

RUNNING HEAD: HYPNOTHERAPY UNDER FIRE

HYPNOTHERAPY UNDER FIRE:  
EFFICACY OF HEART-CENTERED HYNOTHERAPY  
IN THE TREATMENT OF IRAQ WAR VETERANS WITH POSTTRAUMATIC STRESS.

JEFFREY SCOTT YARVIS, Ph.D., LCSW, BCD<sup>1</sup>

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<sup>1</sup> Task Force 30<sup>th</sup> Medical Brigade, Baghdad, Iraq. Author address: CMR 442, Box 726, APO AE 09042. email: [Jeffrey.Yarvis@us.army.mil](mailto:Jeffrey.Yarvis@us.army.mil) Dr. Yarvis is a Wellness Institute Certified Hypnotherapist, has training in advanced CISD, is a Fellow of the American Psychotherapy Association, and a Board Certified Diplomate in Clinical Social Work.

## ABSTRACT

A growing literature addressing the issue of posttraumatic stress disorder (PTSD) has appeared in the decades following the Vietnam War. However, only a small portion of this literature represents empirical investigations of hypnotherapy as form of efficacious therapy for PTSD and its implications. This investigation seeks to define the extent of treatment success of heart-centered hypnotherapy versus traditional cognitive behavioral therapy, which has been considered the most efficacious treatment for PTSD without the use of medication and critical incidence stress debriefings which have been widely used as an by military combat stress teams when soldiers present with trauma reactions. This study showed Heart Centered Hypnotherapy is a most effective means of treating PTSD.

KEY WORDS: Trauma, Veterans, PTSD, Soldiers, Iraq

## INTRODUCTION

Posttraumatic stress disorder (PTSD) is a serious problem for the military and for clinicians involved with such clients. Clinical impressions have made it increasingly clear that soldiers serving as veterans may experience harmful personal consequences for mental health and well-being. Current data suggest that approximately 10 – 20 percent of armed forces personnel deployed for combat, peacekeeping, or humanitarian disaster relief present with posttraumatic stress disorder following their tour of duty (Bramsen, Dirkzwager, & van der Ploeg, 2000; Bramsen, Dirkzwager, van Esch, & van der Ploeg, 2001; Ehlich, Roemer, & Litz, 1997; Kessler, Sonnega, Bromet, & Nelson, 1995; Litz, Orsillo, Friedman, Ehlich, & Batres, 1997; Mehlum & Weisaeth, 2002; Schlenger et al., 1992; Ward, 2002; Mehlum, 1998). War is a fertile breeding ground for psychological trauma given the multiple stressors and potentially threatening situations to which deployed military personnel are exposed. The sharp increase in the number of deployments since the end of the cold war in 1989 has also been associated with increased psychological problems in military personnel (Yarvis, Bordnick, Spivey & Pedlar, 2005)

Recent studies on the impact of military operations have compared and documented just how serious the psychological problems associated with such duties are (Arincorayan, 2000; Asmundson, Frombach et al., 2000; Asmundson, Stein et al., 2002; Asmundson et al., 2003; Ballone et al., 2000; Bartone & Asler, 1998; Bramsen et al., 2001; Deahl et al., 2000; Ehlich et al., 1997; Fikretoglu, D., Brunet, A., Guay, S., & Pedlar, P. 2007; Hall, Bicknell, & Cipriano, 1997; Kodama, Nomura, & Ogasawara, 2000; Lamerson & Kelloway, 1996; Litz, 1996; Litz, Orsillo et al., 1997; Martinez,

Huffman, Castro, & Adler, 2000; Mehlum & Weisaeth, 2002; Passey, 1995; Thoresen & Mehlum, 1999; Yarvis, 2000). These investigations sought to identify factors that contribute to the potentially harmful nature of asymmetric combat operations on psychological well-being, as well as the long-term psychological consequences for veterans and their impact on military health care delivery systems. This research has assisted military planners and health care providers in comprehending the treatment needs of soldiers presenting with traumatic experiences from deployment. There is, however, a scarcity of empirical research, examining the efficacy of Heart Centered Hypnotherapy despite its use in practice for nearly two decades. Research is needed to determine whether this form of hypnotherapy is useful in the treatment of combat veterans who present with posttraumatic stress disorder.

There are many conceptual models (Review of Literature, Yarvis, 2004) within traditional psychotherapeutic models which seek to understand the nature of Post Traumatic Stress Disorder (PTSD). These models are helpful in describing and categorizing the way in which the disorder presents itself in panic, dissociation, hallucinations and other phenomena, but they are not so helpful in providing resolution to deeply-held shock and terror which is usually at the root of the presenting symptoms. In other words the soldiers can make intellectual connections to the root causes of their traumatic experiences and their sources of vulnerability, however they can not link their cognitive-behavioral changes to their affect therefore adapt functional responses to their antecedents or triggers early enough to offset the constellation of reactions that come with PTSD such as hyperarousal, avoidance, and re-experiencing before these symptom clusters have affected them.

