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Date April 21/03
Abstract

This study compares the reduction of Posttraumatic stress disorder (PTSD) symptoms in men and women who had participated in a treatment group. Respondents were 51 adult men and women (30 women and 21 men) who met a diagnosis of PTSD.

Of the initial 51 participants, 31 completed treatment (10 males and 21 females). Men ranged in age from 22 to 61 years of age with a mean age of 42, while women ranged from 22 to 55 years of age with a mean age of 36. A manualized treatment protocol based on a cognitive-behavioral approach consisting of exposure therapy, cognitive restructuring and breathing retraining exercises was delivered by the same two co-therapists for all treatment groups on a twice-weekly basis. Measures included the Beck Depression Inventory, the State-Trait Anxiety Inventory and the Posttraumatic Stress Diagnostic Scale.

Results indicated a significant reduction in PTSD, Anxiety and Depression symptoms for both men and women pre to post treatment. There were no significant differences in the reduction of PTSD, Depression and Anxiety symptoms between male and female participants. Results are discussed in light of the PTSD research.
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Introduction

Posttraumatic Stress Disorder (PTSD) follows exposure to an extreme trauma that threatens the individual's life or causes serious injury to another person. In defining a trauma, DSM-IV stipulates that "the person experienced, witnessed or was confronted with an event that involves actual or threatened death or serious injury; or a threat to the physical integrity of himself or herself or others" (APA, 1994, pp. 427-429). The individual must also respond to the trauma with intense fear, helplessness or horror (Bryant, 2000).

PTSD has been recognized in the Diagnostic Manual of Mental Disorders (DSM-III) as a disorder since 1980 (Mezey & Robbins, 2001). The formal recognition of PTSD was significant for two reasons; first it helped to deflect blame away from the sufferer and diminish his or her sense of guilt, shame and failure and two, it lead to the promotion of research and the development of much needed specific treatments.

The research literature draws attention to three important facts; one, that PTSD is a worldwide problem, reaching alarming proportions in countries torn by violent conflict (most recently the bombing of the World Trade Towers in the United States), two, it is associated with persistent disability and comorbidity for many people and three, treatments can produce a meaningful reduction in distress (Davidson, 2001).

Treatments include: Psychosocial treatments (hypnosis), Psychodynamic treatments (group therapy) and Cognitive-Behavioral treatments (exposure therapies, cognitive restructuring therapies and anxiety management programs and combinations). Overall the current literature indicates that while many of the above treatments show "promise" in the treatment and reduction of PTSD symptoms in sufferers, the majority of the studies
used to evaluate them fall far short of meeting the standard for scientific rigor and therefore they can not be identified as efficacious (Foa & Meadows, 1997).

By far, cognitive-behavioral treatments have experienced the greatest number of controlled studies and have been the most rigorously tested (Foa & Meadows, 1997). Accordingly, behavioral treatments are thought to be the treatment of choice for PTSD. A number of studies have looked at the efficacy of exposure therapy. Marks et al. (1998) conducted a study looking at the value of cognitive restructuring alone without prolonged exposure therapy and whether its combination with prolonged exposure would be enhancing. Their findings indicated that exposure therapy and cognitive restructuring, singly or combined, improved posttraumatic stress disorder markedly on a broad front. Resick and Schnicke (1992) also studied the benefits of cognitive processing therapy (which includes exposure therapy) and concluded that cognitive processing therapy is effective in improving symptoms in a large majority of patients.

That is not to say that cognitive processing therapy including exposure therapy does not have its limitations with treatment populations. A study by McFarlane and Yehuda (2000) suggests that there are critical challenges for clinicians who wish to treat trauma survivors using specialized trauma treatments such as exposure therapy. They state that the major challenge is one of avoiding a simplistic view of PTSD as a singular response to trauma as this view may lead to an underestimation of the complex quality of the disorder resulting in an incomplete treatment protocol. Van Minnen et al. (2002) while supportive of the benefits of exposure therapy also point out that it results in high dropout rates and that fear of having to confront the memories of their trauma experience results
in many participants avoiding the treatment altogether which may suggest that many
individuals suffering from PTSD are not getting treatment to reduce symptoms.

Wolfsdorf and Zlotnick (2000) state that group therapy has been used in the treatment
of survivors of incest, rape, domestic abuse and war trauma. They argue that traumatized
individuals may benefit from group treatment because it reduces feelings of stigma,
isoaltion and shame and allows opportunities for observation, learning, modeling and
sharing of new coping skills. In addition, they report that highly-structured groups can
generate feelings of safety and trust for group members.

Morgan and Cummings (1999) also state that group therapy (after participation in
individual therapy) has been advocated for trauma survivors as part of their healing
process. Their position is founded on the work of Judith Herman (Herman, 1992) who
contends that the group process allows for reconnection between people in a safe
atmosphere and that this atmosphere promotes remembrance and mourning, two
ingredients essential in the healing process for survivors of trauma. In their study,
conducted on adult female survivors of childhood sexual abuse, Morgan and Cummings
(1999) applied treatment in a group therapy setting. However their study did not employ
the methodology necessary to meet the standard of rigor (Morgan & Cummings, 1999).

In a review of the research literature pertaining to PTSD, Foy et al. (2000) stated that
group therapy as a treatment for PTSD offers cohesion, encouragement and support from
other members. They recommend this form of treatment as potentially effective based
upon consistent positive evidence from 14 studies. While the positive outcomes from
these studies emphasized the importance of such things as interpersonal learning and
reconnection with others, only two of these studies used randomized control designs.
The other studies suffered from methodological limitations to lesser and greater degrees, rending many of their findings questionable.

Therefore the purpose of this study is assess the effectiveness of a manualized treatment protocol delivered in a group format to male and female PTSD sufferers.
Literature Review

Since its inception into DSM-III in 1980, a volume of research has been compiled with regard to the diagnosis and treatment of PTSD. Two decades of research have produced a vast amount of knowledge about treatment efficacy, thus narrowing the field somewhat on treatments that offer the most benefit with regard to symptom reduction of PTSD. While the research pertaining to the efficacy of PTSD treatments for the individual is abundant, there are few studies in the area of treatment applications for PTSD in a group setting (Foa, Keane & Friedman, 2000).

Of the studies that have evaluated group therapy as a method for treating PTSD, few have employed rigorous methods involving randomization and control groups (Foy et al. 2000). While positive outcomes from various studies emphasize the importance of such things as group cohesiveness, catharsis, interpersonal learning and reconnection with others in a safe atmosphere, their lack of scientific rigor casts a shadow of doubt around their efficacy.

In addition to the existence of few rigorous studies in the area of group therapy treatment for PTSD, there is also a void in the literature with regard to gender response to PTSD treatment. A review of the literature suggests that women are more responsive to treatment than men, however there are several differences between treatment studies with men and women. Most notably, the trauma event of most women sufferers has been sexual assault, whereas studies with men have usually involved trauma resulting from war (Foa, Keane & Friedman, 2000).
A study involving both men and women PTSD sufferers may answer questions about gender response to treatment as well as answer questions about the generalizability of present efficacious treatments to male trauma populations other than war veterans.

In the following review of the literature, I review the history, recognition, risk factors, symptomology, diagnosis and assessment and prevalence rates of PTSD. I also review the literature on two theoretical perspectives that explain the development of PTSD, and studies pertaining to group therapy interventions.

History and Recognition of PTSD

PTSD is associated with clinically important distress that transcends ordinary misery and unhappiness that leads to the disruption and impairment of daily functioning. The diagnosis of PTSD developed partly as an attempt to normalize the psychological, cognitive and behavioral symptoms observed in many traumatized people. It redefined the symptoms of the disorder as a normal response to an abnormal event rather than a pathological condition (Mezey & Robbins, 2001).

PTSD has been recognized in the Diagnostic and Statistical Manual of Mental Disorders as an anxiety disorder since 1980 (Mezey and Robbins, 2001). The DSM-III-R (APA, 1980) described PTSD as an anxiety disorder precipitated by an event that is characterized by symptoms of reexperiencing, avoidance, numbing and arousal that persist longer than one month after the trauma. The DSM-IV (APA, 1994) retained the symptoms described in the DSM-III-R but modified the trauma criteria to include characteristics of the traumatic event and the individual’s perception of threat rather than the rarity of the trauma event (Foa & Rothbaum, 1998).
In defining a trauma, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) stipulates that: “the person experienced, witnessed, or was confronted with an event or events that involve actual or threatened death or serious injury; or a threat to the physical integrity of self or others” (APA, 1984 pp.427-429). It should be noted that DSM-IV (APA, 1994) includes assault and exposure to violence in its examples of precipitating traumatic events, and that epidemiological studies indicate that violent assault represents one of the most common precipitants of PTSD. The individual must also respond to the trauma with intense fear, helplessness or horror (Bryant, 2000).

While the diagnostic criteria for PTSD set out in DSM-IV is the most widely accepted operational definition in use by the majority of researchers and clinicians, the classification continues to evoke controversy and disagreement. Some researchers and clinicians suggest that the changes in the diagnostic criteria for PTSD reflect the difficulties in identifying and articulating the core symptoms of PTSD. In addition, PTSD has consistently been associated with high rates of comorbid syndromes such as depression, anxiety, substance abuse and dissociation, prompting questions regarding the appropriateness of it as a distinct diagnostic entity. Foa and Riggs (1995) for example, offered clinical and laboratory findings that support PTSD as an anxiety disorder, as a dissociative disorder or as part of a new etiological category of stress disorder. Other clinicians and researchers have argued that the current diagnostic criteria for PTSD do not represent the full range of posttraumatic symptomology, especially in victims with multiple traumas and chronic suffering (Wilson & Keane, 1997).

Given the above symptomology, one would expect that individuals suffering from PTSD would seek mental health or medical treatment. However, studies suggest that this
is relatively uncommon and that, rates of recognition may be low with clinical diagnosis of PTSD occurring in as few as 4% of individuals with the disorder. In a US primary care survey, 11.8% of patients met diagnostic criteria for full or partial PTSD. These findings are important since more than 70% of respondents with PTSD symptoms in the general population have used general medical services in the past 6 months (Davidson, 2001). The question then arises as to how PTSD might be recognized and what are the likely disguises that it might use.

Risk Factors

The research tells us that those most at risk for this disorder are people with military combat experience or civilians who have been harmed by war, people who have been raped, sexually abused or physically abused, people who have been involved in or who have witnessed a life-threatening event (including a motor vehicle accident, murder, etc.) and people who have been involved in a natural disaster (Lamberg, 2001). However, in reviewing the literature pertaining to PTSD, one point is clear, although an external traumatic event is the central etiological factor in the development of PTSD, individuals who have pre-existing vulnerability factors are at much greater risk for developing the disorder (Mezey & Robbins, 2001).

In an article relating to the effects of sexual abuse on children, Lamberg (2001) argues that abused children are likely to have a variety of problems that interfere with their behavior well into adulthood and that PTSD is the most common diagnosis. Lamberg (2001) states that trauma in several populations thought to be at increased risk for PTSD is understudied. He reported that some 500,000 children in the United States are in foster care (many of whom entered the system at age three) and have a history of physical and
sexual abuse, neglect and abandonment. He states that rates of PTSD among incarcerated youth are approximately four to eight times higher than those in a community sample. Lamberg (2001) also reports that most incarcerated youth have been exposed to a myriad of potentially traumatic events, including physical and sexual assaults, witnessing homicide and other acts of violence. Most also experienced poverty, abuse, and neglect, additional risk factors for the development of trauma related psychopathology (Lamberg, 2001).

