Running head: LIFESPAN INTEGRATION

LIFESPAN INTEGRATION EFFECTIVENESS IN TRAUMATIZED WOMEN

By Bethany Balkus

A dissertation to fulfill the requirement for a

DOCTOR OF PSYCHOLOGY IN COUNSELING PSYCHOLOGY

at

NORTHWEST UNIVERSITY

2012

Signatures have been omitted for security reasons.

Approval Signatures:

Committee Chair (Sarah B. Drivdahl, Ph.D) Date

Committee Member (Larry W. Bailey, Ph.D) Date

Committee Member (K. Kim Lampson, Ph.D) Date

Dean of College of Social and Behavioral Sciences (Matt Nelson, Ph.D) Date

---

Abstract

In the research study, Lifespan Integration (LI) is studied in order to determine its effectiveness in treating women who have trauma related symptoms. The participants were gathered at a shelter in Seattle that specializes in chemical dependency treatment and domestic violence prevention. The Impact of Events Scale (IES) was used to measure the symptoms after two LI sessions. Trauma related symptoms can have lasting negative physical and mental health symptoms and can overall decrease the quality of an individual's life if it is not treated effectively. The results suggest that the LI interventions provided relief to trauma related symptoms. However, more research is needed in order to confirm whether LI is truly effective in treating trauma related symptoms or not.

Keywords: Lifespan Integration, trauma related symptoms, women issues.

Table of Contents

Title Page....Page 1

Abstract....Page 2

Table of Contents....Page 3

Introduction....Page 4-8

Literature Review....Page 9-23

Methodology....Page 24-26

Results....Page 27-28

Discussion....Page 29-35

References....Page 36-41

Appendix A (IES Means Score)....Page 42

Appendix B (Raw Data)....Page 44

Appendix C (IES Scale)....Page 46

Appendix D (IES Scoring)....Page 48

Chapter I: Introduction: Lifespan Integration Effectiveness in Traumatized Women

"No experience is a cause of success or failure. We do not suffer from the shock of our experiences, so-called trauma - but we make out of them just what suits our purposes"

-Alfred Adler

The rise of trauma related issues in military personnel, prisoners of war, refugees, domestic violence victims, childhood abuse victims, and rape victims has brought about a greater awareness in the field of psychology of the significance of trauma (Davidson et al., 2005; Dennis et al., 2009; Lambert, 2005; Nevid, Rathus & Greene, 2008). Trauma has become a significant factor in diagnosing clients and in understanding mental health problems in schools, clinics, veterans associations, and hospitals (Davidson et al., 2005; Dennis et al., 2009). Over the years research has shown the important role that trauma plays in the development of mental health disorders which in turn has helped clinicians provide better treatment to their clients (Berlant, 2004; Davidson et al., 2005; Dennis et al., 2009; Nevid, Rathus & Greene, 2008).

Trauma is considered to be a strong contributor to the etiology of Axis I disorders such as depression and anxiety (Berlant, 2004; Dennis et al., 2009; Lambert, 2005; Nevid, Rathus & Greene, 2008). It can not only have a significant impact on an individual's behavior and personality, but can also cause significant, potentially permanent, neurological changes in the brain such as a reduction in size of the hippocampus and adrenal glands (Berlant, 2004; Davidson et al., 2005; Dennis et al., 2009; Hageman, Anderson, & Jorgensen, 2001; Maher, 2004; McRae et al., 2004). Trauma symptoms can be treated via pharmaceuticals, but psychologists argue that medications alone cannot fully treat the symptoms complexity (Berlant, 2004; Davidson et al., 2005; Maher, 2004; McRae et al., 2004). As the treatment of trauma symptoms has been researched over the years it has become apparent that a combination of medication and counseling is the most effective form of treatment (Berlant,

2004; Dennis et al., 2009). There are several therapeutic techniques that have been developed to treat the adverse effects of trauma, such as trauma focused cognitive behavioral therapy (TF-CBT), narrative therapy, cognitive processing therapy (CPT), and eye movement desensitization and reprocessing (EMDR) (Longden, Madill, & Waterman, 2012; Shapiro, 2001). While multiple methods have been developed to treat trauma symptoms, there are only a few evidence based practices that have been found to be effective (Berlant, 2004; Dennis et al, 2009; Maher, 2004; McRae et al., 2004).

One new method, in the field of trauma treatment, that has yet to be researched is Lifespan Integration (LI). LI consultants and therapists have reported this method to have less of a re-traumatizing effect on individuals compared to other interventions such as psychoanalysis and EMDR (Pace, 2003; Thorpe, 2008). The goal of LI is to be less intrusive when treating trauma symptoms, providing neural integration and long-term relief to the individual who is suffering from the after-effects of a traumatic situation (Pace, 2003; Thrope, 2008).

Lifespan Integration is a technique that is used to treat individuals who are suffering from the severe effects of trauma, regardless of its duration or severity and has been used to assist individuals suffering from a wide variety of mental health disorders including depression, anxiety, PTSD, and personality disorders (Pace, 2003; Thrope, 2008).

Individuals who have been traumatized (especially at a young age) are more likely to develop poor coping methods and destructive behaviors (Berlant, 2004; Dennis et al, 2009; Pace, 2003; Maher, 2004; McRae et al., 2004). For instance, if an individual is traumatized at the age of eight, he or she may present behaviors that would be common for an eight-year-old, such as impulsive behavior, displaced anger or anxiety, or the inability to see the situation as an adult who is more in control of his or her environment (Thrope, 2006; Dennis et al, 2009; Maher, 2004; McRae et al., 2004; Thrope, 2006). The therapist in the LI sessions

acts as a guide for the client to re-visit past memories that are affiliated with a present problem in order to resolve it (Pace, 2003). The technique is body-mind oriented so as to remove adverse emotional and physical reactions to trauma. The LI standard protocol is meant to remove the negative effects of trauma without re-traumatizing the individual (Pace, 2003; Thrope, 2008). While there has been no research done on Lifespan Integration as it is a relatively new technique, it has a large following of trained therapists, psychologists, and consultants nationally and internationally (Pace, 2003; Thrope, 2008).

Information about the Study

In the present research experiment, I studied the effects of LI on women who reported symptoms of severe trauma. The women who participated in the research experiment were based at a non-profit rehabilitation center located in the greater Seattle area. This center provides housing for women in treatment for alcohol and drug recovery, chronic homelessness and domestic violence to women and their children. This particular center has been affiliated with several different programs, including correctional facilities and drug-court. LI is ideal to use in women at this center because of the exposure to violence, childhood sex abuse, and chemical dependencies that has resulted in the development of adverse coping methods and subsequent dysfunctional behavior issues.

The participants in this study came from a variety of social economic backgrounds. They also ranged in age, work experience, and education although most come into the program seeking to attain a GED in the learning center. The rehabilitation center was originally a shelter for women and children, but has developed into a year-long program that incorporates several different factors to assist these individuals in being able to support themselves long term. The program consists of drug recovery, parenting classes, 12-step groups, on-site case management, and a domestic violence track which integrates job training and transitioning the women into low-income housing and careers.

The Research Problem/Question

The purpose of this study was to research the effectiveness of LI in populations that present severe trauma symptoms and see if the participants reported significant improvements in their symptoms after receiving LI. There were three hypotheses pertaining to the effectiveness of LI. These hypotheses are: 1) that LI will reduce intrusion symptoms as reported on the Impact of Events Scale (IES), 2) LI will reduce symptoms of avoidance as measured through the (IES), and 3) The relief provided by the LI treatment will persist over a month long period after the second LI session.

Assumptions/ Limitations

There are some assumptions which have been made during the process of this experiment, as well as limitations of the procedure. One of the most notable assumptions in this study is that the experience of trauma is unique to each participant in the study. The women in the rehabilitation center come from various different backgrounds and have been exposed to high risk environments which include domestic violence, chemical dependency, prostitution, and childhood abuse. Some of the women in this rehabilitation center do not have positive support systems outside of the center. Individuals may be able to handle their trauma more effectively if they have additional support systems and a strong locus of control. Individuals who do not have the benefits of strong support systems may struggle to overcome traumatic events in their lives. Another assumption to take into consideration is the intentions of the participants in the study and whether they truly wanted to seek out help for their trauma symptoms or were more interested in receiving compensation for the study.