## Treatment Modalities for PTSD

### *Heart-Centered Hypnotherapy*

Hypnotherapy involves combination of traditional hypnosis, Neuro-linguistic processing and Ericksonian techniques, together with transactional analysis and Gestalt approaches, Hypno-Behavioral Therapy and cathartic energy work. Heart-Centered therapies utilize: altered-states of consciousness to access unconscious material; an experiential approach; an acknowledgment of the vital role of the client's own spiritual connection, and a link between concepts of unconditional love and the sense of one's own heart-centered sensations (Zimberhoff and Hartman, 1998).

### *Cognitive Behavioral Therapy*

Cognitive Behavior Therapy (CBT) for PTSD is the most studied and empirically supported intervention. CBT incorporates components of stress management or stress inoculation therapy. Essentially, this form of intervention follows a skills training model wherein the individual first masters specific behavioral techniques known to modify the anxiety response and then is coached in how to employ these new skills in the management of PTSD-type symptoms. Relaxation training, interpersonal skills training, anger management training, guided self-dialogue, and thought stopping are examples of skills taught to individuals, usually in a package of interventions designed to address specific trauma symptomatology (Keane & Kaloupek, 1996).

Variations of CBT in treatments for PTSD sometimes effectively supplement exposure therapy component with cognitive procedures intended to address issues of guilt, cognitive distortions, irrational beliefs, and dysfunctional values (Foa, Hembree, & Rothbaum, 2005; Keane & Kaloupek, 1996).

Solomon, Gerrity, and Muff (1992) provided a comprehensive review of the CBT treatment outcome literature on PTSD. Yarvis (2004) provided a comprehensive review of literature on PTSD with veterans.

### *Critical Incidence Stress Debriefing*

Psychological debriefing is a brief crisis intervention usually administered within days of a traumatic event (Raphael and Wilson, 2000). A debriefing session, especially if done with a group of individuals (e.g., soldiers), usually lasts about three to four hours. By helping the trauma-exposed individual "talk about his feelings and reactions to the critical incident" (Mitchell, 1983), the debriefing facilitator aims "to reduce the incidence, duration, and severity of, or impairment from, traumatic stress" (Everly and Mitchell, 1999). A process based on the Mitchell model has been widely used by the military for trauma interventions despite a lack of evidentiary support (Rose, Bisson, & Wessely, 2001).

The most popular model, Critical Incident Stress Debriefing (CISD), has seven phases (Mitchell, 1983; Mitchell and Everly, 2001). The facilitator begins by explaining that debriefing is not psychotherapy, but rather a method for alleviating common stress reactions triggered by critical events (introduction). The facilitator then asks each participant, in turn, to describe what happened during the trauma in order "to make the whole incident come to life again in the CISD room" (fact phase) (Mitchell, 1983). After each participant has done so, the facilitator asks group members to describe their thoughts as the traumatic event was unfolding (thought phase). The facilitator then moves to the phase designed to foster emotional processing of the experience (feeling phase). Operating under the assumption that "everyone has feelings which need to be shared and

accepted" (Mitchell, 1983), the facilitator asks questions such as "What was the worst part of the incident for you personally?" (Everly and Mitchell, 1999). The assumption is that participants will benefit by ventilating and reliving the emotions provoked by the trauma in a public gathering. After this phase, the facilitator then asks each participant whether they are experiencing any psychological or physical stress reactions that might be shared with the group (reaction phase). The facilitator then conceptualizes these reactions as nonpathological responses to terrible events and provides stress management tips (strategy phase). Finally, the facilitator summarizes what has occurred during the session and assesses whether any participants require referral for further assistance (re-entry phase).

According to Mitchell (1983), debriefing intervention "will generally alleviate the acute stress responses which appear at the scene and immediately afterwards and will eliminate, or at least inhibit, delayed stress reactions"(Everly and Mitchell 1999). recommended that debriefing should be offered to anyone exposed to a critical incident, regardless of whether the person is experiencing stress-related symptoms. Although individuals exposed to trauma often receive debriefing on a one-on-one basis as it was done in this study, debriefings were conceptualized as a group process.