McFarlane and Yehuda (2000) of the traumatic stress studies program in the Department of Psychiatry at Mount Sinai School of Medicine in New York, stated the type of event and the chronicity of exposure most likely influences the development of chronic or acute PTSD. Single-episode traumas are associated with a higher degree of recovery than repeated or multiple ones. Some studies suggest that most children recover even after exposure to some extreme events such as war, given family and social support (Lamberg, 2001). However another study revealed that nearly half a group of child survivors of the Holocaust continued to have PTSD more than 50 years later (McFarlane & Yehuda, 2000).

Other studies show that 10% to 55% of children who experienced physical and sexual abuse have PTSD symptoms. These symptoms appear in 50% to 75% in adulthood. Sexual dysfunction shows up only after people start to have sexual relationships while other dysfunctional psychological responses require developed cognition and maturity. Only in adulthood do people recognize the significance of what has been done to them at an earlier age (Lamberg, 2001). According to Lamberg (2001), early experiences set the level of responsiveness of the hypothalamic pituitary adrenal axis and autonomic nervous
system, allowing these systems to overreact or underreact to subsequent stress. Thus, early childhood trauma leaves a person vulnerable to the effects of stress and to the development of PTSD (Lamberg, 2001).

Besides being associated with increased risk for depression, anxiety and alcohol or drug abuse, smoking, severe obesity, cancer, fractures and liver disease, PTSD is associated with higher rates of hypertension, bronchial asthma, ulcers, with other cardiovascular diseases, digestive (irritable bowel syndrome), respiratory and nervous system disorders, as well as increased rates of infectious disease for up to 20 years following exposure to a major trauma (Davidson, 2001).

Lamberg (2001) reports that people of all ages with PTSD may have cognitive problems affecting attention and memory and social and behavioral problems. He noted that in adolescence, PTSD may delay or impair development of independence and self-sufficiency. Thus the cost of PTSD exceeds that of all other anxiety disorders and much of this expenditure is accounted for by direct costs of treatment seeking and medical evaluation (Lamberg, 2001).

**Diagnosis and Assessment**

Accurate diagnosis is essential for effective treatment of PTSD. As with many psychological conditions, the diagnosis of posttraumatic stress disorder is in effect a self-diagnosis because the doctor or clinician has to take his patient’s word that he/she is having terrifying flashbacks and genuine sufferers can be hard to distinguish from malingerers. PTSD can only be diagnosed if the existence of a traumatic event has been established. However, clinical suspicion may be warranted based on symptoms or behaviors even if no such event has yet been established. To elicit this information, may
in some cases be relatively straightforward, however in others, it will be more difficult, requiring the establishment of trust and confidence between the client and counsellor/physician. Education involves explaining to survivors and their families about the nature of PTSD and responses to stress and it involves encouraging them to speak about their traumatic experience. The use of screening instruments may also be helpful (Davidson, 2001).

Symptomology

The symptomology associated with PTSD is very characteristic and persistent and is divided into three symptom clusters: reexperiencing/intrusion, numbing/avoidance and hyperarousal: (See Appendix A)

Reexperiencing: Feelings of intense fear when recollecting the event, memories of the trauma or flashbacks that occur unexpectedly. These may include nightmares or feelings like a racing heart.

Hyperarousal: Insomnia, loss of appetite, headache or chest pain, feeling “on guard” or irritable, having difficulty concentrating, feeling overly alert or being easily startled, having sudden outbursts of anger, anxiety, jumpiness, excessive worry over loved ones’ safety.

Avoidance: avoiding people, places, thoughts, or activities that bring back memories of the trauma; this may include feeling numb or emotionless, withdrawing from family and friends or self-medicating with alcohol or drugs, feelings of hopelessness and indifference and isolation (Stevens, 2001).
Adults with PTSD often report distressing dreams and nightmares of the event. Children may have generalized nightmares or awake from sleep sobbing or screaming without being able to describe the content of their dream. They also may complain of headaches, stomachaches or other physical symptoms (Lamberg, 2001).

In order for a trauma victim to be diagnosed with acute PTSD, the symptoms manifest within three months after the trauma but do not last for more than six months. In Chronic or delayed PTSD, the symptoms develop more than six months following the trauma and last six months or longer (DSM-IV, APA, 1994).

Prevalence Rates

Most people who experience a traumatic event initially suffer from psychological disturbance, however recover over a period of time. It is therefore necessary to distinguish between a normal reaction to trauma and a chronic pathological reaction. In order to accomplish this, it is necessary to assess PTSD Symptoms repeatedly, beginning soon after the trauma. A study conducted by Riggs et al. (1995) looked at posttrauma reactions in victims of nonsexual assault over the three months following victimization. This study prospectively investigated the prevalence and severity of PTSD in a sample of men (n=31) and women (n=53) who were victims of nonsexual assaults. All participants had been victims of a crime (robbery, simple assault, aggravated assault) in which some physical contact occurred between the assailant and the victim within 30 days of the initial assessment. Demographic characteristics of the sample were a mean age for men of 36.91 and for women 35.83. Fifty-nine percent of the sample were African American males, while 40.9 % were caucasian males. Forty-two percent were African American women and 57.9% caucasian women. For education, 27.3% of the men had less than
high school, 54.5% of the men were high school graduates and 18.2% of the men were college graduates. Thirteen per cent of the women had less than high school, 44.7% were high school graduates and 42.1% of the women were college graduates. The majority of the men (45.5 %) earned between $10,000-$20,000 and the majority of the women (39.5 %) earned under $10,000. The procedures of the study involved victims of crime (referred through various victims' assistance programs) filling out self-report questionnaires (the Assault Reaction Interview, the PTSD Diagnosis and Severity Interview, and the Initial Interview). The study found that at initial assessment (18 days after the assault) more than 70% of the women and 50% of the men met criteria for PTSD however the prevalence of the disorder decreased over the three months of the study. At the final assessment (4 months post-assault), 21% of the women but none of the men were diagnosed with PTSD. The researchers found the pattern of change in the prevalence of PTSD to be very similar to that found among rape victims who were also assessed weekly for 3 months. While the prevalence of PTSD in the current sample was substantially lower than that found among rape victims, Riggs et al. (1995) stated that the higher rates associated with rape are likely due to the more brutal nature of rape than nonsexual assault.

A study completed by Kemp et al. (1995) looked at the incidence and correlates of PTSD in battered women. In this study, battered women were recruited from shelters, support groups, therapist referrals and from newspaper advertisements. A comparison group of nonbattered women was recruited through newspaper advertisements and from therapist referrals. Two hundred and twenty-seven subjects participated (48 had verbal abuse as their trauma event and 179 had physical abuse as their trauma event). The
modal age category for both the battered and the comparison group was 21-30. Eighty-two percent of the battered women were caucasian and 14% African American; for the verbal abuse group, 85% were Caucasian and 10% were African American. The physically abused women had been in the reported abusive relationship for an average of 6 years. Previous abuse was also relatively frequent for the battered group and verbally abused group: 71% of battered and 96% of verbally abused reported physical abuse as a child; 26% and 31% reported unwanted sexual contact with a family member as a child, respectively; 50% and 21% reported rape as an adult, respectively; and 41% of the battered group reported another physically abusive relationship as an adult and 15% of the verbal abuse group reported a physically abusive relationship prior to the current verbally abusive relationship.

Two measurement instruments were used to assess PTSD (the Mississippi Scale for PTSD and the PTSD Self-Report Scale). Physical abuse and verbal abuse were measured by the Conflict Tactics Scale. Prior abuse and demographic variables were obtained from a 23-item questionnaire developed for the study.

In the study, life-threatening events pertaining to the battered women group included choking, beatings and being threatened with a knife or gun. PTSD was present in 81% of these subjects with the average time out of the abusive relationship being 13 months. These high rates are comparable to those of sexual assault victims (73% to 96% met criteria for PTSD following 6-8 weeks after the rape). In the verbal abuse group 62.5% met criteria for PTSD. The results of the study strongly indicate that battered women are at risk for PTSD. Those with more extensive physical abuse are at greater risk (Kemp et al., 1995).
Kilpatrick et al. (1987) used a retrospective methodology to assess the prevalence rates of PTSD. In this study, 391 adult females from South Carolina in the United States were interviewed about lifetime criminal victimization and psychological impact, including PTSD. The mean age of the participants was 39.8 years. The racial status of most women was white (72.9%) or black non-Hispanic (26.6%). Other racial groups made up .6% of the sample. Modal household income range was between $15,001 and $25,000. Approximately equal percentages of the sample fell into the lowest and highest income ranges ($7500 to over $50,000). The remainder of participants earned between $35,000 and $50,000. Over half of the sample were high school graduates, 18.2% were college graduates, 13.8 failed to complete high school and 9.7% reported having some postgraduate education. Most women were currently married (65%), with 14.8% never married, 10% widowed and the remaining either divorced or separated.

Assessment measures included two structured interviews (the Incident Classification Interview collected information on lifetime crime experience and a modified version of the Diagnostic Interview Schedule was used to determine a diagnosis of PTSD). Crime types studied included completed and attempted rape, completed and attempted sexual molestation, other types of sexual assault (i.e. involving threat or coercion but no threat of force), aggravated assault, robbery and burglary. Characteristics of the 391 participants were compared with those of the 2004 members of a parent sample, a sample that was demographically representative of the Charleston population. More than 75% of the women in the sample had been a victim of crime. Fifty-three percent of the sample had been victims of at least one sexual assault, consisting of completed rape (23.2%), attempted rape (13.1%), completed molestation (18.4%), attempted molestation (4.6%),
and other sexual assaults. Lifetime prevalence rates for other crimes were 9.7% for aggravated assault, 5.6% for robbery and 45.3% for burglary. The results of the study revealed that one fourth of all victims developed PTSD and 7.5% still had PTSD at the time of assessment (the mean length of time postvictimization for all crimes was 15 years). Lifetime and current crime-related PTSD rates were highest for victims of rape, 28.2% of those victimized by nonviolent crime such as burglary also developed PTSD and 6.8% of all burglary victims were still experiencing PTSD at the time of assessment. As with the prospective studies, rape appeared more likely to induce PTSD than did other serious crimes. While the findings of this study appear to point to a relationship between rape and the development of PTSD, the findings of this study are limited due to the retrospective design.

Kilpatrick, Amick and Resnick (1988) studied the lifetime and current prevalence rate of PTSD in adult victims of homicide in the family. Twenty-nine percent of criminal homicide survivors experienced PTSD at some point with 7.0% experiencing PTSD at the time of inquiry. Of alcohol-related vehicular homicide survivors, 34.1% experienced PTSD at some point, with 2.2% experiencing PTSD at the time of inquiry. Approximately one-third of homicide survivors evidenced an occurrence of PTSD at some point following the trauma event, however a very small amount developed a chronic disorder. The rate of PTSD among the criminal homicide survivors was three times the rate among the vehicular homicide survivors, perhaps suggesting that trauma involving crime may be more psychologically damaging than noncriminal trauma (Foa & Rothbaum, 1998). A possible limitation of this study could result from whether or not the participants were questioned about past trauma events, suggesting that a past
traumatic event could have predisposed the individual to a higher probability of
developing PTSD.