Since there is a lack of research in the area of LI and it is unknown about how LI would affect certain individual's diagnosed with organic mental health disorders or in certain health conditions there were limitations of who could participate in the study. Women suffering from mental health disorders such as schizophrenia and obsessive-compulsive

disorder, and/or pregnant women were not allowed to participate. However, women who had bipolar disorder, depression or unipolar disorder were allowed to participate in the study if they had been consistent with their medications, and did not alter their medication during the study.

Chapter II: Review of Literature

As the history of psychology has progressed, trauma has become recognized by clinicians and researchers as a significant factor in the onset of mental health disorders. Not only does trauma cause distress in an individual's life but it can increase the severity of mental health symptoms and result in decreasing an individual's overall functioning (Berlant, 2004; DePrince & Freyd, 2002; Lambert, 2005; Maher, 2004; McRae et al., 2004). The impact of trauma on mental health disorders was not fully recognized until after soldiers had returned from WWI and presented abnormal behaviors such as the inability to effectively communicate with others, catatonic episodes, aggressiveness, hyper-arousal states, and the lack of control over bodily movements (Davidson et al, 2005; DePrince & Freyd, 2002; Levin & Levin, 2006). Previously, women who manifested these same symptoms were diagnosed with "hysteria." However, once men started to produce the same abnormal behaviors after returning from the war, they were given the new diagnosis of "shell-shock" (Levin & Levin, 2006). Physicians at the time noted that the individuals who experienced significant trauma in combat had various symptoms such as catatonic behaviors, inability to communicate, delusional thoughts/perceptions, and suicidal behaviors (Levin & Levin, 2006; Davidson et al., 2005). Trauma gained more recognition as a factor to be considered in the mental health and health care community during and after the Second World War.

Psychological trauma is defined as witnessing or experiencing a significantly distressing event that causes negative mental and physical repercussions (Berlant, 2004; DePrince & Freyd, 2002). When trauma goes untreated, it can develop into post-traumatic-stress disorder. The DSM-IV defines PTSD as "a traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity; or witnessing an event that involves death, injury, or a threat to another person; or learning about unexpected or violent death, serious harm, or threat of

death or injury experienced by a family member or other close associate" (DSM-IV, 2000, pg.546). When an individual has been traumatized mentally, there are several factors to consider. For instance, when a person sustains a significant amount of psychological trauma, it may make it difficult for her or him to maintain a functional lifestyle. Individuals may experience multiple trauma related symptoms such as distorted thoughts, negative thinking patterns, high anxiety, depression, and hyper-awareness (Berlant, 2004; Dennis et al, 2009; DePrince & Freyd, 2002; Maher, 2004; McRae et al., 2004).

Likewise, if a person has been mentally impaired by a trauma, it is possible for him or her to experience secondary impairments such as headaches, sleep deprivation, ulcers, and other forms of bodily pain (Berlant, 2004; Dennis et al, 2009; DePrince & Freyd, 2002; Maher, 2004; McRae et al., 2004). For individuals who are suffering from mental health disorders such as depression, obsessive-compulsive disorder and eating disorders, trauma can also increase the severity of the individual's symptoms (Dennis et al, 2009; DePrince, & Freyd, 2002; Levin & Levin, 2006; Maher, 2004; McRae et al., 2004). These types of impairments can lower overall quality of life and lead to several serious consequences such as hospitalization, attempted suicide, and completed suicide.

People who are traumatized may also find it difficult to function within their normal limits as far as daily responsibilities and activities. These individuals may struggle with attaining or maintaining employment, fail to preserve important relationships, or withdraw from normal social activities or responsibilities such as going to the gym or grocery shopping (DePrince & Freyd, 2002; Longden, Madill, & Waterman, 2012). In some cases, an individual's overall IQ can even be affected by some forms of trauma. For instance, Kira et al. (2011) found that individuals who experienced abandonment and personal identity trauma were more likely to have a lower IQ than the general population and were more likely to struggle in several areas of perceptional reasoning and working memory.

Neurological Aspects of Trauma

In order to understand the behaviors of traumatized individuals, it is important to understand the potential impact of that trauma can have on the brain. While researchers see the brain as plastic and having the ability to recover from various conditions or stressors, trauma can still have a profound effect on neurological functioning (Berlant, 2004; Lambert, 2005; Nevid, Rathus & Greene, 2008). For instance, severe forms of trauma can negatively impact neurotransmitters activity (Nevid, Rathus & Greene, 2008; Pace, 2003; Thrope, 2008). Researchers (Nevid, Rathus & Greene, 2008) have found that elevated levels cortisol and epinephrine can have lasting physical effects on the individual, such as fatigue, ulcers, hyper-awareness, and depression. Likewise, many individuals cope with their symptoms through narcotic usage, which can lead to further brain damage and a lower quality of life (Nevid, Rathus & Greene, 2008; Pace, 2003; Perkins & Rouanzoin, 2002).

Individuals who are affected by severe trauma not only suffer from the physical effects of trauma and major changes in neurotransmitter levels, but may also struggle with emotional expression and regulation (Levin & Levin, 2002; Perkins & Rouanzoin, 2002). Neurotransmitter fluctuations can create long standing impairments in individuals, including the creation of impulsive behaviors and irrational thinking patterns (Perkins & Rouanzoin, 2002). Changes in the neurotransmitter levels can also cause memory lapses, dissociation, and the inability to concentrate or focus on daily activities (Pace, 2003; Perkins & Rouanzoin; 2002). These brain impairments can greatly affect an individual's life, and may be the predecessor to other life struggles such as unemployment, family and relational stressors, and health problems (Berlant, 2004; Lambert, 2005; Nevid, Rathus & Greene, 2008; Perkins & Rouanzoin, 2002). Likewise, when individuals struggle to maintain a normal or functioning lifestyle after experiencing a life-debilitating trauma, they may experience depressive symptoms and increased levels of anxiety that can cause significant distress.

Trauma can likewise affect various parts of the brain. For example, Berlant (2004) lists the most common systems of the brain affected by complex trauma and PTSD: dopaminergic systems, serotonergic systems, hypothalamic-pituitary-adrenal systems, and other parts of the limbic system. While these are broad regions of the brain, Berlant (2004) found that each of these brain systems is affected by trauma.

Likewise, Hageman, Andersen, and Jorgensen (2001) state that if trauma symptoms persist for an extended period of time it is possible that detrimental changes can occur in the brain in areas such as the prefrontal cortex. This damage can be particularly problematic as the prefrontal cortex is responsible for higher level skills such as decision making, social perceptions and understandings, and personality expression (Berlant, 2004; Davidson et al., 2005; Hageman, Anderson, & Jorgensen, 2001). Other examples of detrimental effects that trauma can have on the brain are the increased size of the hypothalamus and lack of blood flow to the brain. Likewise, researchers have found that opioid, glutamatergic, GABAergic, noradrenergic, serotonergic, and neuroendocrine pathways can become overstimulated in situations that involve complex trauma and PTSD resulting in symptoms such as high anxiety and hyper-awareness. The noradrenergic system is particularly affected by trauma and can produce trauma related symptoms. This pathway is highly involved in anxiety, sleeping problems, and an exaggerated startle response, which can heighten reactions when a traumatic event has occurred (Hageman, Andersen, & Jorgensen, 2001). While loss of sleep can sometimes be explained through hyper-arousal, it is usually the noradrenergic system that is responsible for its loss.