#### *Theoretical and Practice Advantages of Heart-Centered Hypnotherapy*

In working with patients who are suffering from PTSD-like symptoms, Heart-Centered Hypnotherapy has one powerful theoretical advantage: the way in which the symptom demonstrates a separation from the self by desensitizing the patient to the symptoms while simultaneously training them to recognize and react to antecedents so early in the response process that the patient feels empowered to make functional

adaptations and behavioral changes. By observing presenting symptoms through the affective domain rather than cognitive, hypnosis finds paths to the self back through the symptom to the pain and then to triggering event of the symptom. The goal is to bring the individual back to a sense of an integrated self. Heart Centered Hypnotherapy found the best way to do that is to follow a few basic steps:

- Induction
- Creating a safe place
- Observe defenses through exposure to recent experiences
- Regressions to times/places not only where trauma occurred, but where similar affect was experienced (patient guide goes to places perhaps not identified as “important” when describing experiences during talk therapy)
- Allowing abreaction to the extent the person feels safe
- Re-patterning/transforming relationship to trauma
- Reintegration of experience with whole self

### **Induction**

Relax the soldier and to bring him or her into harmonious contact with his or her body and mind. This allows him or her to limit the defenses to experience contained in the conscious mind and allows him or her to be present (perhaps for the first time) on his or her ability to focus on his actual experience. All later steps take place in the hypnotic state the induction provides.

The hypnotic state as used here is best described as a state of calm alertness to all aspects of a patient's comprehensive inner reality: emotional, physical, mental and spiritual.

### **Safe places**

In the first hypnosis session the subject is invited through progressive relaxation and guided imagery to connect with a safe place within him or her and to define parts of him or her which contain resources to help with the process of transformation. Suggestions are given to return to this place if anything becomes too frightening or overwhelming which helps with mastery over unwanted affect. Also, in each session, the subject is reminded that he or she has full control, which is what this therapy is all about, over the entire process and that the therapist can "count him out" at any time (Zimberhoff & Hartman, 1998).

### **Observing defenses**

Ask the patient to identify where in his or her body he or she is feeling the presenting symptom, whatever its nature. By asking him or her to describe and clarify the sensations in his or her body in this way, the conscious mind's defenses to feeling are dismantled. Then ask him or her to go to a time and place where he or she was feeling the same sensations in his or her body for the first time or some other time in which they had experienced the same or similar kinds of sensations without trying to think or remember. The subject will make associations based on affect until they arrive at an event or events in which the initial source of vulnerability or psychological insult took place. Negotiating similar situations and responding adaptively creates mastery and control in perhaps new and meaningful ways to the subject. Continue with the work of returning to the original situation where he or she was first feeling the sensations in the body identified at the beginning of the session. If other defenses present, simply explore them until the defense is understood and the patient feels it is safe to let it rest while the therapy continues.

Whole sessions, or several sessions may be spent on this process, allowing the patient to get comfortable with the process and reinforcing the control he or she can have if he or she needs it. Defenses are recognized as having been valuable at the time of trauma, but that they are less useful now and even perhaps standing in the way of further self-understanding. However, suggestions are constantly given that he can "go deeper" or "further" into this matter each time (Zimberhoff & Hartman, 1998).

### **Regression**

As the situations similar in feeling as when the trauma occurred present, establish a place/time by asking the patient to describe details which may or may not be related to the trauma to bring him or her closer to the event. Questions related to sight, smell, touch, feel, hearing and taste are asked to orient the subject to where they are. It is unnecessary and perhaps even not helpful to ask "what are you thinking" or other cognitive questions. Rather it is preferred to ease the subject into the regression process via affective connections related to the trauma rather than suggestions of going to a specific event. In other words let the patient guide the therapy, allowing abreaction to the extent the person feels safe. In this phase, strong emotions or physical movements may occur. Allow this to continue for a brief period of time until the client feels "complete" or their subjective units of distress are reported as lower. Create a holding environment of safety with words and intentions geared toward ego strengthening so the patient feels supported in going as deeply as possible into the emotions (Rodman, 2003). He or she is reminded that it is safe to re-experience what he or she may have thought was not safe to experience the first time as he or she has developed resources and understandings since that event which will help him or re-experience the trauma in a safe way. Being present with fear as opposed to

anticipation and forming cognitive distortions around fear makes mastery over re-experiencing possible.

### **Re-patterning/transforming relationship to trauma**

Using inner child work (bringing the current self's resources to the past self's situation) or calling forth the resources connected with safety to transfer the "holding" aspect of the experience to the patient is done to extinguish unwanted maladapted symptoms, train the patient to self-soothe and recognize negative antecedent symptoms and heal deep wounds. Ask the patient to re-enter the situation, with the perspective that he or she has in current day life using their adult wisdom or with the perspectives gained in the dismantling of defenses as above.