Prevalence rates of PTSD in combat veterans have been reported to exceed 31%. The
emergency services (police, firefighters, ambulance drivers) face similar high rates of
exposure to traumatizing events. PTSD prevalence figures as high as 30% or more have
been reported in observers and rescuers alike following serious accidents and disasters.
The handling and identification of human remains is particularly associated with
subsequent psychological morbidity and is recognized as a stressor that can cause
secondary trauma. The witnesses of conflict and disaster including aid workers,
journalists and other members of the media all suffer from a high incidence of PTSD
(Deahl, 2000). Given the high prevalence rates of PTSD in occupations known to offer
greater opportunity of exposure to trauma, individuals considering careers in these
rewarding but dangerous jobs should take care to establish support networks around
themselves that include at the very least professional counselling resources that have a
solid background in techniques and therapies effective in the treatment of PTSD.

In summary, epidemiological studies in the United States have found lifetime rates of
PTSD between 1% and 7.8% and comparative data from other developed countries
suggest the rates of PTSD are similar to those in the United States (Mezey & Robbins,
2001). Davidson (2001) reported that in the United States, lifetime prevalence rates are
in the range of 8% with women affected twice as often as men. However he found that
studies from other countries and studies of high-risk populations have reported widely
ranging lifetime prevalence rates from as low as 1.3% in Germany (Perkonigg et al.,
2000) to 37.4% in Algeria. It has been estimated that on average, a person with PTSD
will endure 20 years of active symptoms and will experience almost one day a week of work impairment, perhaps resulting in a $3 billion annual productivity loss in the United States (Kessler, 2000) with rates of attempted suicide as high as 19% (Davidson, 2001).

Theoretical Perspectives

This paper will focus on two of the major theoretical traditions that explain the development of PTSD as a disorder and that have influenced the development of treatments found to be effective in the reduction of symptoms. The first is a cognitive-behavioral model and the second is an emotional processing perspective. In addition to these theoretical traditions, group therapy will also be discussed in relation to the benefits it offers in the treatment of PTSD.

Foy and his colleagues (2000) state that group therapy is effective in the treatment of PTSD because it functions to provide each group member with an understanding of what it means to have been exposed to a trauma, why he or she reacted in the way they did to the trauma and what the issues resulting from the trauma experience continue to be. In particular, Foy et al. (2000) reported that cognitive-behavioral group therapy appears to be effective as a means of reducing PTSD symptoms because it emphasizes systematic, prolonged exposure and cognitive restructuring applied to members' traumatic experiences.

Cognitive-Behavioral Theory. From this perspective, it is proposed that PTSD becomes persistent because the individual processes a trauma event in a way that leads to a sense of serious current threat. This threat can be either external, where the world is viewed as a dangerous place, or internal where the threat is to one's view of oneself as capable. Several types of appraisals of the trauma can produce this sense of threat. First,
the individual may overgeneralize from the event and consequently perceive a range of
normal activities as more dangerous than they really are. These appraisals result not only
in situational fear but also avoidance, which maintains the overgeneralized fear. Second,
appraisals of the way the person felt or behaved during the trauma can have long lasting
threatening implications. For example a rape victim who was unable to spot the danger
inherent in accepting a ride from a friendly male colleague may later come to see herself
as less capable of reading danger and avoid future relationships with “safe” male
colleagues (Ehlers & Clark, 2000).

In addition, symptoms such as intrusive recollections and flashbacks to the trauma
event, irritability and mood swings, lack of concentration and numbing are common
reactions after a trauma. If the person does not see these symptoms as a normal part of
the recovery process, they may interpret them as indications they are permanently
impaired or as constant threats to their physical and mental well being. These kinds of
appraisals maintain PTSD by directly producing negative emotions and by encouraging
the individual to engage in dysfunctional coping strategies that have the paradoxical
effect of enhancing PTSD symptoms. For example, when one believes that intrusive
recollections mean they are losing control of their mind, they are likely to try hard to
push them out of their mind. This active thought suppression often makes the thought
more likely to come to mind and maintains PTSD symptoms by first, directly producing
the symptoms, second by preventing change in negative appraisals of the trauma, and
third by preventing change in the nature of the trauma memory (Ehlers & Clark, 2000).

The nature of the predominant emotional responses in chronic PTSD depends on the
individual’s particular appraisals. Appraisals concerning perceived danger lead to fear
(e.g. “Nowhere is safe”), appraisals about others violating personal rules and unfairness lead to anger (e.g. “Others have not treated me fairly”), appraisals about one’s responsibility for the traumatic event or its outcome leads to guilt (e.g. “It was my fault”), appraisals about one’s violation of important internal standards lead to shame (e.g. “I did something despicable”), and appraisals about perceived loss lead to sadness (e.g. “My life will never be the same again”). Most sufferers with chronic PTSD experience a range of negative emotions because they activate different appraisals at different times (Ehlers & Clark, 2000).

The nature of trauma memory and its relationship to unwanted recollections is another puzzle of PTSD because on the one hand, the individual has difficulty intentionally retrieving a complete memory of the trauma and on the other, the person reports a high frequency of involuntarily triggered intrusive memories involving reexperiencing events of the trauma in a way that is vivid and very emotional (Ehlers & Clark, 2000).

Reexperiencing mainly consists of sensory impressions, as opposed to thoughts. These sensory impressions are experienced by the sufferer as if they were happening right now rather than being memories from their past and the emotions they feel are the same as those they felt at the time of the trauma event. The original emotions and sensory impressions are reexperienced even if the sufferer later acquires new information that contradicts the original impression. PTSD sufferers sometimes reexperience physiological sensations or emotions that are associated with the trauma event without a recollection of the actual event. These sensations can be triggered by a situation, place or person that is associated with the trauma. It is believed that the intrusion characteristics
and the pattern of retrieval that characterizes chronic PTSD is due to the way in which the trauma is encoded and laid down in the person's memory (Ehlers & Clark, 2000).

Individuals with chronic PTSD recall their trauma experience through an autobiographical memory that is biased by their appraisal of the event and they selectively retrieve information that is consistent with the appraisal. Inability to remember details of the trauma can be appraised by individuals in a way that maintains the sense of current threat, for example that not remembering the trauma means there is something wrong with their brain or that the event must have been horrendous and would therefore be unbearable if remembered. Inability to remember the exact order of events can contribute to the erroneous appraisal of being responsible for the event (Ehlers & Clark, 2000).

When sufferers with chronic PTSD perceive a serious current threat and the accompanying symptoms they try to control them by a range of strategies such as thought suppression, avoidant behavior, selective attention to threat cues, rumination and substance abuse (see Appendix B). These strategies are maladaptive because they maintain PTSD symptoms by directly producing PTSD symptoms, preventing change in negative appraisals of the trauma event and preventing change in the nature of the trauma memory (Ehlers & Clark, 2000).

In terms of treatment implications, the model proposes that the reduction of PTSD symptoms occurs by achieving change in three areas. First, the trauma memory needs to be elaborated and integrated into the context of the person's preceding and subsequent experience in order to reduce intrusive reexperiencing. Second, problematic appraisals of the trauma that maintain the sense of current threat need to be modified and third,
dysfunctional behavioral and cognitive strategies that prevent memory elaboration or hinder reassessment of problematic appraisals need to be discontinued. This can be achieved by the following techniques: education, reinstituting activities that the sufferer has dropped due to fear (in vivo exposure), cognitive restructuring, and reliving the trauma in an effort to elaborate and contextualize the trauma memory (imaginal exposure) (Ehlers & Clark, 2000).

**Emotional Processing Theory.** Foa and Riggs (1995) developed a theoretical approach to explain why some individuals recover from a trauma while others develop PTSD. They proposed that emotional experiences can often be relived well after the original emotional events have occurred and that this reliving involves reexperiencing the emotion, specific details and thoughts associated with the trauma. For example when a rape victim remembers her trauma, she is likely to reexperience the feelings of dread and helplessness she originally felt during the rape long after it occurred. In other words, it is the victim’s response to trauma and not the traumatic events themselves that produces a PTSD syndrome.

This process is referred to as emotional reexperiencing. Usually the frequency and intensity of the reexperiencing decreases over time and the fear tends to lessen. When this process is impaired, psychopathology occurs. To explain this pathology, Foa and Riggs (1995) identified fear as the cognitive structure that serves as a mechanism for escaping danger. In order for the fear to become pathological, Foa and Riggs (1995) suggest that it must first become disruptively intense, second it must include unrealistic elements in which the stimulus do not accurately represent the world and third, associations between harmless stimuli and escape or avoidance responses are also
evident. An indication of unsuccessful emotional processing is the persistence of intrusive signs of emotional activities like nightmares, obsessions, etc., which are consistent with PTSD symptomology (Foa and Riggs, 1995).

Rachman's (2001) theory of Emotional processing is also helpful in understanding the development of PTSD. Rachman (2001) states that in order for successful emotional processing to occur three conditions must be met. First, there must be evidence of an emotional disturbance, second, there must be evidence that the disturbance has declined, and third, there must be evidence of a return to normal, undisrupted, routine behavior. PTSD is an example of incomplete emotional processing because the effects of the traumatic event are followed by emotional disturbances that persist.

According to Rachman (2001) emotional disturbances persist and incomplete emotional processing occurs due to the presence of the four following factors: (1) personality factors such as a sense of incompetence or extreme introversion, (2) state factors such as elevated arousal, dysphoria, illness and fatigue, (3) stimulus factors such as intense stimuli, signals of danger and (4) maladaptive cognition factors such as the tendency to catastrophize, negative appraisals of an event or an inflated sense of responsibility. Rachman (2001) also identifies fear as the root cause of unsuccessful emotional processing. For Rachman (2001), the central index of unsatisfactory emotional processing is the persistence or return of intrusive signs of emotional activity, pressure of talk, inappropriate expressions or experiences of emotions that are not appropriate to the situation and maladaptive avoidance.

Emotional processing theory proposes that successful therapy involves correcting the pathological elements of the fear structure. For Foa and Riggs (1995), successful therapy
requires the satisfaction of two conditions: first, the fear structure must be activated via the introduction of fear-relevant information and second, new information must be provided that includes elements incompatible with the existing pathological elements. They state that exposure therapies such as in vivo and imaginal exposure work to confront the individual with trauma-related information, thus activating the trauma memory. Cognitive restructuring involves assisting the individual to uncover the thoughts and beliefs underlying the fear, examines whether they accurately reflect reality and replaces them with thoughts or beliefs that are more realistic (Foà & Rothbaum, 1998).

**Group Theory.** In a study that reviewed the impact of time limited group therapy on women with a history of incest, Herman and Schatzow (1984) reported that the short-term, psycho-dynamic group therapy approach benefited participants by increasing their levels of self-esteem. While this study did not meet the standard in terms of scientific rigor (lack of control groups and random assignment), it did outline three very important conditions that are necessary for inclusion of participants to any therapy group. These selection criteria include (1) that prospective participants express positive feelings about participating in a group with other trauma victims, (2) that prospective members be functioning reasonably well in day-to-day life and (3) that group members have had previous involvement in individual psychological counseling as well as having had an appropriate relationship with an individual therapist.