Trauma Related Symptoms in Women

Women who experience trauma are likely to develop trauma related symptoms and are more likely to experience long term negative effects if they do not receive proper interventions. DePrince et al. (2012) conducted a study on trauma related symptoms and

women who reported intimate partner violence (IPV) to authorities. These women described several different trauma related symptoms such as depression, anxiety, hyper-arousal, paranoia, flash-backs, night terrors, and anxiety attacks. In the DePrince et al. (2012) study, women who reported IPV had the option of receiving intervention services from outreach centers and community counseling clinics. The researchers measured the level of sustained trauma symptoms by administering the Posttraumatic Stress Diagnostic Scale, the Beck Depression Inventory-II, the Trauma Appraisal Questionnaire, and the Revised Conflict Tactic Scale. These scales were administered to two groups; women who reported IPV and did not receive services and women who reported IPV and did receive services. The women who had received services were more likely to report less anxiety and depression surrounding their IPV events. The women who did not receive services were more likely to have the same trauma related symptoms as before concerning their IPV events as well as increased levels of anxiety (DePrince et al., 2012)

Graham-Bermann, Sularz and Howell (2012) studied trauma related symptoms in IPV victims as well and hypothesized that victims of IPV were more likely to be exposed to other forms of violence such as sexual assault and continued domestic abuse. The study consisted of 104 women who reported IPV related events to authorities and were measured using the Revised Conflict Tactics Scale (CTS2) as well as being interviewed by the researchers concerning the extent and intensity of the abuse. Graham-Berman, Sularz, and Howell (2012) found that a majority of the participants not only experienced severe IPV but also reported trauma related symptoms, continued abusive events, and overall adverse life effects.

In situations such as IPV, women are likely to develop mental health conditions if there is no proper intervention. Likewise, women who are subjected to complex or severe trauma are likely to develop trauma related symptoms that can result in a PTSD diagnosis. In

a study by Hossain et al. (2010), 204 trafficked girls and women were studied in order to evaluate the severity of their trauma symptoms. The researchers used the Brief Symptom Inventory and the Harvard Questionnaire in order to evaluate the level and severity of trauma that the participants sustained during their period of human trafficking. The researchers found that the participants who experienced more trafficking compared to the women and girls who experienced less trafficking reported higher levels of PTSD symptoms, depression, and anxiety. This was especially true among the women and girls who were sexually assaulted on numerous occasions and who reported severe PTSD and trauma related symptoms. Hossain et al. (2010) concluded that the severity and duration of the trauma had a significant effect on the intensity of the trauma related symptoms.

Another example of women who have experienced high levels of complex trauma are women who were prisoners of war (POW). Women who experienced war related trauma are unique as the topic has not been studied much in the field of psychology (Lambert, 2005; Walser, Tran, & Cook, 2012). In order to better understand trauma symptoms and women, Wasler, Tran, and Cook (2012) used a cross-sectional design to study 22 women who were POWs in WWII in the Japanese Army. The researchers used the Prisoners of War Trauma Index (PTI), the PTSD checklist, and the Perceived Impact of Internment on Current Functioning (PIOI) scale in order to measure the severity of the trauma related symptoms. Wasler et al. found that a majority of the women (over 90%) reported several trauma related symptoms in response to a traumatic war related event. The researchers concluded that it is likely for women to sustain trauma related symptoms when experiencing complex trauma especially in situations where situations are dangerous such as war related experiences (Walser, Tran, & Cook, 2012).

While individuals process their trauma differently, there are multiple trauma related symptoms that can develop during childhood and continue to persist into adulthood. For

instance, intimate partner violence (IPV) and childhood abuse can be correlated with the development of PTSD in adulthood if they go untreated. Flemke (2009) studied 37 incarcerated women who reported abuse in their most recent relationships as well as past childhood abuse and found that most of the childhood abuse reported by women consisted of two types of abuse: resolved and unresolved abuse. Resolved abuse entailed of the women receiving some form of justice, therapy, or resolution to the abuse which can result in decreasing the severity of the traumatic symptoms. Unresolved childhood abuse involved of little to no therapeutic or judicial intervention which can increase the severity of the traumatic symptoms (Flemke, 2009). The women reported drug and alcohol use to cope with the traumatic symptoms, memories and flashbacks. Most of the women reported using substances in their adolescence and young adult years (Flemke, 2009). They also reported several factors in their childhood abuse that correlated with the domestic violence situations they experienced, including feeling unprotected, anxious, depressed, and scared for their well-being (Flemke, 2009). The researchers found that the women were more likely to report PTSD symptoms from childhood experiences, but more rage and anger towards their most recent domestic violence relationship.

When an individual sustains an injustice due to his or her trauma, the trauma related symptoms can worsen if the injustice includes contracting a chronic disease. Cohen et al. (2009) conducted a study that assessed the trauma symptoms of Rwandan women with HIV. They studied victims of the Rwandan genocide including women who were purposely raped by HIV positive soldiers and compared them to women who were not HIV positive or who had not reported being raped (Cohen et al., 2009). The researchers determined that while rape is an overall traumatic experience; the group of women who were raped and became HIV positive were more likely to have more depression and PTSD symptoms compared to the control group (Cohen et al., 2009). In this study, not only did contracting a disease have a

significant effect on the severity of the trauma symptoms, but it also mattered how the disease was contracted (Cohen et al., 2009).

Complex trauma and related disorders such as PTSD can cause debilitating symptoms in an individual's life. The most common physical symptoms of trauma and related disorders are somatization and persistent pain (Haskell et al., 2008). For instance, Haskell et al. (2008) studied women veterans who reported persistent pain and had experienced both specific unique trauma and sexual related trauma**.** The women also reported incidents of military sexual harassment and depressive symptoms as a result of the traumas. Likewise, Haskell et al. (2008) found that PTSD symptoms and reported pain symptoms were higher and more frequent in women veterans who experienced both somatization and sexually related trauma.

Pregnancy and Trauma

Women who have difficulty becoming pregnant or lose a child prior to birth are at a higher risk of developing depressive symptoms and PTSD. Schwerdetfeger and Shreffler (2009) studied the effects of infertility or child loss prior to birth in women in the United States. The researchers found that women who fail to conceive report low levels of life satisfaction and high levels of depression. The women reported that their feelings heightened when they attempted to conceive over a period of seven years. Schwerdetfeger and Shreffler (2009) concluded that women who experience both pregnancy loss and involuntary childlessness compared to women who experienced normal healthy pregnancies had higher levels of distress and were more likely to develop complex trauma or PTSD related symptoms. They concluded that while the loss of a pregnancy can increase the likelihood of complex trauma proper intervention such as therapy and positive support from the community can help the recovery process and reduce the development of complex trauma.

While women who conceive after a traumatic rape are likely to experience distress, sometimes how the victims perceive their pregnancy can determine how their trauma related

symptoms develop. Schwerdetfeger and Wampler (2009) conducted a study concerning pregnancy and found that women who became pregnant after a sexually traumatic experience were able to use the pregnancy to reduce their PTSD and trauma symptoms. When the women were able to process the negative consequences from their trauma and believe that they had overcome the traumatic event as a survivor, they were more likely to have fewer and less frequent trauma symptoms compared to women who continued to struggle with their sexually related traumas (Schwerdetfeger & Wampler, 2009). The researchers found that the women who were able to overcome their traumas had access to therapy services and positive support systems within their communities. In addition, they were able to identify their pregnancy as the beginning of a positive experience in their life.

The Development of Trauma Related Symptoms

As each traumatic event is unique in how an individual processes and interprets it, the development of trauma related symptoms can be a unique process as well. The development of complex trauma and PTSD can be complicated by the severity of the trauma and the duration of the traumatic event. When considering whether an individual has developed complex trauma or PTSD, there are three main features that need to be evaluated, including whether clients are: 1) re-experiencing the trauma through recollection dreams and reliving, 2) avoiding thoughts, activities, and emotions associated with trauma, and 3) experiencing hyper-arousal (Berlant, 2004). These type of symptoms can have overall negative effects on an individual's quality of life and can even result in hospitalization or death due to completed or attempted suicide (Berlant, 2004).

There are two types of PTSD that can manifest, complex and current PTSD. These conditions are dependent on the individual's personality resiliency level, environment, and the intensity of the trauma (Dyer et al., 2009). Complex posttraumatic stress reactions are more common in regions of the world that are prone to terrorism and high rates of violence.