Ask the patient to see the traumatic situation and observe their reaction to it from the perspective of soothing someone vulnerable to them such as a child or from a spiritual forgiving perspective. Generally, forgiveness of self (for things not done which should have been done or things done which should not have been done: i.e.: running for cover when fellow soldiers stayed to fight or killing someone in battle) or forgiveness of others is order here. Forgiveness is never forced. Discharge of responsibility for events he or she cannot be logically responsible for is addressed as this is often a mitigating factor in recovering an integrated sense of self.

### **Reintegration of experience with larger self**

As the shift in understanding of the experience at the situational level occurs, the patient is ready to reintegrate this newly-understood experience into the larger framework of the self. Some questions to be asked here: What did you learn from this experience that you could not have learned any other way? Can you bring this learning to past situations

where you reacted off of the fear/shock/trauma and now insert this learning into that situation? Feel how it shifts your experience / understanding of that situation. How can you visualize acting on this learning in future situations? During exposure to situations in which unwanted affect occurs, while in a relaxed state, gives the soldier a sense of mastery and control over symptoms while having the opportunity to respond differently or adaptively to them for perhaps the first time.

There are many nuances and choices to be made during each hypnosis session which must be navigated by remaining fully present and open to the patient's experience. These cannot be easily outlined but they play a significant role in the process. As with all therapeutic interventions correct implementation and clinical competency are important factors. To control for these factors the author was the only therapist involved in the treatment process for each member of each experimental treatment group.

### *Methods and Design*

In 2006, a U.S. Survey Analysis approved by an IRB collected data on 43 Regular Army soldiers. Thirteen soldiers were excluded because they either did not meet criteria for PTSD or did not have complete data on the survey instrument. A randomized pretest-posttest design study was conducted in Iraq by a mental health team at a combat support hospital subordinate to a medical brigade in Baghdad, Iraq to evaluate the usefulness of Heart Centered Hypnotherapy designed to improve coping skills and decrease symptom severity for soldiers presenting with acute stress reactions or PTSD. Thirty treatment-seeking soldiers were randomly divided into three treatment groups. Group 1 was treated using Heart-Centered Hypnotherapy. Group 2 was treated with cognitive behavioral therapy only. Group 3 received Critical Incidence Stress Debriefings. Pretests

were the Posttraumatic Stress Disorder Checklist Military Version (PCL-M). Posttests of the PCL-M, given after a seven-week treatment period.

*Posttraumatic Stress Disorder Checklist-Military Version (PCL-M)*

*Scale Description*

This scale is an adult self-report and is available through the National Center for PTSD: [http://www.ncptsd.org/publications/assessment/adult\\_self\\_report.html](http://www.ncptsd.org/publications/assessment/adult_self_report.html).

*Purpose.* According to Weathers et al. (1993), the PCL can be used to assess symptom severity or to determine a PTSD diagnosis. The PCL is a 17 item self-report checklist of PTSD symptoms based closely on the DSM-IV criteria. Slight variations can be made in the wording of PCL items in order to adapt the scale to a population of interest. For example, the military version of the PCL (PCL-M) assesses PTSD symptoms in relation to military experiences. It is this version that was used in the present study. The instrument's flexibility is in recognition of a need for a valid instrument that could be modified rapidly for use with various traumatized groups. This is important in being able to assess traumatized individuals in a host of different environments and also to allow for assessments of clients in institutions making program changes.

*Subscales.* Indicators derived from the questionnaire measure PTSD symptoms. The standard procedure for determining PTSD is to compute the questionnaire's subscales. The three subscales of the PCL-M are re-experiencing, avoidance/numbing, and hyperarousal.

*Scoring.* PTSD symptom severity scores are determined by summing the participants' answers to all 17 items. Respondents rate each item from 1 ("not at all") to 5 ("extremely") to indicate the degree to which they have been bothered by that particular symptom over the past month. Thus, total possible scores range from 17 to 85. Weathers et al. (1993) recommended that, when the instrument is used as a continuous measure, a cut-off score of 3 or more for each item is the most appropriate (Forbes, Creamer, & Biddle, 2001). *Cutoff scores.* Weathers et al. (1993) suggested a cutoff score of 50 as a good predictor of PTSD diagnoses when using the PCL as a continuous measure. This recommendation is based on their findings with a sample of Vietnam veterans. However, Blanchard, Jones-Alexander, et al. (1996) suggested a cutoff score of 44 would improve the overall diagnostic efficiency of the PCL in their sample of motor vehicle accident victims.

*Normative data.* None published.