Herman and Schatzow (1984) report that these conditions are necessary in order to ensure that prospective group members are ready to participate in the group process. Condition one was designed to rule out those participants who felt too ambivalent to
participate successfully or who were reluctant to discuss their trauma with other victims. Condition two; that the participant not be in crisis, was dictated by a concern over the stressful and regressive nature of the group experience. The third condition, the requirement for prior psychological counselling grew out of a concern over the stressful and disorganizing nature of the group experience. Group members require the foundation of having experienced a positive and effective therapeutic relationship with a counselor prior to exposure to the group process in order to allow them to deal with the intense feelings aroused while the group is in process (Herman & Schatzow, 1984). It would seem as Herman and Schatzow (1984) state, that careful screening is essential to ensure the effectiveness of the group therapy process. Accordingly, this study will employ careful screening practices in order to ensure that individuals are appropriate for the group process and therefore experience maximum benefit from the treatment.

One can also understand the value of group therapy as a means of effective treatment for PTSD sufferers through the work of Irvin Yalom (1995). In his book Yalom states that therapeutic change occurs through an interplay of the following "therapeutic factors": (1) the installation of hope, (2) universality, (3) imparting of information, (4) altruism, (5) the corrective recapitulation of the primary family group, (6) the development of socializing techniques, (7) imitative behavior, (8) interpersonal learning, (9) group cohesiveness, (10) catharsis, and (11) existential factors (Yalom, 1995).

By analyzing just a few of these therapeutic factors one can understand how effective they would be in promoting therapeutic change in those who suffer from PTSD.

1. Hope is required to keep patients in therapy. Drop-out rates for PTSD sufferers who are in therapy are traditionally very high. A group format that allows these individuals
to have continued contact with other group members who have similar problems and who have improved might provide the motivation necessary for the client to remain in therapy.

2. The concept of universality is very important in the effective treatment of PTSD. Sufferers come to believe that they are unique in their suffering and consequently isolate themselves thus avoiding all opportunities for help. Group therapy works to normalize their experience and thus offers a powerful source of relief.

3. Didactic instruction educates sufferers in the early stages of the group about the meaning of their symptoms and explains the process of therapy. Many sufferers come to believe that they must be crazy because they are unable to lessen their suffering despite their desire to do so. This instruction functions as an initial binding force in the group.

4. Altruism. Those who suffer from PTSD can improve through the act of giving. Many sufferers are demonralized at the commencement of group as a consequence of many years of ineffective coping and consequently view themselves as burdens. The experience of finding they can be of importance through the process of sharing their stories with others can boost self-esteem.

5. The group resembles a family in many respects. The group process can be instrumental in indentifying and challenging familial conflicts or dysfunctional relationships that lie at the root of many trauma experiences.

6. Social learning or modeling of behavior is extremely important because sufferers can obtain considerable information and feedback from other members about their maladaptive behavior and ways to correct it.
7. Imitative behavior allows sufferers to benefit by observing the therapy of others with similar symptoms. This observation may function to help the sufferer unfreeze by experimenting with new behavior (in vivo therapy) (Yalom, 1995).

Research on Therapy for PTSD

A significant amount of research over the last two decades has produced increased knowledge about the efficacy of treatments for PTSD. Two reviews; one by Foa and Meadows (1997) and the second by Livanou (2001) looked specifically at psychological treatments for PTSD.

Livanou (2001) found that the majority of studies examined the usefulness of cognitive-behavioral treatments, reporting that the literature appears to support the notion that behavioral treatments are considered the treatment of choice in anxiety disorders. They include therapies such as exposure (imaginal and in vivo), relaxation and cognitive restructuring. Her review concluded that many of the earlier studies that used cognitive and behavior therapies suffered from methodological shortcomings (e.g. lack of a control group, failure to define the condition being treated or use reliable and valid measures to assess pre-treatment psychological status and treatment outcome) thus making their results difficult to interpret. Recent studies that have used better methodology (control groups, random assignment) reported reduction not only in PTSD symptoms but also in related problems such as depression in a relatively short period of time (three to six month follow-up in some cases). The improvements were also maintained at follow-up (Livanou, 2001).

Another area of concern pointed out by Livanou (2001) was the issue of the delivery of treatment among non-expert clinicians. Livanou (2001) stated that some treatments
such as psychodynamic, psychotherapy and cognitive-therapy are complex and require specialized training. Other treatments such as exposure therapy appear to be less complex and more easily accessible to clinicians outside of specialized settings. Accordingly, she argued that these treatments may be more useful in routine practice.

Finally, Linanou (2001) addressed the issue of cost-effectiveness. She states the research appears to support the equal effectiveness of both therapist guided exposure and self-directed exposure in the treatment of anxiety disorders and given the fact that the later is clearly more cost-effective, extended therapist involvement may be unnecessary. Livanou (2001) concludes by stating that future directions in research should examine the usefulness of more cost-effective ways of treating PTSD such as through self-help manuals, or computerized treatment programs.

Foa and Meadows (1997) reviewed the current treatment outcome literature from the perspective of what an ideal treatment outcome study would entail (the “Gold Standard”). They identified seven standards that they believe establish the basis of a methodologically sound outcome study: (1) clearly defined target symptoms, (2) reliable and valid measures, (3) use of blind evaluators, (4) assessor training, (5) manualized, replicable, specific treatment programs, (6) unbiased assignment to treatment and, (7) treatment adherence (Foa & Meadows, 1997).

According to Foa and Meadows (1997) the most studied psychosocial treatments for PTSD are the cognitive-behavioral interventions. These include exposure procedures, cognitive restructuring procedures, anxiety management programs and their combinations. They stated that overall, cognitive-behavioral treatments have the greatest number of controlled outcome studies and that the results from the studies they reviewed
consistently support the efficacy of imaginal and in vivo exposure for the treatment of PTSD. Nonbehavioral treatments have not enjoyed the benefit of well-controlled studies and therefore their efficacy could not be established one way or the other (Foa & Meadows, 1997).

Kazdin (1998), while not speaking directly to the studies on PTSD research and treatments supports the need for sound research practices. He reports that findings that emerge from methodologically sound research, particularly when replicated, have special meaning because they can enter the body of scientific knowledge. They signal that particular practices were implemented, controls were used, and special care was taken to rule out or minimize artifacts and potential sources of bias.

Kazdin (1998) also reports that random assignment of research subjects to treatment conditions (treatment and wait-list) is central to experimentation in order to ensure that the groups are free from pre-existing differences that could interfere with the outcome conclusions. He also supports the notion of reliable and valid measures but goes further in that he recommends researchers use multiple measures of a given construct in order to better evaluate it. Kazdin (1998) also points out the need for well-trained therapists in addition to the strengths of manualized treatment protocols (Kazdin, 1998).

An important observation in the assessment and treatment of PTSD has been that approximately 60% of individuals who do develop the disorder following a traumatic event experience a significant decline in the prevalence of full-blown symptomology with the passage of time. This would suggest that exposure to a trauma does not provide a sufficient explanation for the development of chronic PTSD present more than five years after exposure to the trauma event. Consequently clinicians and researchers who are
interested in using efficacious treatments for PTSD, need to consider what proportion of the treatment process should be focused on issues relating to the stressor and what else should be addressed (McFarlane & Yahuda, 2000).

In cases of repeated traumatization, there is also a need to examine the extent to which the individual has developed adaptive mental states that allow them to cope despite the impact of the trauma (e.g. dissociation). It may be that the triggering of these mental states due to affective environmental responses is the cause of their distress and disability. A specific consideration in regard to evaluating the complexity of PTSD with time is the fact that there is a high rate of psychiatric comorbidity, particularly of mood and anxiety disorders, substance abuse and character pathology. Individuals who develop these comorbid disorders, are likely to have a worse long-term outcome which may complicate an initial diagnosis of PTSD and the possible effectiveness of trauma-focused interventions (McFarlane & Yehuda, 2000).

The assessment of trauma victims can be enhanced through the use of standardized instruments and methods such as structured interviews and valid and reliable diagnostic measures. The use of multiple measures provides converging evidence that increases the confidence in diagnostic decision making and treatment application. By using standardized measures clinicians and researchers can (1) specify the current severity of a disorder, (2) track changes in severity over time and predict the course, prognosis and response to treatment and (3) communicate assessment results efficiently and clearly (Williams & Sommer, 1994).
Group Treatments for PTSD

Consistent with the general theoretical principles found in Yalom’s work, Wolfsdorf and Zlotnick (2001) conducted an affect-management stage approach group treatment for PTSD sufferers. Their underlying theoretical belief was that traumatized individuals may benefit from group treatment because it reduces feelings of stigma, isolation, and shame, and allows opportunities for observation, learning, modeling and sharing of new coping skills. The group was characterized by a cognitive-behavioral approach and focused on current difficulties and symptoms and increasing participants’ ability to manage and tolerate stress (Wolfsdorf & Zlotnick, 2001).

The group consisted of 48 female survivors of childhood sexual abuse who met criteria for PTSD. All participants received individual therapy prior to being randomly assigned to either the affect-management group or to the wait-list group. The affect-management group was characterized by a cognitive-behavioral approach and focused on current difficulties and symptoms of PTSD. There were no significant differences between participants in demographic characteristics, pretreatment symptoms, depression, or dissociation. To participate in the group, all participants had to satisfy a diagnosis for PTSD. Exclusion criteria included a diagnosis for dissociative disorder, active substance abuse, acute suicidal ideation and actively psychotic. While random assignment to control and wait-list groups did occur, a major limitation of this study was the lack of valid and reliable measures. Outcome results were entirely dependent on participant self-report of improvement. The results indicated that participants in the affect management
group reported significant reduction in symptoms of PTSD, depression, and dissociation at posttreatment compared to the wait-list controls (Wolfsdorf & Zlotnick, 2001).

While the lack of valid and reliable assessment measures gives cause for some concern with regard to the results of this study, it has relevance to my study in that a manualized treatment using a cognitive-behavioral approach was applied in a group setting. The group treatment used in this study was developed as an adjunct to ongoing individual treatment and thus provided a foundation from which participants could work more effectively with exposure based treatments (Wolfsdorf & Zlotnick, 2001).

In another study conducted by Resick and Schnicke (1992), cognitive processing therapy was applied in a group setting to treat chronic PTSD symptoms in rape victims. Nineteen participants received cognitive processing therapy that consisted of education, exposure therapy and cognitive restructuring over a 12 week period. Women who met a diagnosis for PTSD were included in the study and placed on a wait-list. Those women who remained on a wait list for at least 12 weeks formed the wait list sample. The only measure that all subjects received was the Symptom Checklist for PTSD. Those in the treatment group were additionally assessed on depression, social adjustment and PTSD symptom scores. Participants were assessed at pretreatment, posttreatment and at three and six month follow-up. When compared with a 20 subject control sample, the treatment group improved, with significant decreases on measures of depression, social maladjustment, and PTSD symptoms.

Morgan and Cummings (1999) also studied the effectiveness of group therapy on the reduction of PTSD in 40 women who were childhood sexual abuse survivors. Their study evaluated a group therapy program consistent with Herman’s (1992) feminist
empowerment model. This model emphasizes that reconnection with people in a safe atmosphere that allows for remembrance and mourning is essential to the healing process. Consistent with Herman’s five variables of interest, this study investigated depression, social maladjustment, self-blame, anger and PTSD.