Current posttraumatic stress disorder is more common in countries without terrorism and high rates of violence (Dyer et al., 2009).

Just as depression varies from client to client, trauma related symptoms also vary depending on the individual and his or her situation (Erickson & Tonigan, 2008). Medications, therapeutic techniques, and the duration of clinical counseling all depend on the individual's ability to manage the trauma symptoms. These factors include the individual's resiliency, support systems in the community, age, personality, and access to various resources such as finances and services. Some individuals may need to be in therapy or take psychotropic medications for years due to their lack of support and pre-existing medical or mental health conditions while other individuals do not experience these same stressors and may not need long term therapy (Erickson & Tonigan, 2008).

Researchers in the field of trauma and PTSD stress the importance of treating the symptoms of trauma with a holistic approach involving support groups, weekly therapy, and pharmaceutical interventions (Rassin, Kanti, & Silner, 2005). For instance, Rassin, Kanti and Silner (2005) state that it is important for psychiatrists, psychologists, and clinical practitioners to monitor medication changes and be diligent with open communication between practitioners. Researchers and psychologists have continued to emphasize that medicating PTSD alone is not an option for successful recovery (Villarreal & Gerardo, 2004). In fact, using medications as the only option for treating trauma symptoms and PTSD has been a reoccurring problem in the field of psychology (Berlant 2004; Villarreal & Gerardo, 2004). In order to successfully treat clients with trauma and PTSD, clinicians, medical practitioners, advocates, and mental health counselors are encouraged to become competent in the balance between medications and therapy.

Eye Movement Desensitization and Reprocessing (EMDR)

There are several therapies and techniques that have been developed over the last twenty years to treat the effects of trauma (Berlant, 2004; Villareal & Gerardo, 2004). Eye movement desensitization and reprocessing (EMDR) is one of these interventions. EMDR was created by Francine Shapiro to treat individuals who suffered from PTSD due to war zone experiences and sexual assault (Kemp, Drummond, & Dermott, 2009; Shapiro, 2001). The theory of EMDR is that rapid eye movement increases the vividness of the traumatic memories and brings the individual into a heightened state of cognition and awareness (Shapiro, 2001). EMDR incorporates rapid eye movements which are said to invoke neurological and physiological changes. These changes are suggested to relieve the client of negative symptoms surrounding the traumatic event (Nardo et al., 2010).

There have been multiple studies done on the effectiveness of EMDR at treating trauma. For instance, Auriz, Bluthgen, and Knopfler (2011) studied 124 Argentinean children who had experienced disaster related trauma, specifically the Sante Fe, Argentina flood of 2003. The participants' trauma symptoms were measured with an Impact of Events Scale (IES) and then they had one EMDR session. Three months later the researchers measured the participant's trauma symptoms and found that they had significantly decreased (Aduriz, Bluthgen, & Knopler, 2011).

Likewise, Silver, Rogers, and Russell (2008) performed two case studies on military veterans who had experienced high levels of trauma. The researchers found that after receiving three EMDR sessions, both of the veteran's trauma symptoms had decreased and the participants reported feeling less anxiety and depression. The researchers found that the IES scores used for these sessions also showed a significant decrease in avoidance and intrusion symptoms (Silver, Rogers, & Russell, 2008).

In another experiment on EMDR, researchers studied children who were between the ages of 6 and 16 who were diagnosed with PTSD. Ahmad and Sundelin-Wahlsten (2008) measured their participants with the diagnostic interview for children and adolescents (DICA) and the post-traumatic stress symptom scale for children (PTSS-C scale) and then gave each participants one to four sessions of EMDR. The researchers found that participants reported fewer trauma symptoms after receiving the EMDR sessions.

While EMDR is widely recognized technique used in the psychological community and is considered evidence based practice, it has been criticized by several practitioners and researchers (Nardo et al., 2010). For instance, there is controversy surrounding the use of EMDR because of its rapid eye movements and heightened levels of neural activity (Andrade, Kavanagh, & Baddeley, 1997; Nardo et al., 2010). Researchers have found that the rapid eye movements are merely a form of epiphenomenon and more desensitization than actual therapeutic process (Davidson & Parker, 2001). For instance, Nevid, Rathus and Green (2008) state that the rapid eye movement of EMDR can cause re-traumatization phenomena and that it is largely an unnecessary technique. Likewise, Perkins and Rouanzoin (2002) theorized that the rapid eye movement technique sensitizes rather than desensitizes the individual, which they speculate puts the trauma related symptoms in dormancy rather than permanently removing them. However, no empirical studies have been conducted to determine whether or not the rapid eye movements technique is harmful or not.

EMDR is similar to Lifespan Integration (LI), as both procedures target an upsetting or traumatic event in order to reduce the symptoms of trauma. The defining difference between EMDR and LI is the concept of rapid eye movement. While EMDR utilizes rapid eye movement the goal of practitioners of LI is to reduce trauma symptoms without heightening neural activity through rapid eye movements (Pace, 2003, Thrope, 2008).

The Procedure of LI

The goal of LI is to change the negative aspects of the client's trauma especially anxiety, depression, and poor coping mechanisms, into more appropriate reactions and coping strategies without re-traumatizing the client (Pace, 2003). LI is a technique that focuses on a traumatic event that both the individual and the therapist work together on during the session. The therapist and the individual create a timeline which consists of memories (good, bad, indifferent) that a client has between the ages of 3 and his or her current age. The therapist acts as a guide for the individual and lists off the memories while the individual focuses on concentrating on each specific memory (Pace, 2003). The purpose of LI is to convince not only the individual but the individual's body that the traumatic event is over (Pace, 2003). The LI technique focuses on integrating positive thinking patterns into both the individual and the individual's "traumatized self" in order to assist the individual as he or she goes through his or her timeline (Pace, 2003). Ideally, LI will help produce appropriate thoughts, behaviors, and thinking patterns that are common for adults which replace their negative thoughts, behaviors, and thinking patterns (Pace, 2003). The concept behind LI is that the individual will acknowledge each year that passes with the help of the therapist as a guide in order to proceed through traumatic events while emphasizing that the trauma is over and that the client has survived these events (Pace, 2003, Thrope, 2008).

The therapist begins with the client targeting a particular traumatic event in his or her life that has been the source of significant distress such as a death, rape, car accident, or other traumatic event. The therapist then asks the client to relax. Next the therapist asks the client to verbalize how he or she feels physically when thinking of the event (Pace, 2003; Thrope, 2008). Most of the time a client will report that he/she experiences that his or her "stomach is in knots" as if feeling very anxious or afraid, and some people report pain in his or her throat as if they are suppressing crying. There are also times when a client reports having a burning

sensation on his or her head if the event brings extreme anger or frustration (Pace, 2003). Neck and shoulder pain/tension are also common discomforts that are reported if the situation tends to be more stress related (Pace, 2003; Thrope, 2008).

In rare cases, when an individual has experienced long-term trauma that has been largely untreated, it is possible for clients to report pain and discomfort in unusual areas such as their elbow, index finger, or wrist (Pace, 2003). This may be an indication of strong dissociation and the emotional numbness of the client (Pace, 2003; Thrope, 2008). The therapist will ask the client to rate the intensity of the pain or discomfort on a one to ten rating scale, one being no pain or no discomfort, and ten being extreme pain or discomfort.

The therapist and individual continue to do repetitions of the timeline, taking time to check with the individual and monitor whether if she or he has developed new memories since the start of the session (Pace, 2003). Once the individual is able to move forward in his or her timeline at a steady pace, the traumatic event should start to have a lesser effect on the individual as the repetitions continue (Pace, 2003; Thrope, 2008). With repetitions between three to eight times per session, the individual's symptoms should begin to lessen, and the client should report that she or he has little or no discomfort or anxiety over the situation. For example, if a client reports an eight on the scale as far as discomfort or pain, the therapist will conclude the sessions when the client reports that the discomfort or pain is at a one. Sometimes if an individual has a period of five years in which the she/he sustained multiple traumas, the practitioner can skip those five years (Pace, 2003; Thrope, 2008). For example, if the individual had multiple deaths in his or her family, it is sometimes better to space out the years in order to avoid re-traumatizing the client. The same type of format can be used if an individual is older than 50 years of age so that the LI sessions are not as long (Pace, 2003; Thrope, 2008).