*Psychometric properties.* The creators of the scale initially validated the psychometric properties of the PCL-M with a sample of male Vietnam veterans (n=123). All of these respondents completed the scale on two occasions; once before treatment and once after treatment. The authors additionally reported psychometric information on a slightly modified PCL for Operation Desert Storm experiences rather than non-specific deployment experiences. The latter sample consisted of Persian Gulf veterans (n=1006), likely comparable to the veterans in the present study. Blanchard, Jones-Alexander, et al. (1996) administered the PCL civilian version to a sample of mostly female respondents (n=40). In the first study the test-retest reliability was .96,  $\alpha = 0.93$  for Criteria B

symptoms,  $\alpha = 0.92$  for Criteria C symptoms,  $\alpha = 0.92$  for Criteria D symptoms, with an overall  $\alpha = 0.97$  for all items (Weathers et al. 1993). For the second study,  $\alpha = 0.90$  for Criteria B symptoms,  $\alpha = 0.89$  for Criteria C symptoms,  $\alpha = 0.91$  for Criteria D symptoms, and  $\alpha = 0.96$  for all items (Weather et al. 1993). Blanchard, Jones-Alexander, et al. (1996) reported similar internal consistency values for the third study (Asmundson, 2000). Consistent with the instrument's purpose, respondents who were subsequently diagnosed with PTSD based on formal diagnostic interviews scored significantly higher on the PCL-M than those who did not receive the PTSD diagnosis (Weather et al. 1993). According to Asmundson (2000), this is evidence of good contrasted-groups validity. Asmundson (2000) also noted the PCL-M has sound convergent validity. Strong correlations have been shown between the overall PCL-M and other scales designated to measure PTSD (i.e.  $r = 0.93$  with the Mississippi Scale for Combat-related PTSD (Keane, Caddell, & Taylor 1988);  $r = 0.77$  with the PK scale of the MMPI-2;  $r = 0.90$  with the Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979).

The diagnostic efficiency of the PCL-M was determined by comparing it to diagnoses utilizing the Structured Interview for DSM (SCID) (Spitzer, Williams, Gibbon & First, 1992). A cutoff score of 50 on the PCL-M yielded a sensitivity of 0.82, specificity of 0.83, and a  $\hat{K} = 0.64$  (Weathers et al., 1993). Blanchard, Jones-Alexander, et al. (1996) noted the overall PCL score correlated significantly with the Clinician Administered PTSD Scale (CAPS)  $r = 0.93$  (Blake et al., 1995). With the cutoff score of 50 recommended by Weather et al. (1993), the PCL had a sensitivity of 0.78, a specificity of 0.86, and an overall diagnostic efficiency of 0.83. Using the cutoff score of 44, the

PCL posted a sensitivity of 0.94, a specificity of 0.86, and an overall diagnostic efficiency of 0.90.

*Instruments Used in Data Collection*

*The survey.* The survey instrument that was used in the assessment of this opportunity sample of US Army soldiers at war during Operation Iraqi Freedom 05-07 was comprised of numerous questions created specifically for the assessment to obtain demographic data and the PCL-M. The survey items included questions: (A) Military Service; and (B) Demographic Information.

*Instrumentation.* The overall survey was designed to be a multi-dimensional investigation measuring a soldier's experience since entering the service with the aforementioned domains, to include deployment stressors and number of deployments/combat missions. Other pertinent demographic information was collected to include age, gender, education level, marital status, location of unit, military occupation (MOS), current military status, and length of time in service in years.

For the purposes of this study, only selected variables were described. The variable from which data on PTSD observed is (ptsd) in SPSS 6.0. Selected demographic variables from the variables in the dataset were evaluated as potential confounding influences on the outcome measures during the analysis. Military demographic variables such as, rank, service status, years of services and number of deployments were selected because it is possible that the nature of a soldier's service could influence his/her mental and physical health status. Other demographic variables known to impact mental health status, such as age, language/ethnic background, income level, marital status and years of marriage were selected because each of these could create individual differences in the

veteran's responses. For conceptual clarity, the above summary variables created the framework from which a respondent's comparative health in that particular domain was determined.

### *Procedure and Results*

A one-way analysis of variance was conducted to assess the equality of groups on the pretest scores. The  $F(2, 27, .05) = .598$ ,  $p = .557$  was not significant. There is no statistical difference in the three groups based on the pre-measure at the .05 level of significance.

A univariate Analysis of Covariance was conducted to evaluate the interaction between the intervention and the pretest. The interaction of pretest\*treatment  $F(2, 24) = .873$ ,  $p = .431$  was not significant. There is no statistical difference in the level of trauma based on the initial PCL-M screening of the participants.