The study investigated change during group therapy using a multivariate design with a quasi-experimental control group composed of female sexual abuse survivors. The group therapy program was designed to provide a safe atmosphere in which survivors could develop relationships with each other in order to help them process their trauma. The co-therapists were trained psychotherapists. All participants completed a history of victimization questionnaire and a response to childhood incest questionnaire. Scores from the questionnaires were then selected randomly to make an equal number of participants for the treatment group and comparison group. Depression and social adjustment scores for the treatment group were also measured during the assessment interview, at the first therapy session, the last session and follow-up. Assessment results on scores for depression (Beck Depression Inventory), self-blame (Responses to Childhood Incest Questionnaire), social maladjustment (Social Adjustment Scale) and PTSD (DSM-III criteria) indicated that the women in group therapy improved significantly when compared to the quasi-experimental control group (Morgan & Cummings, 1999).
Questions

The purpose of the present study is:

1. to examine the effectiveness of a manualized treatment protocol applied in a group setting on the reduction of PTSD symptoms for male and female sufferers.
2. to assess the effectiveness of the treatment program in men compared to women
3. to assess the effectiveness of this treatment course to male trauma populations other than veterans.

Hypotheses

Hypothesis 1. After treatment both men and women will decrease in PTSD symptoms as measured by the Beck Depression Inventory (BDI), the State-Trait Anxiety Inventory (STAI-S), and the Posttraumatic Stress Diagnostic Scale (PDS).

Rationale. There is evidence in the treatment literature pertaining to PTSD that the manualized treatment protocol used in this study is effective in reducing PTSD symptoms in both male and female populations of PTSD sufferers (Foa & Rothbaum, 1998 and Foa & Meadows, 1997).

Hypothesis 2. After treatment women will experience a greater decrease in PTSD symptoms than men as measured by the BDI, the STAI-S, and the PDS.

Rationale. While lifetime prevalence rates for PTSD are twice as high for women as for men and women are four times more likely to develop PTSD when exposed to the same trauma, gender differences in response to treatment have not been systematically studied. Therefore it is not known whether gender is predictive of treatment outcome. A review of the treatment literature suggests that women are more responsive to treatment than men (Foa, Keene & Friedman, 2000).
Qualitative Question. Treatment applied in a group setting will contribute to the reduction of PTSD symptoms in men and women due to the benefits of cohesion, encouragement and support from other group members.

Rationale. There is evidence that group therapy for PTSD sufferers offers the benefits of cohesion, encouragement and support from other members, variables that build trust. All of these factors serve to establish an environment of safety and trust for participants which in turn motivates them to remain in treatment (Yalom, 1995).
Method

Participants

Fifty-five caucasian subjects (30 women and 21 men) were referred, interviewed and assessed for participation in this study. The participants were recruited from two sources (1) a private counselling agency, and (2) individuals from a community hospital. All of the 51 subjects met the criteria for a formal diagnosis of Posttraumatic Stress Disorder (PTSD) according to the Posttraumatic Stress Diagnostic Scale (PDS). See Appendix A for the criteria for PTSD as set out in DSM-IV (American Psychiatric Association, 1994).

Pre-treatment measures were applied and assessed by a Masters level individual who was independent of the study. Post-treatment measures were applied and assessed by myself (Masters level student). The groups were co-led by me and an experienced Masters level Therapist. All of the groups were conducted at the same private counselling agency utilizing a manualized treatment protocol (Foa & Rothbaum, 1998). The treatment groups were conducted over a period of five and one half months (October 1, 2002 to March 14, 2003). Four treatment groups were conducted for the women (n's = 5, 6, 6 and 8) compared to two treatment groups for men (n's = 6 and 4).

Exclusion criteria were: a current diagnosis of schizophrenia, bipolar disorder, organic brain disorder, a severe alcohol or drug dependency, severe suicidal ideation or being in an ongoing relationship with their abuser. Participants were also required to refrain from involvement in other therapy procedures for the duration of the study, however were encouraged to contact the Counselling Agency for assistance if emotional disturbances arose. People in the wait-list control group were monitored periodically and were also encouraged to contact the Agency if emotional disturbances arose.
The participants were initially informed of the study through the posting of a bulletin outlining the particulars of the study (see Appendix C). This bulletin was sent to the personnel office of the Hospital. Finally, the bulletin was also made available to the Counselling Agency for clients to see and mailed to past clients of the Agency who had been diagnosed with and continued to suffer from PTSD.

Once the participants expressed an interest in the study, they were contacted by the researcher via telephone. An appointment time for an assessment interview was then set. Participants were required to attend a screening interview with a trained Master's level student therapist who was blind to participant assignment to either control or treatment groups. This therapist administered and later scored the test measures including the Posttraumatic Stress Diagnostic Scale (PDS), the Beck Depression Inventory (BDI), and the State-Trait Anxiety Inventory (STAI-S). Demographic information was obtained using the Assault Information and History Interview (AIHI) and included personal data such as date, age, education, socio economic status, career, employment, marital status, medical information including medications, prior hospitalizations, etc.

Informed consent (see Appendix D) was obtained by informing participants about the purpose of the study, the treatment protocol and their potential for equal assignment to either treatment or control groups. Once the measures were assessed and participants were determined to have met the criteria for inclusion in the study, they were contacted and assigned to treatment or wait list groups.
Design

This study employed a quasi-experimental design with partial random assignment of participants to wait list and treatment groups (sample size of 51; with 30 women and 21 men). Initial groups for both men and women involved random assignment of participants to either wait list or treatment. Subsequent participants were assessed and placed in wait list groups thereby forming the control sample who also participated in the treatment. A total of six treatment groups (4 women’s groups and 2 men’s groups) were conducted. Men and women participants were treated separately.

The independent variable in this study was the manualized treatment protocol (Foa & Rothbaum, 1998) that included breathing retraining exercises, cognitive restructuring and exposure therapies (prolonged imaginal and in vivo). The dependent variables (assessment measures) were anxiety scores, depression scores, and the rating of PTSD symptoms.

Measures

The following measures were administered at pretreatment and posttreatment.

PTSD. The Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995) was developed to correspond to DSM-IV diagnostic criteria for PTSD. The PDS is a 49-item self-report instrument designed to aid in the diagnosis of PTSD. In addition, the PDS provides recommendations for quantifying severity of PTSD symptoms. It was validated on 248 individuals aged 18 to 65 who were recruited from a number of treatment and research centers with a high frequency of PTSD among their patient populations. Trauma events ranged from sexual assault to life-threatening illness.
The test-retest reliability of PTSD diagnosis obtained from the PDS was assessed using kappa, a chance-corrected measure of agreement. A kappa of .74 was obtained, indicating good agreement. Percent agreement between diagnoses for the two administrations was 87.3% indicating a high degree of reliability. The Pearson correlation coefficient between Symptom Severity Scores for the two administrations was .83. A Cronbach alpha of .92 was calculated for the 17 items on which the Symptom Severity Score is based, indicating that the Symptom Severity Score is internally consistent.

The diagnostic performance of the PDS was assessed by comparing a PDS diagnosis with a diagnosis from the SCID (Structured Clinical Interview for DSM-III-R). A kappa of .59 between the PDS and the SCID was obtained, with 79.4% agreement between the two measures. The sensitivity of the PDS (the ability to correctly identify individuals with PTSD) was 82%, and its specificity (the ability to correctly identify individuals who do not have PTSD) was 76.7%. These results suggest the PDS has a good overall level of diagnostic agreement with the SCID.

Depression. The Beck Depression Inventory has been used consistently in PTSD treatment research. The Beck Depression Inventory (BDI-II; Beck et al., 1988) was derived from clinical observations about the attitudes and symptoms displayed by depressed psychiatric patients and infrequently by nondepressed psychiatric patients. These observations were consolidated into 21 representative symptoms and attitudes that could be rated on a four point scale ranging from null and 0 to 3 in terms of severity or severity of depression. The measure is user-friendly and can be self-administered requiring approximately 10-15 minutes to complete (BDI-II, 1988). The BDI-II is
scored by adding the rating for the 21 items to equal a maximum of 63. Cut-off scores identifying different degrees of severity of depression were established including minimal (0-13), mild (14-19), moderate (20-28) and severe (29-63) (BDI-II, 1988).

Studies have measured internal consistency for psychiatric populations with coefficient alphas ranging from .76 to .95 with a mean coefficient alpha of .86. With 15 nonpsychiatric samples the mean alpha was .81; the range was from .73 to .92. An estimate of the stability of the BDI-II over time was based on the responses of a subsample of outpatients who were administered the test at the time of their first and second therapy sessions, which were approximately one week apart. The test-retest correlation was .93.

In terms of validity, several types of analyses were conducted to estimate convergent validity of the BDI. The first analysis involved a comparison with the BDI-IA resulting in a correlation of .93 at the .001 confidence level. Correlations (using the Pearson r formula) with other psychological tests are as follows: .68, .37, .60, .71, and .47. These correlations range from a moderate degree (.37 and .47) of a positive relationship to a significant degree (.68, .60 and .71) of a relationship. All of the correlations were significant beyond the .001 level.

The BDI has been used in a number of studies related to the treatment of PTSD. Morgan and Cummings (1999) used this measure in their study about change experienced during group therapy by female survivors of childhood sexual abuse. The study involved 40 female participants whose trauma event was childhood sexual abuse. The ages of the participants ranged from 24 to 54 years. The majority were married or had a live in relationship. Approximately one third reported attending university and most had
previous individual (88%) and group (68%) therapy. The participants were separated in equal wait-list and treatment groups with the treatment group attending a 20 week group therapy program.

The BDI was also used in a study by Resnick and Schnicke (1992). In this study cognitive processing therapy was developed to treat the symptoms of posttraumatic stress disorder in rape victims and applied in a group setting. Nineteen sexual assault survivors received the treatment and were assessed at pretreatment, posttreatment and 3 and 6 month follow-up dates. The treatment group was compared with a 20 subject comparison sample drawn from a pool of those waiting for treatment. All subjects met the diagnostic criteria for PTSD. There were no significant differences in the demographics of the two groups of participants. The mean age of the sample was 30.6 years, mean years of education was 14.3. There were two African American participants and the remainder were white. With the exception of one woman who had been repeatedly raped by her husband, the women had experienced one to three rapes. The mean length of time since the most recent rape was 6.4 years. Most of the women were currently unmarried and 55.3% had never been married.

A study completed by Alexander et al (1989) also used the BDI to measure depression. In this study 65 women who had been sexually abused by a father, stepfather or other were randomly assigned to 1 of 3 treatment conditions; a 10 week interpersonal transaction group, a 10 week process group or a wait list condition. Subjects were evaluated at pretreatment, posttreatment and at 6 month follow-up on measures of social adjustment, depression, fearfulness and general distress. The subjects were not in concurrent individual therapy during the course of the treatment but had participated in
prior individual treatment. The mean age of the participants was 36 years with a range of 23 to 55 years and the mean number of years of education was 13.7. Marital status was 39% single, 36% married, and 20% divorced and the racial composition was 76% caucasian and 24% African American. The mean length of abuse was 7 years. For one third of the women, the abuse began before the age of 6, for half the abuse began when they were 6 to 11 and the remainder was at the onset of adolescence. One third experienced fondling only, 15% experienced oral/genital contact, and over half experienced sexual intercourse.