Summary

Continued research on trauma and effective therapeutic techniques will assist the field of psychology in understanding the significance of trauma and how trauma affects the development of mental health disorders and quality of life. Overall researchers on trauma have found that it can have a lasting negative impact on an individual especially if the trauma goes untreated. In this study, I examine the effectiveness of LI interventions in women who have experienced severe forms of trauma. The LI method used in this study is speculated to have a less intrusive and re-traumatizing effect on the individual. The researcher hypothesizes that the LI interventions will cause a significant decrease in avoidance and intrusion measures when measured by the IES and that the benefits of the LI treatment will persist over a month long period after the second LI session.

Chapter III: Research Design and Methodology

Introduction

In the present study, the effects of Lifespan Integration (LI) on women suffering from severe trauma were investigated. The study took place at a rehabilitation center for women and children. This facility houses from 85 to 100 women and children per year and transitions them into low-income housing. This rehabilitation center specializes in chemical dependency, homelessness, abuse, and domestic violence and assisting the women into educational programs and the job market.

Participants

Twenty-two women from the rehabilitation center initially signed up to participate in the LI study, however only seventeen women from the center completed the study. Of the five who did not finish the study, two participants left the center, one participant was unable to commit to the study, one participant was not taking her medications consistently, and one participant did not attend the LI sessions. All of the female participants were in a stabilized phase of their rehabilitation, had been in the program for more than six months, and had completed the pre-phase and first phase of their rehabilitation. The women ranged in age from 19 to 65 and came from various ethnic backgrounds. After completing the study, participants received reimbursement from the center to use in the center's store. The participants were also eligible to win a Starbucks gift card in a drawing that was held at the end of the study.

Materials

Three certified LI counselors collected the data over the course of the study. The participants completed the Impact of Events Scale (IES) before the LI treatment, after the LI treatment, and then again a month later. The IES consists of 15 items on a Likert scale (0-not at all, 1-rarely, 3-sometimes, 5-often) and was used to evaluate the participant's level of

trauma by measuring intrusion and avoidance. Scores over 23 are considered severe and indicate a high level of trauma.

The scale was not used for diagnostic purposes, but rather as a measurement of the symptoms relating to the participant's disorder. The IES has a reported Cronbach's alpha rating of .79 to .91 concerning intrusion and .82 to .90 on avoidance (Hendrix, Jurich, & Schumm, 1994). The test-retest reliability for the IES ranges from .56 to.74 based on two different samples (Horowitz, Wilner, & Alvarez, 1979; Orsillo, 2001).

The Procedure

Each participant had two sessions of LI treatment which spanned the course of two months. Interested clients went through a screening process with the LI interviewers. The LI interviewers then consulted with staff members and the participant's interviewers to determine if the participant would be appropriate for the study. The participants then met with the LI interviewers to discuss the guidelines of the study and complete the consent form. In this study, the LI treatments lasted between one hour to an hour and a half, based on the age of the client, the severity of the trauma symptoms, and the number of LI repetitions needed for the session. The LI interviewers asked the participants which trauma they wanted to work on for the LI sessions. Most of the participants picked traumas that caused significant disturbance or hindrances in their lives. Then the LI interviewers asked the participants to turn off all electronics during the session and to be prepared to stay for two hours (the maximum allotted time). Next the LI interviewers asked the participants to fill out the first IES form to measure their trauma.

After completing the first LI session, the participant and LI interviewer scheduled an additional LI session (usually no later than two weeks after the first LI session). The LI interviewer checked in with the participant to confirm whether she needed additional time with the interviewer to process the session. If the participant did not need additional

assistance from the interviewer, the session was ended. At the start of the next session, the LI interviewer asked the participant to fill out another IES. After the second LI session, the LI interviewer again followed up with the participant and then scheduled to measure the client for the final time (usually three to four weeks out) with the IES. Then the LI interviewer met with the participant to fill out the final IES. The IES session was followed by an hour to debrief with the participant in case the participant had any additional questions or concerns about the LI sessions or the study.

During the experiment, the researcher and interviewers came across situations that complicated the IES assessments and administrating the LI sessions. These situations affected the course of the study and could have had an effect on the results. There were five women who were measured late on their second IES due to a snow storm that made it impossible for the interviewers to get to the rehabilitation center. These women were measured exactly one week later and thus were measured a week late for their final IES. There were also four women who missed their scheduled IES appointment. Two of these women rescheduled within a week for their first IES, one woman rescheduled her second IES within three days, and one woman rescheduled her final IES within two days. Most of these rescheduling appointments were due to illness or scheduling conflicts. However, they ultimately pushed back the scheduled dates when the women were measured for the final IES.

Chapter IV: Results

The IES was given three times in an effort to measure changes in avoidance and intrusion symptoms in the participants. Descriptive statistics were run on avoidance and intrusion scores at these three intervals. The mean for avoidance at session 1 was 28.35 (standard deviation 4.68) at session 2 was 6.05 (standard deviation 6.56), and at session 3 was 3.7 (standard deviation 3.4) suggesting that avoidance symptoms decreased after the participant received the LI sessions (see Appendix A). The mean for intrusion scores at session 1 was 28.6 (standard deviation 6.3), at session 2 was 5.8 (standard deviation 8.25), and at session 3 was 3.7 (standard deviation 3.67) suggesting that the intrusion symptoms decreased after the participants received the LI treatments (see Appendix A).

A repeated measures analyses of variance was conducted in order to compare the participant's avoidance responses for the first, second, and third IES administrations. A significant difference was found between the times the scale was administered [$F(2,32)=110.062$, $MsE= 20.5$, $p<.05$] for the avoidance scores such that at the first IES, the subjects produced significantly more avoidance responses than at the second ($p<.05$) or third IES($p<.05$) administrations. Mauchly's Test of Sphericity did not meet the assumption for sphericity ($p>.05$) so a Greenhouse Geisser Correction was used. Parital eta squared was .87.

A second repeated measures analyses of variance was used to compare the participants' intrusion responses for the first, second, and third times the IES were given. A significant difference was found between the IES administrations [$F(2,32)=73.20$, $MsE= 22.0$, $p<.05$] such that at the first IES, the subjects produced significantly more intrusion responses than at the second ($p<.05$) or third ($p<.05$) administrations. Mauchly's Test of Sphericity did not meet the assumption for sphericity ($p<.05$) so a Greenhouse Geisser Correction was used. Parital eta squared was .82.

An examination of the data, revealed an outlier which could potentially have affected the results. Thus repeated measures ANOVA's for both intrusion and avoidance scores were conducted without the data points in question. However, the same pattern of results was demonstrated as discussed above.

Chapter V: Discussion

The present research suggests that LI may be an effective treatment for trauma and provide relief from feelings of avoidance and intrusion. Significant decreases in avoidance and intrusion scores were seen in the participants after they received two LI sessions. Likewise, the participants continued to experience low intrusion and avoidance scores a month after the final LI session. These scores suggest that the participants experienced a lessening of the emotional and behavioral symptoms of the particular trauma they chose to address.

The data in the present study supported the hypotheses. The first hypothesis suggested that participants would show a reduction in avoidance symptoms after receiving LI. This assertion was supported as the LI sessions led to a reduction in avoidance symptoms for women who had experienced severe trauma. The second hypothesis predicted that participants would experience decreased intrusion symptoms after receiving the LI sessions. In support of this hypothesis, the results suggest that the LI sessions did provide relief to the participants for intrusion symptoms. This was evident in the significant reduction in the mean scores. The final hypothesis referred to whether LI's effectiveness persisted over a month long period after the second LI session. The results suggest that the participants did not re-experience trauma related symptoms such as avoidance or intrusion within that time period.