## RESULTS

Table 1 summarizes the group statistics based on the Pretest PCL-M Score.

Table 1 Pretest

	n	Mean	Standard Deviation
Group 1	10	52.6	1.713
Group 2	10	53.4	1.713
Group 3	10	52.9	1.524

Table 2 summarizes the group statistics based on the Posttest PCL-M score.

Table 2 Posttest

	n	Treatment	Mean	Standard Deviation	Adjusted Mean
Group 1	10	Heart-Centered Hypnotherapy	10.6	4.169	11.114
Group 2	10	CBT	13.7	2.669	13.093
Group 3	10	CISD	14.7	2.541	14.793

A univariate Analysis of Covariance was conducted to evaluate if there was any statistical evidence to indicate that the three groups differed in their final level of posttraumatic stress symptomatology. The  $F(2, 26) = .6542$ ,  $p = .005$  was significant.

There is statistical difference in the posttest scores based on group. The strength of relationship between the group and the posttest scores, as assessed by  $\eta^2$  was .335. This was a medium to large effect, with the treatment provided accounting for 33% of the variance of test scores.

The contrasts, however, identified which of the intervention procedures provided for the significant differences. The details of the contrasts provide this evidence as follow-up tests were conducted to evaluate pairwise differences among these adjusted means. The Bonferroni procedure was used to control for Type I error across the three pairwise

comparisons. There was a significant difference ( $p=.004$ ,  $\alpha=.05/3$  or  $.0167$ ) in the adjusted means between the Heart Centered Hypnotherapy (Group 1) and the Critical Incidence Stress Debriefing group (Group 3), but no significant differences between Group 1 and Group 2-Cognitive Behavioral Therapy group, ( $p=.202$ ,  $\alpha=.05/3$  or  $.0167$ ) and Group 2 and Group 3 ( $p=.325$ ,  $\alpha=.05/3$  or  $.0167$ ) respectively.

## DISCUSSION

The results of this investigation provide evidence to indicate that the soldiers treated with hypnotherapy and CBT interventions are rated both statistically and meaningfully higher than individuals treated with the formal critical incidence stress debriefings program of intervention. The contrasts, however, identified which of the strategies provided for the significant differences. The contrasts provide evidence to support the following: soldiers treated with the cognitive-behavioral interventions appear better on the PCL-M than soldiers in the debriefing group, but not as well as soldiers treated with Heart Centered Hypnotherapy. Soldiers treated with Heart Centered Hypnotherapy perform appear better on the PCL-M than soldiers in the both the CBT group and the CISD group. Soldiers treated with only the critical incidence stress debriefings appeared to receive the least benefit of the treatment, however all groups achieve therapeutic effects, having dropped in seven weeks to non-diagnostic levels of PTSD.

There were three major limitations for the present study. First, the small sample size. Because the sample size is small, power is diminished, increasing the risk of a Type II error. However, the analysis of covariance procedure addressed this limitation or the need for a larger sample size by reducing within cell variance and adds power to the

design. There is the possible threat to independence in the CISD group. Because the soldiers participated in the debriefings as a group, individuals in different groups may have affected the scores of others in that group. Additional research is needed to further investigate and replicate these findings and to ascertain the merits of the three treatment programs and what time of day they would be best used for the goal of stress reduction before implementing the program more widely.

### Conclusion

This investigation sought to define the extent of treatment success of Heart-Centered Hypnotherapy (Zimberhoff & Hartman, 1998) versus traditional cognitive behavioral therapy, which has been considered the most efficacious treatment for PTSD without the use of medication and critical incidence stress debriefings which have been widely used as an by military combat stress teams when soldiers present with trauma reactions (FM 8-51, 1994). This study showed Heart Centered Hypnotherapy is a most effective means of treating PTSD. The findings of this study are unique in that it showed evidentiary support for hypnotherapy, cognitive-behavioral therapy, and critical incidence stress debriefings as effective interventions for soldiers presenting with acute stress reactions in combat at diagnostic levels of PTSD. The study highlights the importance of expanding research for all methods of treatment being used for PTSD particularly in early intervention. The present investigation calls attention to an important military and public health implication that greater numbers of veterans and civilians may experience disability do to PTSD. Longitudinal studies are needed which monitor soldiers from entrance into the military through subsequent military experience until retirement.

Further, clinical trials of PTSD and comorbidity need examination in the near future to further evaluate the relative importance of using Heart-Centered Hypnotherapy.