Anxiety. The State-Trait Anxiety Inventory (Form Y) (STAI, Spielberger, 1977) has been used extensively in research and clinical practice to assess state anxiety (the intensity of an anxiety reaction) and trait anxiety (enduring differences among people that specify anxiety-proneness). It comprises separate self-report scales for measuring state and trait anxiety. The S-Anxiety scale (STAI form Y-1) consists of 20 statements that evaluate how the individual feels “right now”. The T-Anxiety scale (STAI Form Y-2) consists of 20 statements that assess how people “generally” feel. The STAI was designed to be self-administered and requires approximately 15 minutes to complete. It requires a fourth or fifth grade reading ability. The item statements on the STAI-S scale are weighted according to intensity of feeling from (1) not at all to (4) very much so. The item statements on the STAI-T scale are rated by frequency of feeling ranging from (1) almost never to (4) almost always. A scoring key is used for scoring the two scales. The normative sample included college students, working adults, high school students and military recruits.
The STAI was used in a study by Foa et al (1999) to measure anxiety levels in participants of a study comparing exposure therapy, stress inoculation training and their combination. Ninety-six female assault victims with chronic PTSD were randomly assigned to the four treatment groups. Treatment consisted of 9 twice-weekly individual sessions. Evaluation measures were applied at pretreatment, posttreatment and at 3, 6 and 12 month follow-up. These treatment outcome measures were then compared to the wait-list group. Sixty-nine of the women were victims of sexual assault, and 27 were victims of nonsexual assault (aggravated assault or assault with a weapon). The index assault occurred after age 16. Participants averaged 34.9 years in age. Sixty-three were caucasian and 36% were African American. Most were employed either full time or part time. Ten percent did not complete high school and 18% had high school diplomas and 41% had some college education. Household income was $10,000 or less for one third and above $30,000 for 38%. Forty-eight percent reported at least one physical assault or sexual assault in adulthood prior to the index trauma for which they were seeking treatment and 48% reported at least one incident of childhood physical or sexual abuse. The demographic characteristics of the female participants, the design of the study and, the treatment protocol are similar to the sample of participants in this study.

The Assault Information and History Interview (AIHI)  This questionnaire can be found in Foa and Rothbaum’s (1998) book *Treating the Trauma of Rape*. It provides for the accumulation of demographic data pertaining to participants in addition to preassault information, postassault information, assault information, PTSD symptoms and related reactions, other mental health problems, alcohol and drug use, gynecological problems (if relevant) and life changes and legal activity. It consists of some fill-in-the-blank
questions, and yes or no responses and requires approximately 5 to 10 minutes to complete.

In this study a manualized treatment protocol (Foa & Rothbaum, 1998) was used. The only modifications to the protocol occurred in the first session and the fourth to seventh session. The first session was modified in order to adapt the treatment to a group setting. The modifications included standard group therapy practice such as therapist and group member introductions, the establishment of group norms and group member goal setting. In the fourth to seventh sessions, the treatment groups were separated into two smaller groups in order to maximize the creation of a safe, therapeutic environment. In addition the co-therapists also separated, leading each of the smaller groups individually which allowed for the opportunity to focus on individual trauma events within the time frames of the treatment protocol.

Session 1 and 2 focused on the presentation of the treatment rationale, education about PTSD, teaching breathing retraining, construction of in vivo exposure hierarchy, and initiation of in vivo homework. Session 3 focused on teaching cognitive restructuring. Session 4 commenced with imaginal exposure. Sessions 5 to 7 continued with breathing retraining, in vivo, imaginal exposure and cognitive restructuring. Session 8 involved completion of assessment measures, feedback, and termination of therapy.

In in Vivo (real life) therapy, the survivor is encouraged to face reminders of the trauma repeatedly in everyday life. Live exposure can be graded using the Subjective Units of Stress Scale (SUDS) (see Appendix F). This scale requires the individual to identify stressful or anxiety provoking situations associated with their trauma event and rate them from 0 to 100 (in units of 10) with 0 = to no stress and 100 = to unable to
function (see Appendix E). The individual begins by facing the less anxious situations and gradually working his/her way up to more anxiety-provoking ones. Imaginal exposure involves the trauma survivor narrating repeatedly their traumatic experience in detail and in the present tense until habituation occurs. While the survivor focuses on the most distressing aspects of the trauma, the therapist rates his/her anxiety response from 0 to 100 using the therapist’s SUDS form (Livanou, 2001).

Cognitive treatment emphasizes the importance of maladaptive or irrational thinking in the development of anxiety. The goal is cognitive restructuring in which the sufferer is taught to identify faulty thinking and then how to challenge it and modify it. This occurs through the person’s active gathering of logical evidence for and against negative thoughts (Livanou, 2001).

Data Analysis

Data were analyzed using the 1999 software version of SPSS Base 10.0. Descriptive statistics including the means, standard deviations, and frequencies for all variables were calculated and comparisons between and within the treatment samples for men and women were made.
Results

Subject Attrition

Fifty-five subjects volunteered for the study. Of these 55 subjects, four individuals were not suitable to participate in the study; two (one man and one woman) because they did not meet the diagnosis of PTSD and two others (both women) met the exclusion criteria of a diagnosed mental illness. Of the remaining 51 subjects (25 women and 12 men) who completed the pre-measures, seven men remain on a waiting list for treatment and seven (two men and five women) declined to participate in the treatment due to scheduling conflicts thus reducing the sample size to 37.

Of these 37, six dropped out of treatment (four women and two men). Of the women, one did not show for any sessions, one completed five sessions and one completed all of the therapy sessions but was not available at post treatment to complete the measures (reasons included lack of transportation, inability to cope with the treatment and relapse into drug use). Both of the men who dropped out completed three sessions (reasons included unstable marital relations and legal difficulties). Consequently, the treatment sample size was reduced to 31 (21 women and 10 men).

Descriptive Statistics - Demographics

Of the 31 subjects who participated in the treatment, 21 were female and 10 were male. The mean age of the men was 42 and the mean age of the women was 36. Men ranged in age from 28 to 66 years of age while the women ranged from 22 to 55 years of age. Thirty percent of the men had a College or higher level of education while 44% of the women had College or higher. Eighty percent of the men worked fulltime while only 29% of the women worked fulltime. Fifty percent of the men earned over $50,000.00 per
year and 20% earned $40,000.00 per year compared to 19% of the women earning over $50,000.00 and 10 women earning between $40 & $50,000.00. Sixty percent of the men held blue-collar jobs compared to 29% of the women. The majority of women (33%) held white-collar jobs. All of the participants in the study were caucasian (see Table 1 for demographics).

Participants in the treatment sample (21 females, 10 males) were compared in terms of trauma events. The majority of subjects in the sample identified multiple trauma events in their history, so for the purpose of this study, a total of five trauma events per participant were coded. The most frequently occurring trauma events for men were: serious accident, fire or explosion (n=5), non-sexual assault by a family member (n=5) and, sexual assault by a family member or someone you know (n=5). For women, the trauma events were: non-sexual assault by a family member or someone you know (n=20), sexual assault by a family member or someone you know (n=21), sexual contact when younger than 18 with someone you know (n=21) and sexual contact when younger than 18 with someone who was 5 years or more older than you (n=20) (refer to Appendix G for a complete list of trauma events).

Pre Sample Comparison on Dependent Measures (n=51). Prior to the treatment intervention, all subjects (N=51) displayed symptoms of PTSD as evidenced by the Posttraumatic Stress Disorder Scale (PDS), Anxiety as evidenced by the STAI-S and Depression as evidenced by the Beck Depression Inventory (BDI). There was no significant difference on the pretreatment variables between the participants who completed the study (n=31) and the participants who did not complete the study (n=20).
Table 1

Description of Demographic Characteristics of Treatment Sample
(males = 10, Females = 21)

<table>
<thead>
<tr>
<th>Biographical Information</th>
<th>f</th>
<th>%</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
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<tr>
<td>Male</td>
<td>10</td>
<td>mean = 42</td>
<td>28 - 66</td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>mean = 36</td>
<td>22 - 55</td>
</tr>
<tr>
<td>Education Level</td>
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</tr>
<tr>
<td>Some graduate courses</td>
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<td>Men</td>
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<td>10</td>
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</tr>
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<td>Bachelor Arts</td>
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<tr>
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<td>10</td>
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<tr>
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<td>10</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>6</td>
<td>29</td>
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<tr>
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<td>20</td>
<td></td>
</tr>
<tr>
<td>Women</td>
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<td>29</td>
<td></td>
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<tr>
<td>Some high school</td>
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<tr>
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<td>Men</td>
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<td>0</td>
<td></td>
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<tr>
<td>Women</td>
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<td>10</td>
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<td>Employment Status</td>
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<tr>
<td>Not working</td>
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<td></td>
</tr>
<tr>
<td>Men</td>
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<td>10</td>
<td></td>
</tr>
<tr>
<td>Women</td>
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<td>29</td>
<td></td>
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<tr>
<td>Working part-time</td>
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<td></td>
</tr>
<tr>
<td>Men</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>7</td>
<td>33</td>
<td></td>
</tr>
</tbody>
</table>
Description of Demographic Characteristics of Treatment Sample Continued

<table>
<thead>
<tr>
<th>Biographical Information</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
</table>

**Employment Status**

- **Working full-time**
  - Men: 8 (80%)
  - Women: 6 (29%)

- **On disability**
  - Men: 1 (10%)
  - Women: 1 (5%)

- **Student**
  - Men: 0 (0%)
  - Women: 1 (5%)

**Job**

- **Professional**
  - Men: 1 (10%)
  - Women: 3 (14%)

- **White-collar**
  - Men: 3 (30%)
  - Women: 7 (33%)

- **Blue-collar**
  - Men: 6 (60%)
  - Women: 6 (29%)

- **Homemaker**
  - Men: 0 (0%)
  - Women: 3 (14%)

**Income Level**

- **50,000 +**
  - Men: 5 (50%)
  - Women: 4 (19%)

- **40,001-40,000**
  - Men: 2 (20%)
  - Women: 2 (10%)

- **30,001-40,000**
  - Men: 1 (10%)
  - Women: 4 (19%)

- **Below 20,000**
  - Men: 2 (20%)
  - Women: 10 (58%)

*Note: f = frequency, %= per cent,*
Test of Hypotheses. Means and standard deviations for treatment variables of the Beck Depression Inventory (BDI), The State-Trait Anxiety Inventory (STAI-S) and the Posttraumatic Stress Diagnostic Scale (PDS) are reported in Table 2.

Hypothesis 1 stated that after treatment both men and women would decrease in PTSD symptoms as measured by the BDI, the STAI-S and the PDS. A Paired T-Test, for BDI revealed a significant change (t (1, 30) = 9.24, p < .01) indicating that men and women in the treatment group reduced their depression level from pre to post treatment.

A Paired T-Test for the STAI-S revealed a significant change (t (1, 29) = 7.20, p < .01) indicating that men and women in the treatment group reduced their anxiety level from pre to post treatment.

A Paired T-Test for the PDS as measured by total number of symptoms pre to post was also significant (t (1, 30) = 5.01, p < .01) indicating that PTSD symptoms were reduced from pre to post treatment.

Clinical Significance.