When the outlier was removed from the raw data, the results still indicated improvement from trauma related symptoms such as avoidance and intrusion and continued to support the hypotheses. However, it should be noted that the participant who was removed from the raw data had a very traumatic experience compared to most of the other participants. While the participant's score for avoidance and intrusion for the first IES were relatively high, the intrusion score increased at the second IES (35) and went down to significantly for the final IES for intrusion (see Appendix B).

EMDR Research

The present research resonates with the positive results found in previous studies on EMDR which show that EMDR can be effective at reducing trauma related symptoms. For example, in a study by Auriz, Bluthgen and Knopfler (2011) participants who were affected by the Argentina flood experienced fewer trauma related symptoms after receiving EMDR and continued to have low scores on avoidance and intrusion after three months. Likewise, in Silver, Rogers, and Russell's (2008) case study on military veterans the researchers found that after receiving three EMDR sessions the veterans scored lower on the IES and continued to report low intrusion and avoidance symptoms for the one month and the six month follow up visits. In addition, Ahmad and Sundelin-Wahlsten (2008) found that the participants in their study benefited from having at least one EMDR session (the participants had the option of having up to four sessions of EMDR).

Although, the present results on LI do resemble those in the literature on EMDR, there are several methodological differences between EMDR studies and the present study on LI which make the result difficult to compare. For instance, in Auriz Bluthgen, and Knopfler's study, the participants all experienced the same traumatic event while in the present study the participants each chose different traumatic events. Likewise, in the present study, participants each had two sessions and each participant worked on a unique trauma unlike in the Ahamad and Sundelin-Wahlsten study.

Despite these differences, LI does appear to produce trauma desensitization results similar to those of EMDR. However it should be noted that LI has yet to be explored as a therapeutic intervention and whether the success of both the LI and EMDR procedures stems from the same source (ie, desensitization) is still to be determined. Further research on LI and EMDR could provide more insight into whether the two interventions have similar systems. Likewise, it is yet to be determined whether LI is more or less effective than EMDR overall.

As researchers have found that neurological pathways are affected by trauma it is important to consider this aspect when evaluating the effectiveness of LI. It is possible that LI affects the neurological pathways in the brain thus reducing the trauma related symptoms. For example, Perkins and Rouanzoin (2002) state that changes in neurotransmitter levels can cause significant impairments such as memory lapses, dissociation, and the inability to concentrate or focus on daily activities. If these neurotransmitters are not constantly being triggered after trauma symptoms have been addressed (from a therapeutic intervention like LI), it is possible that they could subside or at least be decreased. In addition, Hageman, Anderson and Jorgensen (2001) state that the prefrontal cortex can be significantly affected by trauma related symptoms and that decision making, social perceptions, and personality expression can be affected if the symptoms of trauma are not properly treated. However, if trauma related symptoms are addressed and treated, it is possible that the prefrontal cortex functioning will improve. Likewise, if these trauma related symptoms are treated with interventions such as LI it is possible that systems related to the opioid, glutamatergic, GABAergic, noradrenergic, serotonergic, and neuroendocrine pathways may be less likely to become over-stimulated, resulting in a decrease in behaviors relating to avoidance and intrusion (Hageman, Andersen & Jorgensen, 2001).

Trauma symptoms are related to feelings of avoidance and intrusion as individuals actively avoid situations related to their trauma which might trigger intrusive thoughts or feelings. Researchers state that one of the main features of complex trauma involves avoiding thoughts, activities, and emotions associated with the particular event (Berlant, 2004). These symptoms of avoidance can have negative effects on an individual's life especially if the individual is unable to avoid situations or areas of his/her life that are directly related to the trauma (Berlant, 2004). As a result, individuals can experience intrusive thoughts when unable to remove themselves from situations that are unpleasant due to the trauma. However,

if an individual is treated by an intervention such as LI, it is possible to see a reduction in these behaviors.

There are several trauma related symptoms which women experience that are considered avoidance and intrusion symptoms. For instance, DePrince et al. (2012) stated that the participants in their study experienced symptoms of depression, anxiety, hyper-arousal, paranoia, flash-blacks, night terrors, and anxiety attacks. These behaviors can result in avoidance if individuals feel that they must avoid certain situations or environments in order to reduce depression, anxiety, and hyper-arousal. The same mental health issues can be applied to intrusion symptoms if the client experiences flash-backs, night terrors, and paranoia.

When considering how LI provides relief to trauma related symptoms, the concept of desensitization should be addressed. Most therapeutic interventions for trauma, such as TF-CBT and EMDR, focus on desensitization. For example, Flemke (2009) studied incarcerated women, and found that women who received no services were more likely to sustain symptoms of anxiety and depression which ultimately can result in intrusion and avoidance. These women did not experience a desensitization experience which could have assisted them in resolving their trauma related symptoms. Perhaps simply receiving some sort of intervention such as LI which involves desensitization can ultimately reduce trauma related symptoms such as avoidance and intrusion behaviors. There are reasons why LI could be an effective intervention for treating trauma related symptoms. It is possible that the timeline structure itself could be a form of desensitization. The timeline process of LI reviews the traumatic event and moves clients through their lifespan. This process in itself could be desensitizing and may have an effect on the neurological pathways in the brain related to the development of trauma related symptoms. Although at this point this is mostly speculation, research has shown that trauma related symptoms are involved with the neurological

pathways in the brain and LI could provide intervention to these pathways that have been overstimulated by traumatic experiences and trauma related symptoms (Hageman, Andersen & Jorgensen, 2001).

Limitations and Assumptions

When examining the results of the study, there are several limitations to consider. First of all, it is difficult to determine whether the results can be generalized over longer time spans. Although, the final measurement was one month after the second LI treatment and the participants showed a significant reduction in avoidance and intrusion scores at that time, it is still unknown as to whether this effect continues long term. EMDR has been in practice since it's development in 1989, and later on confirmed as evidence based practice in 2007, so it may take several years to truly determine whether or not LI can be considered an EBP or not. Several follow up studies could be used to confirm whether LI can produce longer term results or not.

Other limitations include that the women in this study had access to multiple services such as case managers, chemical dependency professionals, psycho-educational classes, AA, 12-step group, and several therapy groups. The study lasted over a period of three months which was largely uncontrolled and it is likely that any of these interventions could have helped to create the lower scores on the second and third IES. While it is not likely that the participants sought out individual therapy during the period of study to address the same issue that was being worked on with their LI sessions, it is still something that has to be considered when reviewing the results.

Another limitation in the present study is the fact that the study did not have a control group. Without the possibility of comparing the LI results to the results of a control group it is difficult to determine whether LI is a truly an effective therapeutic intervention or not. Also, there were participants who may or may not have had PTSD, depending on whether

they were formally diagnosed or not. Participants with PTSD may have had more significant trauma compared to individuals who were not diagnosed with PTSD rather than just experiencing trauma related symptoms. The study would have been stronger if this data had been provided in order to fully understand the results. It should also be noted that the researcher and interviewers did not ask if the participant had received intervention services prior to the start of the LI sessions concerning the traumatic event.

Future Studies

While the results of this study indicate that LI has the potential to be an effective therapeutic intervention, future studies on LI need to be performed in order to fully evaluate the effectiveness of LI. While the present study did consist of three scales and lasted over three months, it would be beneficial for future studies to last a longer period of time. Increasing the length of the study might provide more insight into whether LI can present lasting results.

For further research on LI, it would also be helpful to measure other populations such as students, low-income groups, children, and men in order to better understand the effects of LI. Likewise, LI could be used in other areas of mental and physical health such as post-partum depression, pregnancy, and chronic illness in order to determine whether it is effective in helping individuals under other circumstances. Testing LI on a variety of populations could help determine whether it is an appropriate therapeutic intervention for other groups or not.

Overall, the results of the study are promising and indicate that LI may be an effective therapeutic tool for treating trauma related symptoms. The results of the study implied that LI could provide relief to individuals who are struggling with avoidance and intrusion and perhaps can provide long term relief from trauma related symptoms. However, there needs to

be substantial research done in the field of LI in order to fully understand whether it is a useful therapeutic tool or not.