References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th ed., text revision)*. Washington, DC: Author.
- Arincorayan, D. F. K. (2000). *Leadership, group cohesion and in coping in relationship to soldiers' stress levels*. Unpublished manuscript.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th ed., text revision)*. Washington, DC: Author.
- Arincorayan, D. F. K. (2000). *Leadership, group cohesion and in coping in relationship to soldiers' stress levels*. Unpublished manuscript.
- Asmundson, G. J. G. (2000). *VAC Canadian Forces survey analysis*. Regina, Saskatchewan: Department of Veterans Affairs.
- Asmundson, G. J. G., Frombach, I., McQuaid, J. R., Pedrelli, P., Lenox, R., & Stein, M. B. (2000). Dimensionality of posttraumatic stress symptoms: A confirmatory factor analysis of DSM-IV symptom clusters and other symptom models. *Behavior Research and Therapy, 38*, 203-214.
- Asmundson, G. J. G., Stein, M. B., & McCreary, D. (2002). PTSD symptoms influence health status of deployed peacekeepers and non-deployed personnel. *Journal of Nervous and Mental Disease, 190*(12), 807-815.
- Asmundson, G. J. G., Wright, K., McCreary, D., & Pedlar, D. (2003). Posttraumatic stress disorder symptoms in United Nations peacekeepers: An examination of factor structure and the influence of chronic pain. *Cognitive Behaviour Therapy, 32*(1), 26-37.

- Ballone, E., Valentino, M., Occhiolini, L., Mascio, C., Cannone, D., & Schioppa, F. S. (2000). Factors influencing psychological stress levels of Italian peacekeepers in Bosnia. *Military Medicine, 165*(12), 911-915.
- Bartone, M. P. T., & Asler, A. B. (1998). Dimensions of psychological stress in peacekeeping operations. *Military Medicine, 163*(9), 587-593.
- Blake, D. D., Weathers, F. W., Magy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., et al. (1995). The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress, 8*, 75-90.
- Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996). Psychometric properties of the PTSD Checklist (PCL). *Behavior Research and Therapy, 34*, 669-673.
- Bramsen, I., Dirkzwager, A. J. E., & van der Ploeg, H. M. (2000). Pre-deployment personality traits and exposure to trauma as predictors of posttraumatic stress symptoms: A prospective study of former peacekeepers. *American Journal of Psychiatry, 157*, 1115-1119.
- Bramsen, I., Dirkzwager, A. J. E., van Esch, S. C. M., & van der Ploeg, H. M. (2001). Consistency of self-reports of traumatic events in a population of Dutch peacekeepers: Reasons for optimism. *Journal of Traumatic Stress, 14*(4), 733-740.
- Deahl, M. P., Srinivasan, M., Jones, N., Thomas, J., Neblett, C., & Jolly, A. (2000). Preventing psychological trauma in soldiers: The role of operational stress training and psychological debriefing. *British Journal of Medical Psychology, 73*, 77-85.

- Ehlich, P. J., Roemer, L., & Litz, B. T. (1997). PTSD after a peacekeeping mission. *American Journal of Psychiatry*, 154(9), 1319-1320.
- Everly G.S. Jr, Mitchell J.T. (1999), Critical Incident Stress Management (CISM): A New Era and Standard of Care in Crisis Intervention. *Innovations in Disaster and Trauma Psychology, Vol. 2*. Ellicott City, Md.: Chevron Publishing Corporation
- Fikretoglu, D., Brunet, A., Guay, S., & Pedlar, P. (2007) Mental health treatment seeking by military members with posttraumatic stress disorder: findings on rates, characteristics, and predictors from a nationally representative Canadian military sample. *Canadian Journal of Psychiatry* 52 (2):103-10
- FM 8-51, . (1994). *Combat stress control in a theater of operations*. Washington, DC: Government Printing Office.
- Foa, E., Hembree, E., & Rothbaum, B. (2005) Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences. Oxford University Press.
- Forbes, D., Creamer, M., & Biddle, D. (2001). The validity of the PTSD checklist as a measure of symptomatic change in combat-related PTSD. *Behaviour Research and Therapy*, 39, 977-986.
- Hall, D. P., Bicknell, G., & Cipriano, E. D. (1997). Preventive mental health interventions in peacekeeping missions to Somalia and Haiti. *Military Medicine*, 162, 41-43.
- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: a measure of subjective stress. *Psychosomatic Medicine*, 41, 209-218.

