage in the reduction of depression in those studied.

Table 1

CBT vs. EMDR in Treating PTSD

Information	BDI		SUDS		IES	
	CBT	EMDR	CBT	EMDR	CBT	EMDR
Pre-Treatment	27.92	23.63	8.25	8.68	54.08	51.63
Post Treatment	17.66	16.68	2.54	3.68	20.75	28.97
Three-month follow-up	13.58	17.41	2.29	4.32	21.08	29.86
Percentage of Change	51.35	26.31	72.22	50.26	61.02	42.17

Note: See Appendix E for Range of Values

BDI = Beck’s Depression Inventory  
 SUDS = Subjective Unit of Disturbance Scale  
 IES = Impact of Event Scale

Note: See Appendix E for Range of Values

The pre-treatment assessment for the CBT group identified the groups beginning level of depression to be an average of 27.92. At the conclusion of the CBT, treatment the groups average decreased by 51.35% to 17.66. The survey conducted at the three-month follow-up showed an additional decrease in depression to 13.58. The pre-treatment assessment of the EMDR group showed a beginning level of depression to be at 23.63 on the BDI scale. The results of treatment by EMDR had decreased the groups average

depress rating to 16.68 or 26.31%. The three-month follow-up concluded to show a slight resurge in depression among this group with a result of 17.41.

The Subjective Unit of Disturbance Scale (SUDS) is a self-report scale used as a standard part of the protocol for treatment, which assesses the impact of disturbance associated with the traumatic event. The pre-treatment assessment shows the CBT participant group to have an average starting point of 8.25 decreasing to a post-treatment measure of 2.54 a decrease of 69.19%. The three-month follow up continued to show improvement in these participants with an additional decrease in disturbances to 2.29. The EMDR study group showed significant results in the post-treatment survey with a 57.59% decrease in disturbances from a start point of 8.68 to 3.68. The three-month follow-up survey showed an increase in disturbances resulting in a final point of 5.23. The Impact of Event Scale assesses the level of stress experienced by people after specific life events and identifies the impact of the stress for the person completing the scale. The figures provided above are a compilation of data found throughout this paper. The research has shown that both methods of treatment are effective in the treatment phase. As shown in Table 18 however, the findings indicate that the levels of IES flatten out after treatment has concluded in both cases. The CBT group displayed greater results in decreasing the average level of IES during treatment. The group decreased the average rate by 61.02% dropping from 54.08 to 21.08. The EMDR group as well showed good signs of improvement following treatment. The beginning level of IES was 51.63 decreasing to 28.97, a decrease in 42.17%. As with both treatment groups the research indicates a slight measure of recurrence on the IES.

The indication from the data concludes that both treatment modalities are effective in the treatment of Post-traumatic Stress Disorder. The data indicates that cognitive Behavioral Therapy has a slight advantage over Eye Movement Desensitization and reprocessing in both initial and follow-up assessments. Regardless of the data provided, not all methods of treatment are effective on every person. Every person is different and therefore treatment modalities need to be available. These need to represent a means for cure and not for statistical formulation. It is not what method is the best for society that we seek; it is what method is best for the individual.

### Recommendations

Based upon the knowledge gained from conducting the research necessary to formulate a paper this researcher would recommend further research be conducted in a non-comparative basis on each treatment modality. This research would then need to be examined by a non-partisan group. These research studies can then be compiled and formulated into a measure for the use of therapist and counselors for the assessment of treatment options for existing patients.

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## Appendix A

### DSM-IV-TR Criteria for PTSD

The Diagnosis and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR) provides us with the clinical criteria for Post-Traumatic Stress

Definition as being:

- The person has been exposed to a traumatic event in which both of the following were present:
- The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
- The person's response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior
- The traumatic event is persistently re-experienced in one (or more) of the following ways:
  - Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions.
  - Recurrent distressing dreams of the event. Note: In children, there may be frightening dreams without recognizable content.
  - Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and Dissociative flashback episodes, including those that occur on awakening or when intoxicated).
- Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

- efforts to avoid thoughts, feelings, or conversations associated with the trauma
- efforts to avoid activities, places, or people that arouse recollections of the trauma
- inability to recall an important aspect of the trauma

- markedly diminished interest or participation in significant activities
- feeling of detachment or estrangement from others
- restricted range of affect (e.g., unable to have loving feelings)
- sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

- difficulty falling or staying asleep
- irritability or outbursts of anger
- difficulty concentrating
- hypervigilance
- exaggerated startle response

Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Appendix B

TTP vs. EMDR Range of Values

Beck Depression Inventory (BDI) range of values equals:

0-9 normal range of depression

10-18 mild-moderate depression

19-29 moderate-severe depression

30-63 severe depression

Global Distress Index (GDI) range of values equals: Symptom Checklist-90-Revised

The scale is based off a 5 point system from zero – 4 with zero being the least disturbing and 4 being the extremely disturbing.

Subjective Units of Disturbance Scale (SUDS) range of values equals:

Zero being the least amount of emotional disturbances

Ten being the highest amount of emotional disturbances

Personal Problem Definition Scale (PPD) range of values equals:

Based on a 9 point scale of 0-8

0 being the least severe; 8 being the highest of severity

Impact of Event Scale (IES) range of values equals:

0-8 indicate sub-clinical range of impact

9-25 indicate mid range of impact

26-43 indicate moderate range of impact

43 or higher indicate severe range of impact

Appendix C

Effects of EMDR for Treating PTSD Range of Values

Beck Depression Inventory (BDI) range of values equals:

0-9 normal range of depression

10-18 mild-moderate depression

19-29 moderate-severe depression

30-63 severe depression

Global Severity Index (GSI) range of values equals: Symptom Checklist-90-Revised

The scale is based off a 5 point system from 0 – 4 with 0 being the least disturbing and 4 being the extremely disturbing.

Positive Symptoms Total (PST) consists of 90 symptoms, the participants were asked to select the symptoms that have been present in the past 7 days.

Positive Symptoms Distress Index range of values equals: Symptom Checklist-90 Revised.

The scale is based off a 5 point system from 0 – 4 with 0 being the least disturbing and 4 being the extremely disturbing.

Appendix D

EMDR vs. CBT in Treating PTSD Range of Values

Beck Depression Inventory (BDI) range of values equals:

0-9 normal range of depression

10-18 mild-moderate depression

19-29 moderate-severe depression

30-63 severe depression

Global Severity Index (GSI) range of values equals: Symptom Checklist-90-Revised

The scale is based off a 5 point system from 0 – 4 with 0 being the least disturbing and 4 being the extremely disturbing.

Positive Symptoms Total (PST) consists of 90 symptoms, the participants were asked to select the symptoms that have been present in the past 7 days.

Positive Symptoms Distress Index range of values equals: Symptom Checklist-90 Revised.

The scale is based off a 5 point system from 0 – 4 with 0 being the least disturbing and 4 being the extremely disturbing.

Appendix E

CBT vs. EMDR in Treating PTSD Range of Values

Beck Depression Inventory (BDI) range of values equals:

0-9 normal range of depression

10-18 mild-moderate depression

19-29 moderate-severe depression

30-63 severe depression

Subjective Units of Disturbance Scale (SUDS) range of values equals:

Zero being the least amount of emotional disturbances

Ten being the highest amount of emotional disturbances

Impact of Event Scale (IES) range of values equals:

0-8 indicate sub-clinical range of impact

9-25 indicate mid range of impact

26-43 indicate moderate range of impact

43 or higher indicate severe range of impact