References

Aduriz, M.E., Bluthgen, C., & Knopfler, C. (2011). Helping children flood victims using group EMDR intervention in Argentina: Treatment outcome and gender differences. *International Perspectives in Psychology: Research, Practice, Consultation, 1,*58-67.

Ahmad, A. & Sundelin-Wahlsten, V. (2008). Applying EMDR on children with PTSD. *European Child and Adolescent Psychiatry, 17,* 127-132.

American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Health Disorders DSM-IV-TR* (4th ed., text rev.) Washington, DC.

Andrade, J., Kavanagh, D., & Baddeley, A (1997). Eye-movements and visual imagery: a working memory approach to the treatment of post-traumatic stress disorder. *The British Journal of Clinical Psychology / The British Psychological Society, 36,* 209–223.

Berlant, J.L. (2004). Prospective open-label study of add-on and monotherapy topiramate in civilians with chronic nonhallucinatory posttraumatic stress disorder. *BMC Psychiatry, 4*, 1-6.

Cohen, M.H., Fabri, M., Cai, X., Shi, Q., Hoover, D.R., Binagwaho, A., Culhane, M.A., Mukanyonga, H., Karegeya, D.K., & Anastos, K. (2009). Prevalence and predictors of posttraumatic stress disorder and depression in HIV-inflected and at-risk Rwandan women. *Journal of Women's Health, 18*, 1783-1793.

Dryer, K.F.W, Dorahy, M.J., Hamilton, G., Corry, M., Shannon, M., MacSherry, A., McRobert, G., & Elder, R. (2009). Anger, aggression, and self-harm in PTSD and complex trauma. *Journal of Clinical Psychology, 10,* 1099-1114.

Davidson, J.R.T., Payne, V.M., Conner, K.M., Foa, E.B.F., Rothbaum, B.O., Hertzberg, M.A., & Weisler, R.H. (2005). Trauma, resilience, and saliostatsis: Effects of treatment in post-traumatic stress disorder. *International Clinical Psychopharmacology, 20*, 43-48.

Davidson, P.R., Parker, K.C. (2001). Eye movement desensitization and reprocessing (EMDR): a meta-analysis. *Journal of Consulting and Clinical Psychology, 69,* 305–316.

Dennis, M.F., Flood, A.M., Reynolds, V., Araujo, G., Clancy, C.P., Barefoot, J.H., & Beckman, J.C. (2009). Evaluation of lifetime trauma exposure and physical health in women with posttraumatic stress disorder or major depressive disorder. *Violence Against Women, 15*, 618-629.

DePrince, A.P. & Freyd, J.J. (2002). The harm of trauma: Pathological fear, shattered assumptions, or betrayal? *Loss of the Assumptive World: A Theory of Traumatic Loss, 16*, 71–82.

DePrince, A.P., Labus, J., Belknap, J., Buckingham, S. & Grover, A. (2012). The impact of community-based outreach on psychological distress and victim safety in women exposed to intimate partner abuse, *Journal of Consulting and Clinical Psychology, 80,* 211-221.

Dyer, K. F. W., Dorahy, M.J., Hamilton, G., Corry, M., Shannon, M., MacSherry, A., McRobert, G., Elder, R., & McElhill, B. (2009). Anger, aggression, and self-harm in PTSD and complex PTSD. *Journal of Clinical Psychology, 65*, 1099-1114.

Erickson, S.J. & Tonigan S.L. (2008). Trauma and intraveneous drug use among pregnant alcohol/other drug abusing women: Factors in predicting child abuse potential. *Alcoholism Treatment Quarterly, 26*, 313-335.

Flemke, K. (2009). Triggering rage: Unresolved trauma in women's lives. *Contemporary Family Therapy, 31*, 123-139.

Grahman-Bermann, S., Sularz, A.R., & Howell. K.H. (2011). Additional adverse events among women exposed to intimate partner violence: Frequency and impact. *Psychology of Violence, 2,* 136-149.

Hageman, I., Anderson, H.S., & Jorgensen, M.B. (2001). Post-traumatic stress disorder: A review of psychobiology and pharmacotherapy. *Acta Psychiatry Scandinavia, 104,* 411-422.

Haskell, S.G., Papas, R.K., Heapy, A., Reid, M.C., & Kerns, R.D. (2008). The association of sexual trauma with persistent pain in a sample of women veterans receiving primary care. *Pain Medicine, 9,* 710-717.

Hendrix, C. C., Jurich, A. P., & Schumm, W. R. (1994). Validation of the Impact of Event Scale on a sample of American Vietnam veterans. *Psychological Reports, 75,* 321-322.

Horowitz, M. J., Wilner, N. R., & Alvarez, W. (1979). Impact of Event Scale. A measure of subjective stress. *Psychosomatic Medicine, 41,* 209-218.

Kemp, M., Drummond, P., & McDermott, B. (2009). A wait-list controlled pilot study of eye movement desensitization and reprocessing (EMDR) for children with post-traumatic stress disorder (PTSD) symptoms from motor vehicle accidents. *Clinical Child Psychology and Psychiatry, 21,* 1-21

Lambert, M.T. (2005). Aripoprazole in the management of post-traumatic stress disorder symptoms in returning Global War on Terrorism veterans. *International Clinical Psychopharmacology, 21*, 185-187.

Levine, A.G. & Levine, M. (2011). WWII and the home front: The intersection of history and biography. *American Journal of Orthopsychiatry,4,* 433-441.

Longden, E., Madill, A., & Waterman, M.G. (2012). Dissociation, trauma, and the role of lived experience: Toward a new conceptualization of voice hearing. *Psychological Bulletin, 138,* 28-76.

Maher, M.J., Rego, S.A., & Asnis, G.M. (2004). Sleep disturbances in patients with post-traumatic stress disorder: Epidemiology, impact, and approaches to management. *CNS Drugs, 20*, 567-590.

Markowitz, J.D.(2009). Post-traumatic stress disorder in an elderly combat veteran: A case report. *Military Medicine, 172*, 659-664.

McRae, A.L., Brady, K.T., Mellman, T.A., Sonne, S.C., & Killeen, T.K., Timmerman, M.A., & Bayles-Dazet, W. (2004). Comparison of nefazodone and sertaline for the treatment of posttraumatic stress disorder. *Depression and Anxiety, 19*, 190-196.

Nardo, D., Hogberg, G., Looi, J.C.L, Stig, Larsson, S., Hallstrom, T., & Pagani, M. (2010). Gray matter density in limbic and paralimbic cortices is associated with trauma load and EMDR outcome in PTSD patients. *Journal of Psychiatric Research, 7,* 477-485.

Nevid, J. S., Rathus, S.A., & Greene, B. (2008). *Abnormal psychology in a changing world* (7th ed). Upper Saddle River, NJ: Pearson Education.

Orsillo, S. M. (2001). Measures for acute stress disorder and posttraumatic stress disorder. In M.M. Antony & S. M. Orsillo (Eds.), *Practitioner's Guide To Empirically Based Measures of Anxiety, 17,* 255-307.

Pace, P. (2003). *Lifespan Integration: Connecting ego states through time* (4th ed.). Self-Published. Seattle, Washington

Perkins, S.C. & Rouanzoin, C.C. (2002). A critical evaluation of current views regarding eye movement desensitization and reprocessing (EMDR): Clarifying points of confusion. *Journal of Clinical Psychology, 58,* 77-97.

Rassin, M., Kanti, T., & Silner, D. (2005). Chronology of medication errors by nurses: Accumulation of stresses and PTSD symptoms. *Issues in Mental Health Nursing, 26*, 873-886.

Schwerdtfeger, K.L & Shreffler, K.M. (2009). Trauma of pregnancy loss and infertility among mothers and involuntarily childless women in the United States. *Journal of Loss and Trauma, 14,* 211-227.

Schwerdtfeger, K.L. & Wampler, K.S. (2009). Sexual trauma and pregnancy: A qualitative exploration of women's dual life experiences. *Contemporary Family Therapy*, *31*, 100-122.