- Keane, T. M., Caddell, J. M., & Taylor, K. L. (1988). Mississippi scales for combat-related posttraumatic stress disorder; three studies in reliability and validity. *Journal of Consulting and Clinical Psychology, 56*, 85-90.
- Keane, T. M. & Kaloupek, D. G. (1996). Cognitive behavior therapy in the treatment of posttraumatic stress disorder. *The Clinical Psychologist, 49*(1), 7-8.
- Kessler, R. C., Sonnega, A., Bromet, E., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Study. *Archives in General Psychiatry, 52*, 1048-1060.
- Kodama, Y., Nomura, S., & Ogasawara, T. (2000). Psychological changes of Japan self-defense forces personnel during selection and training for the peacekeeping mission in the Golan Heights. *Military Medicine, 165*(9), 653-655.
- Lamerson, C. D., & Kelloway, E. K. (1996). Towards a model of peacekeeping stress: Traumatic and contextual influences. *Canadian Psychology, 37*(4), 195-204.
- Litz, B. (1996). The psychological demands of peacekeeping for military personnel. *Clinical Quarterly, 6*(1), 1-15.
- Litz, B., Orsillo, S., Friedman, M., Ehlich, P., & Batres, A. (1997 a). Posttraumatic stress disorder associated with peacekeeping duty in Somalia for U.S. military personnel. *American Journal of Psychiatry, 154*(2), 178-184.
- Martinez, J. A., Huffman, A. H., Castro, C. A., & Adler, A. B. (2002). Assessing psychological readiness in U.S. soldiers following NATO operations.
- Mehlum, L., & Weisaeth, L. (2002). Predictors of posttraumatic stress reactions in Norwegian U.N. Peacekeepers 7 years after service. *Journal of Traumatic Stress, 15*(1), 17-26.

Mehlum, L. (1998). *Alcohol and stress in Norwegian UN peace-keepers*. Paper presented at the International conference on the psycho-social consequences of war, Dubrovnik, Croatia.

Mitchell J.T. (1983), When disaster strikes—the critical incident stress debriefing process. *Journal of Emergency Medical Service* 8(1):36-39.

Raphael B, Wilson J.P., eds. (2000), *Psychological Debriefing: Theory, Practice and Evidence*. Cambridge, U.K.: Cambridge University Press.

Rodman, F. R. (2003). *Winnicott: Life and work*. Perseus.

Rose S, Bisson J.I., & Wessely S. (2001), Psychological debriefing for preventing post traumatic stress disorder (PTSD) (Cochrane Review). In: The Cochrane Library, issue 4. Oxford: Update Software. Abstract available at: [www.update-software.com/abstracts/AB000560.htm](http://www.update-software.com/abstracts/AB000560.htm). Accessed 19 December, 2007.

Schlenger, W. E., Kulka, R. A., Fairbank, J. A., Jordan, B. K., Hough, R. L., Marmar, C. R., et al. (1992). The prevalence of post-traumatic stress disorder in the Vietnam generation: A multimethod, multisource assessment of psychiatric disorder. *Journal of Traumatic Stress*, 5, 333-363.

Solomon, S. D., Gerrity, E. T. & Muff, A. M. (1992). Efficacy of treatments for posttraumatic stress disorder: An empirical review. *Journal of the American Medical Association*, 268, 633-638.

Spitzer, R. L., Williams, J. B., Gibbon, M., & First, M. B. (1992). The Structured Clinical Interview for DSM-III-R (SCID). I: History, rationale, and description. *Archives of General Psychiatry*, 49(8), 624-629.

- Ward, J. (2002). Stress hits 1 in 5 Afgan war vets, ombudsman says: Stigma 'is still very much alive', Marin warns of possible law suits. *Toronto Star*, pp. A06.
- Weathers, F. W., Litz, B., Herman, D. S., Huska, J. A., & Keane, T. M. (1993). *The PTSD Checklist: Reliability, validity, and diagnostic utility*. San Antonio, TX: Paper presented at the Annual Meeting of the International Society for Traumatic Stress Studies.
- Wedding, D. (1987). Substance abuse in the Vietnam veteran. *AAOHN Journal*, 35, 74-76.
- Yarvis, J. (May, 2004) Subthreshold PTSD in Canadian Peacekeepers with Different Levels of Traumatic Stress. UMI Registered Dissertation. WASH, DC: Digital Library of Congress.
- Yarvis, J. (2000). Clinical and cultural concerns in OOTW: A case study of HIV and Haiti. *The U.S. Army Medical Department Journal* (Oct-Dec), 45-51.
- Yarvis, J., Bordnick, P., Spivey, C., & Pedlar, D.(2005) Subthreshold PTSD: A Comparison of depression, alcohol and physical health problems in Canadian peacekeepers with different levels of traumatic stress. Taylor Francis-Brunner-Routledge: *Stress, Trauma, & Crisis: An International Journal*.
- Zimberhoff, D. and Hartman, D. (1998) The Heart-Centered Hypnotherapy Modality Defined. *Journal of Heart Centered Therapies* (1) 1-45.