To examine clinical change on the self-report scales, two measures (the STAI-S and the BDI) were chosen because they have standardized norms. At pretherapy 52 % of the women and 50% of the men scored at least one standard deviation above the normative mean on the STAI-S subscale. At posttreatment, only 29 % of the women and 20% of the men continued to score one deviation above the normative mean. Fifty-one percent of the women improved at least one standard deviation in the scores from pre to posttreatment, while 60% of the men improved at least one standard deviation in the scores from pre to posttreatment indicating that from a clinical perspective, 60% of men reduced their anxiety and 50% of women reduced their anxiety at the clinical level.
Table 2

Means and Standard Deviations of Dependent Measures Over Time (n=31)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Treatment Sample (N=31)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Men and women</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD-PDS (Number)</td>
<td>14.26</td>
<td>2.44</td>
<td>11.48</td>
</tr>
<tr>
<td>STAI</td>
<td>57.50</td>
<td>9.72</td>
<td>39.03</td>
</tr>
<tr>
<td>BDI</td>
<td>28.19</td>
<td>9.82</td>
<td>10.68</td>
</tr>
<tr>
<td>Men(n=10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD-PDS (Number)</td>
<td>13.60</td>
<td>2.55</td>
<td>9.50</td>
</tr>
<tr>
<td>STAI</td>
<td>56.60</td>
<td>9.22</td>
<td>34.40</td>
</tr>
<tr>
<td>BDI</td>
<td>25.70</td>
<td>9.56</td>
<td>8.30</td>
</tr>
<tr>
<td>Women(n=21)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD-PDS (Number)</td>
<td>14.57</td>
<td>2.38</td>
<td>12.43</td>
</tr>
<tr>
<td>STAI</td>
<td>57.86</td>
<td>9.91</td>
<td>41.35</td>
</tr>
<tr>
<td>BDI</td>
<td>29.38</td>
<td>9.95</td>
<td>11.81</td>
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</tbody>
</table>

Note: PTSD = Posttraumatic Stress Disorder, PDS = Posttraumatic Stress Diagnostic Scale, PTSD Number = Total number of PTSD symptoms according to the PDS, STAI = State-Trait Anxiety Scale, BDI = Beck Depression Inventory
On the BDI, the cutoff scores recommended by Beck at al. (1988) were used as the measure of clinical change. A score of 0 – 13 represents minimal depression, a score of 14 – 19 represents mild depression, a score of 20-28 represents moderate depression and a score of 29-63 represents severe depression. At pretreatment 66% of the women and 50% of the men scored in the severe range indicating a high level of depression. At posttreatment 66 % of the women scored in the minimal range while 80% of the men scored in the minimal range. These results suggest that the majority of both men and women reduced their level of depression at the clinical level.

Hypothesis 2 stated that after treatment women would experience a greater decrease in PTSD symptoms than men as measured by the BDI, the STAI-S and the PDS. The results revealed that there were no significant gender differences on the dependent variables of depression and anxiety thus indicating that men and women did not change differently from pre to post treatment on these measures. However, there was a significant difference between males and females for PDS ($f(1,29) = 5.331$) indicating that males reported fewer symptoms (pre 13.60; post 9.50) than females (pre 14.57; post 12.43).

**Correlations of Dependent Variables**

Pearson product-moment correlations were computed to examine the relationships between the dependent variables of PTSD (number of overall symptoms, avoidance, and reexperiencing), anxiety, depression and age. Age was related negatively to all variables suggesting that older participants were less depressed, less anxious and had fewer PTSD symptoms than younger participants. As expected, the results indicated a significant positive relationship between the variables of PTSD number and anxiety ($r = +.57$),
indicating the number of symptom increase was related to an increase in anxiety. In addition PTSD number and depression were related \((r = +.32)\), also indicating the number of symptom increase was related to the level of anxiety. These correlations can be found in Table 3.

**Qualitative Question.** The Qualitative Question stated that treatment applied in a group setting would contribute to the reduction of PTSD symptoms in men and women due to the benefits of cohesion, encouragement and support from other group members. Two open-ended questions relating to the benefits of the group process were developed to evaluate this question. Comments from the male respondents when asked about the positive or helpful aspects of the group included: "The experience of bonding and recognizing that my situation and feelings are not unique", "Learning from others and seeing my problems in others that are very much similar patterns", and "the fact that they all understood the trauma they went through and therefore could understand and feel my trauma".

Comments from female respondents when asked about the positive or helpful aspects of the group included; "To realize that I can tell my story and not be judged! To actually find a safe environment was incredible. It is easier to open up to a trained therapist than a group so being in a group has helped breakdown the walls much faster", "We became a family. Being in a group helped me to understand that what I am going through has happened to all ages of women and they deal with it the same way", and "Hearing others’ stories, feeling like it's not just me, strength of the group, support and encouragement".

My experience as one of the co-therapists in the group provided me with a unique opportunity to observe the group process and how it positively influenced the treatment
process. A commitment to attend all of the sessions was asked for and made by the participants to and from each other and this commitment appeared to be the strongest reason why the groups bonded quickly and an environment of trust and support was created. Many times throughout the treatment, when participants experienced emotional upset, group members reminded each other of this commitment as a form of motivation to continue with the treatment.
Table 3

Pearson Product-Moment Correlations for Age and Dependent Measures of PTSD, Depression and Anxiety (N=31)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.46**</td>
<td>-.34</td>
<td>-.51**</td>
<td>-.32</td>
<td>-.46**</td>
<td></td>
</tr>
<tr>
<td>p</td>
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<td>ns</td>
<td>.01</td>
<td>ns</td>
<td>.01</td>
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</tr>
<tr>
<td>PTSD-PDD Number</td>
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<td>.87**</td>
<td>.57**</td>
<td>.32</td>
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<td></td>
</tr>
<tr>
<td>p</td>
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<td>.01</td>
<td>.01</td>
<td>ns</td>
<td></td>
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</tr>
<tr>
<td>PTSD-PDS Reexperiencing</td>
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<td>.29</td>
<td>.12</td>
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</tr>
<tr>
<td>p</td>
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<td>ns</td>
<td>ns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTSD-PDS Avoidance</td>
<td>.60**</td>
<td>.57**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p</td>
<td>.01</td>
<td>.01</td>
<td></td>
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</tr>
<tr>
<td>STAI Anxiety</td>
<td></td>
<td></td>
<td></td>
<td>.54**</td>
<td></td>
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</tr>
<tr>
<td>p</td>
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<td></td>
<td>.01</td>
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<tr>
<td>Beck Depression Inventory</td>
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</tr>
</tbody>
</table>

Note: PTSD = Posttraumatic Stress Disorder, PDS = Posttraumatic Stress Diagnostic Scale, Number = Total number of PTSD symptoms according to the PDS, STAI Anxiety = State Trait Anxiety Scale
*Correlation is significant at the 0.05 level (2-tailed)
**Correlation is significant at the 0.01 level (2-tailed)
Discussion

The results of the present study indicate that the manualized treatment protocol (8 sessions at 2.5 hours each) including cognitive restructuring, in Vivo therapy and exposure therapy was effective in reducing the symptoms of PTSD, depression and anxiety in men and women who participated in the study. The treatment resulted in a significant reduction of PTSD symptoms, depression and anxiety symptomology for both men and women, therefore offering support for the claim that both men and women PTSD sufferers may benefit from this format of treatment.

There was a significant correlation between age and PTSD symptoms. Younger people had more PTSD symptoms than older people. This finding is consistent with outcome results in a similar study conducted by Norris (1992). In the Norris (1992) study this correlation was attributed to the assumption that younger people have more trouble recovering from a trauma due to less life experience and underdeveloped coping strategies. In the present study, the older participants appeared to have had a more stable lifestyle and support network including employment, spouses, and other family members.

The study outcome results indicating that PTSD sufferers may benefit from this protocol of treatment are consistent with research that used similar methodologies to investigate the efficacy of treatment for PTSD (Resnick & Schnicke, 1992 & van Minnen et al, 2002). While the focus in a study conducted by van Minnen et al. (2002) was on predictors of treatment outcome and dropout rates, the study bears significant similarities to the present study in that the participant sample was made up of both men and women. In the van Minnen et al. (2002) study two groups of similar demographics were compared pre and posttreatment with each other. The first group of men (n=18) and women (n=27)
had a mean age of 34.8 years (SD= 9.8, range 16-60) for participants who completed treatment. The second group of men (n=11) and women (n=21) had a mean age of 36.5 (SD=11.9 range 18-72) for participants who completed treatment. All subjects met DSM-III criteria for chronic PTSD and had experienced a range of traumas consistent with those reported in the current study. Treatment was based on the same manualized protocol used in the present study including imaginal exposure, cognitive restructuring and in Vivo therapy and was delivered over nine weeks with one and a half hour weekly sessions. Measurement instruments consisted of the PTSD Symptom Scale Self-Report (an earlier version of the PDS), the STAI to measure anxiety and the SCL-90-R Scale to measure depression.

In the van Minnen et al. (2002) study anxiety decreased from a mean of 55.5 to a mean of 44.1 in the first group and from 51.7 to 44.1 in the second group. In the current study anxiety decreased from 57.50 at pretreatment to 39.03 at posttreatment. The mean scores for depression in the van Minnen study decreased from 39.8 to 30.7 (group 1) and 41.5 to 32.6 (group 2). In the present study the mean for depression decreased from 28.19 to 8.82. While the mean differences for anxiety and depression were greater in the present study, it is important to note that the subjects in this study had significantly higher levels of both anxiety and depression at pretreatment. The groups were not compared on the basis of PTSD symptoms as the analysis of the symptomology was completed differently.

In Resnick and Schnicke’s (1992) study, the 19 participants were all female sexual assault sufferers who met a formal diagnosis of PTSD. The design and treatment protocol of this study was similar to the present one in that subjects were placed on a wait
list for treatment which consisted of education, exposure therapy and cognitive components. Similar measures included the BDI and an earlier version of the PDS. The length of time of treatment differed as it was applied over a 12 week period for one and one half hour weekly sessions. The demographic characteristics of the women in the Resnick and Schnicke (1992) study were similar to this study. Outcome measures from pretreatment to posttreatment for the variables of PTSD, and depression demonstrated significant improvement (pre BDI = 21.68; post BDI = 13.16). In the current study pre BDI was 21.89 and post BDI was 10.68 indicating that in both studies depression was significantly reduced at posttreatment. The PTSD outcome score was not comparable as PTSD symptoms were evaluated differently than the present study.

In the current study 42% of the women’s scores for anxiety and 70% of the men’s scores for anxiety reached clinical significance. Although there was a significant statistical reduction in anxiety from pre to post treatment clinical significance is a more stringent measure of the treatment efficacy thus adding greater weight to the claim that the treatment was effective. Sixty-six percent of the women also reached clinical significance for a reduction in their level of depression while 50 % of the men reduced their scores for depression, indicating that both men and women were less depressed at posttreatment.

While all of the subjects in the study had participated in individual (and some group) counselling prior to commencing this treatment, none had been treated with this treatment protocol in a group setting. Given the significant reduction in PTSD symptomology by the treatment group, this type of treatment may offer significant relief for both male and
female sufferers. It may also provide clinicians with an alternative method for treating PTSD sufferers.