Shapiro, F. (2001). *EMDR: Eye Movement Desensitization of Reprocessing: Basic Principles, Protocols and Procedures* (2nd ed.). New York: Guilford Press.

Silver, S.M, Rogers, S., & Russell, M. (2008). Eye movement desensitization and Reprocessing (EMDR) in treatment of war veterans. *Journal of Clinical Psychology: In Session, 8,* 947-957.

Thrope, C. (2008). *The Healing Timeline: God's Shalom for the Past, Present, and Future.* Timleline Press, LLC. Littleton, Colorado.

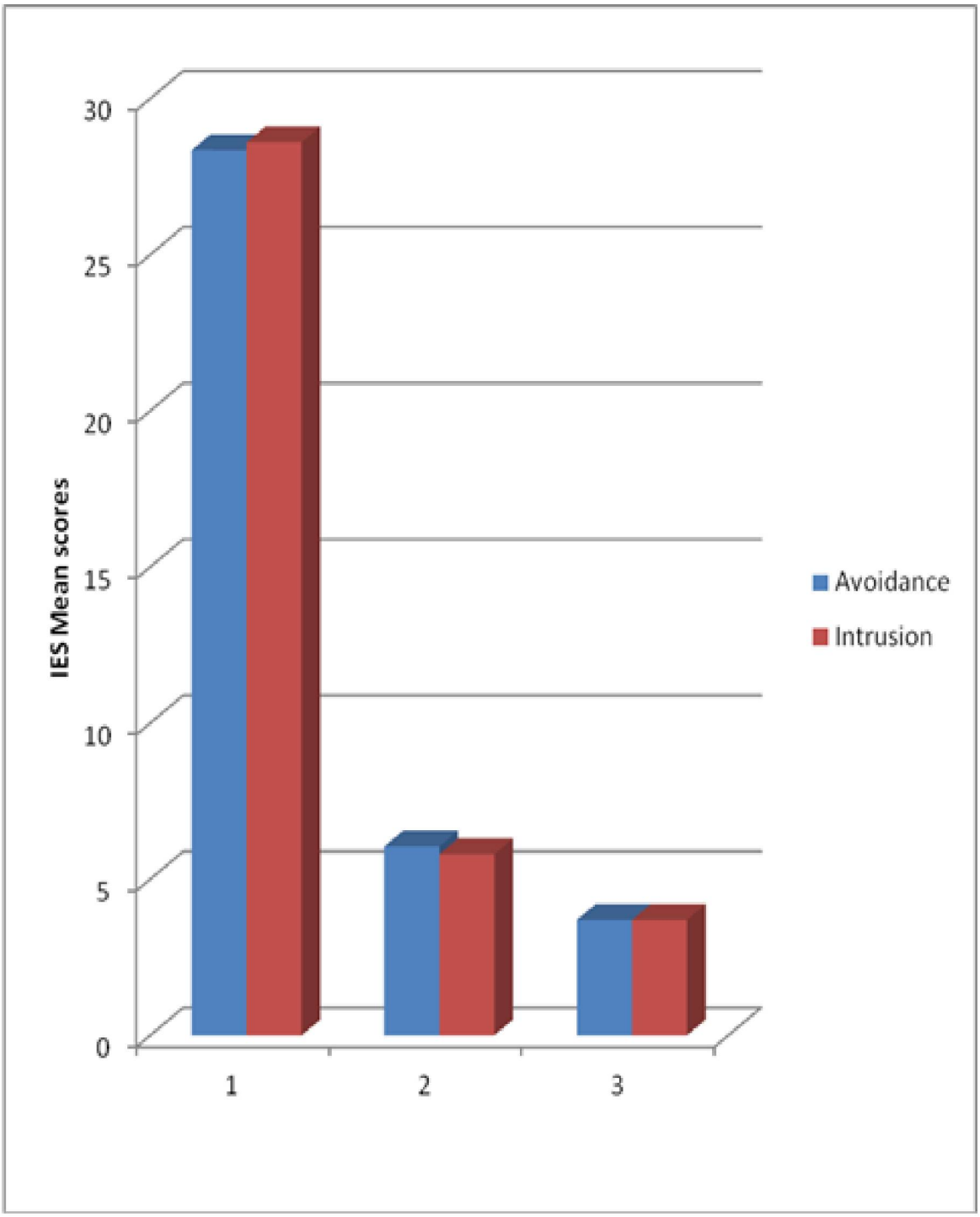
Villarreal, G. (2004). A 42-year-old man with symptoms of PTSD and major depression: A combination of medication, psychotherapy, and life changes may be necessary to resolve continuing difficulties resulting from severe traumatic events. *Psychiatric Annals, 34*, 424- 429.

Walser, R., Tran, T., & Cook. J. (2012). Psychological trauma: Theory, research, practice, and policy. Postraumatic stress symptoms and life functioning in older female ex-prisoners of war. *Psychological Trauma: Theory. Research, Practice, and Policy, 10,* 1-4.

Weiss, D. S., & Marmar, C. R. (1996). The Impact of Event Scale – Revised. In J. Wilson & T. M. Keane (Eds.), *Assessing Psychological Trauma and PTSD.* New York: Guilford.

Appendix A- IES Mean Scores

Figure 1



Appendix B- Raw Data

Figure 2

Participants	A-1	I-1	A-2	I-2	A-3	I-3
1	35	16	8	6	3	5
2	23	21	8	2	8	2
3	26	34	0	2	1	1
4	30	32	5	5	8	5
5	23	37	16	10	10	9
6	26	25	9	7	3	10
7	32	36	0	0	0	0
8	23	31	14	8	6	9
9	38	32	0	3	0	0
10	24	35	15	6	7	9
11	29	19	19	35	5	0
12	32	23	0	0	0	0
13	29	31	1	1	0	1
14	23	35	6	5	5	6
15	31	26	0	0	6	2
16	25	24	2	10	0	3
17	33	30	0	0	1	1

*Red indicates the outlier that was removed from the study for the second aspect of the results.

Appendix C- Impact of Events Scale

Figure 3

Date of Session:_____
IES: 1 --- 2-----3
Date of Trauma:_____
Description of Trauma:

Impact of Events Scale (IES)

Below is a list of comments made by people about stressful life events and the context surrounding them. Read each item and decide how frequently each item was true for you during the past seven (7) days, for the event and its context, about which you are dealing in treatment. If the item did not occur during the past seven days, choose the "Not at all" option. Indicate on the line at the left of each comment the number that best describes that item. Please complete each item.

0 = Not at all
1 = Rarely
3 = Sometimes
5 = Often

___ 1. I thought about it when I didn't mean to.
___ 2. I avoided letting myself get upset when I thought about it or was reminded of it.
___ 3. I tried to remove it from memory.
___ 4. I had trouble falling asleep or staying asleep, because of pictures or thoughts that came into my mind.
___ 5. I had waves of strong feelings about it.
___ 6. I had dreams about it.
___ 7. I stayed away from reminders of it.
___ 8. I felt as if it hadn't happened or wasn't real.
___ 9. I tried not to talk about it.
___ 10. Pictures about it popped into my mind.
___ 11. Other things kept making me think about it.
___ 12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.
___ 13. I tried not to think about it.
___ 14. Any reminder brought back feelings about it.
___ 15. My feelings about it were kind of numb.

Copyright © 1982 American Psychological Association

Appendix D-Scoring for Impact of Events

Figure 4

Impact of Events Scale (IES)

Scoring:
Items are rated according to how frequently the intrusive or avoidance reaction occurred. Responses are scored from 0 to 5 with higher scores reflecting more stressful impact.

- Scores range from 0 to 40 for the subscale, computed by adding the ratings on the following items: 2, 3, 7, 8, 9, 12, 13, 15. A cutoff point of 26 is suggested, with scores above that suggesting moderate to severe impact.
- Scores range from 0 to 35 for the subscale, computed by adding the ratings on the following items: 1, 4, 5, 6, 10, 11, 14. A cutoff point of 26 is suggested, with scores above that suggesting moderate to severe impact.