A caveat here is that all of these participants had previous counselling prior to participation in this study and had established a prior relationship of trust with one of the co-therapists. This is an important factor with regard to the treatment outcomes because the phase oriented approach used to treat the participants assumes that clients are ready and prepared to proceed from one phase of treatment to another. Clinical judgment in cooperation with client input are the determinants of whether an individual is ready to proceed to more intensive phases of the therapy. Some clients require longer periods of time in one stage than another, therefore case conceptualization is an essential part of structuring treatment. Clinicians who use this form of treatment therapy will need to constantly assess several issues pertaining to their client’s readiness for treatment at various times and stages throughout the treatment. Further research is needed to test the efficacy of this treatment with clients who have not had previous individual counselling and group experience.

With regard to gender differences the present study found that men and women did not change differently from pre to post treatment on the dependent measures of anxiety and depression but did decrease for posttraumatic stress symptoms. While there is a clear void in the literature pertaining to PTSD treatment outcomes with regard to gender differences and in particular studies that look at these differences in a group setting, there are some studies that have used a similar treatment protocol to assess the reduction in PTSD symptoms with male Veterans on an individual therapy basis. In a study by Marks et al. (1998) 77 randomly assigned subjects completed a similar manualized treatment
protocol. Subjects participated in 10 weekly one and a half hour individual sessions of treatment over a 16 week period. Treatment included exposure therapy alone, cognitive restructuring alone, combined exposure and cognitive restructuring and relaxation alone. All clients met a formal diagnosis of PTSD According to DSM-III criteria and ranged in age from 16 to 65 years. Reported trauma events were similar to those reported by men in this study with the most frequently occurring trauma being physical assault in both studies. The mean scores at posttreatment for the BDI for exposure therapy alone were (M=13), cognitive restructuring (M=17) and exposure and cognitive restructuring combined (M=18). In the present study BDI was reduced for both men and women from 28.19 at pretreatment to 9.82 at posttreatment.

The results of the present study indicated that both men and women significantly reduced their symptomology on the dependent variables of PTSD, anxiety and depression and that there were no significant differences between their changes from pretreatment to posttreatment for anxiety and depression. There was a significant difference between males and females on the PDS measure (f (1, 29) = 5.331 indicating that males reported fewer symptoms (pre 13.60; post 9.50) at posttreatment (M=9.50) than females (pre 14.57; post 12.43). However this may be attributed to the small sample (n=10) for the men.

The importance of the findings of this study with regard to gender differences is that both men and women may benefit equally well from the manualized treatment protocol used in this study. In addition, men with trauma events other than war may also benefit from this form of PTSD treatment. Much more research is needed in the area of gender differences in the treatment of PTSD with a focus on group treatment effects and trauma
events other than war so that more assurance can be attributed to the claim that gender is not predictive of treatment response for PTSD sufferers.

There is qualitative support through participant responses for the claim that the benefits of cohesion, encouragement and support from other group members did contribute to the reduction of PTSD symptoms in this study. Participants responded that they were motivated to remain in treatment because of the supportive environment created by the group dynamic and the normative effect that hearing others speak about circumstances similar to their own had for them. Participant responses about the positive aspects of the group such as "Realizing I was not alone with my fears and anxieties and feelings" and "Being able to state what we need to feel safe in the group and what we need from the group" are consistent with the therapeutic factors necessary for therapeutic change to occur according to Yalom (1995). These responses relate specifically to the therapeutic factors of universality (the creation of a feeling of normalacy), interpersonal learning (through the sharing of their trauma stories) and the corrective recapitulation of the primary family group (their feeling of being like a family).

Implications for Other Counsellors

One of the most important implications for counsellors as a consequence of this study is the need for effective screening of clients prior to treatment. Significant efforts were made during the interview stage prior to treatment in this study to ensure that the clients were ready to engage in the various stages of this intensive form of therapy. It is important to ensure that the clients feel positive about engaging in the therapy process and that they feel comfortable about talking about their trauma experiences in front of others. It is also necessary to ensure that they have a supportive and safe environment in
which to live during the time they are engaged in therapy and that they are functioning fairly well in their day to day lives.

Given the positive results of this study with regard to the effectiveness of this treatment protocol for both male and female sufferers of PTSD in a group setting, this form of treatment may be considered as an appropriate treatment option. Certainly there are cost benefits in that it would be possible to treat a greater number of clients as opposed to delivering the same treatment on an individual basis. In addition clients would have quicker access to treatment and would have the additional support of others who suffer similarly to add to their ability to remain in and complete the treatment.

Limitations of the Study

The first limitation of this study is the quasi-experimental design. Due to the difficulty in obtaining subjects (particularly males), a traditional experimental/control group design was not possible. Instead, wait list groups were formed and treatment did not commence until sufficient number of subjects that met the full criteria for PTSD were identified. This was particularly true for the male treatment group and is evidenced by the small sample size (n=10). Consequently, random assignment of subjects to treatment and control only occurred for the first groups for men and women.

Another limiting factor was the short duration of treatment. Most treatment protocols for PTSD are significantly longer in duration and contain more sessions pertaining to exposure therapy. Future researchers or practitioners should bear this in mind when considering replication of the treatment protocol.

A unique aspect of this study was the condition that all of the treatment subjects had participated in previous therapy (including group therapy). The subjects were therefore
treatment ready and this factor may have positively influenced the treatment outcome results. Therefore the results should only be generalized to participants who have had previous counselling. While the mean difference for anxiety and depression from pretreatment to posttreatment in the present study were greater than other studies, it is important to note that the subjects in this study had significantly higher levels of both anxiety and depression pretreatment.

Finally, PTSD responses are complex in nature as are the individuals who suffer from the disorder. Therefore some treatment approaches work better than others for different trauma events and people. Although exposure based treatments are effective in the treatment of PTSD, some sufferers may be too highly distressed and therefore may become overwhelmed by the trauma-focused approach. This could and does result in high drop-out rates among participants (attrition) which could result in statistically insignificant findings. However with the implementation of specific screening practices prior to the commencement of treatment, incidences of participant drop-out should be minimized.

Implications of the Study

This study is important because it provides reliable outcome data on the effectiveness of a manualized treatment protocol applied in a group setting for the reduction of PTSD symptoms for both male and female suffers. This is significant because many of the present treatments for PTSD are administered on an individual basis which is costly for the individual and the intensive nature of the exposure component of the treatment may predispose clients to disengage prematurely from treatment. The supportive, cohesive nature of the group environment helps to normalize the experience of suffering for PTSD
suffers and may provide the encouragement necessary for clients to remain in and complete treatment.

As well there are few studies that compare the effectiveness of treatment for both men and women sufferers. This study may add to the research literature in terms of gender response to treatment for PTSD. It may also allow for the generalization of these treatment results to other male trauma populations other than veterans.
References


Appendix A: DSM-IV Diagnostic Criteria for PTSD

DSM-IV Diagnostic Criteria for PTSD

A. The person has been exposed to a traumatic event in which both of the following were present:
   (1) the person experiences, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.
   (2) the person’s response involved intense fear, helplessness, or horror. Note: In children, this may be expressed instead by disorganized or agitated behavior.

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:
   (1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
   (2) recurrent distressing dreams of the event. Note: In children, there may be frightening dreams without recognizable content.
   (3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated). Note: In young children, trauma-specific reenactment may occur.
   (4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
   (5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:
   (1) efforts to avoid thoughts, feelings, or conversations associated with the trauma
   (2) efforts to avoid activities, places, or people that arouse recollections of the trauma
   (3) inability to recall an important aspect of the trauma
   (4) markedly diminished interest or participation in significant activities
   (5) feeling of detachment or estrangement from others
   (6) restricted range of affect (e.g. unable to have loving feelings)
   (7) sense of a foreshortened future (e.g. does not expect to have a career, marriage, children or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:
   (1) difficulty falling or staying asleep
   (2) irritability or outbursts of anger
   (3) difficulty concentrating
   (4) hypervigilance
   (5) exaggerated startle response
E. Duration of the disturbance (symptoms B,C, and D) is more than 1 month.

Appendix A: DSM-IV Diagnostic Criteria for PTSD continued

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

*Specify if:*
- **Acute:** if duration of symptoms is less than 3 months
- **Chronic:** if duration of symptoms is 3 months or more

*Specify if:*
- **With Delayed Onset:** if onset of symptoms is at least 6 months after the stressor

Appendix B
Examples of appraisals with associated dysfunctional behavioral and cognitive strategies

<table>
<thead>
<tr>
<th>Appraisal</th>
<th>Dysfunctional strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I think about the trauma</td>
<td>try hard not to think about the trauma;</td>
</tr>
<tr>
<td>... I will go mad</td>
<td>keep mind occupied all the time:</td>
</tr>
<tr>
<td>... I will fall apart</td>
<td>control feelings;</td>
</tr>
<tr>
<td>... I will lose control and hurt someone</td>
<td>drink alcohol/take drugs</td>
</tr>
<tr>
<td>... I will have a heart attack</td>
<td></td>
</tr>
<tr>
<td>... I will seriously damage my health</td>
<td></td>
</tr>
<tr>
<td>If I do not control my feelings tightly</td>
<td>numb emotions; avoid trying anything that could cause negative or positive feelings</td>
</tr>
<tr>
<td>... I will not be able to work and lose my job</td>
<td></td>
</tr>
<tr>
<td>... I will lose my temper and offend people</td>
<td></td>
</tr>
<tr>
<td>If I do not find out how this event could have been prevented</td>
<td>ruminate about how event could have been prevented</td>
</tr>
<tr>
<td>... something similar will happen again</td>
<td></td>
</tr>
<tr>
<td>If I do not find a way to punish the assailant he will have won and I will not be a proper person any longer</td>
<td>ruminate about how to get even with the assailant</td>
</tr>
<tr>
<td>If I go to the site of the event,</td>
<td>avoid site of the event</td>
</tr>
<tr>
<td>If I wear the same clothes again,</td>
<td>avoid wearing similar clothes</td>
</tr>
<tr>
<td>... I will have another accident</td>
<td></td>
</tr>
<tr>
<td>... I will have a nervous breakdown</td>
<td></td>
</tr>
<tr>
<td>If I do not take extra precaution</td>
<td>carry weapon; vigilant for dangerous people; avoid crowded places; make sure to stay close to exit</td>
</tr>
<tr>
<td>... I will be attached again</td>
<td>keep checking mirrors</td>
</tr>
<tr>
<td>If I do not check the rear mirrors</td>
<td></td>
</tr>
<tr>
<td>... someone will drive into my car again</td>
<td>do not make plans for the future</td>
</tr>
<tr>
<td>If I make plans (such as for a holiday)</td>
<td>avoid seeing friends</td>
</tr>
<tr>
<td>... the next awful thing is going to happen</td>
<td></td>
</tr>
<tr>
<td>If I see my friends</td>
<td></td>
</tr>
<tr>
<td>... they will ask me about the trauma and they will think that I am pathetic because I am still upset</td>
<td></td>
</tr>
<tr>
<td>If I do things that I used to enjoy</td>
<td>give up pleasant activities</td>
</tr>
<tr>
<td>... I will be punished again</td>
<td></td>
</tr>
<tr>
<td>... I will be reminded of the trauma and will not be able to cope</td>
<td></td>
</tr>
<tr>
<td>... I will be overwhelmed by emotion</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B continued

Examples of appraisals with associated dysfunctional behavioral and cognitive strategies

<table>
<thead>
<tr>
<th>Appraisal</th>
<th>Dysfunctional strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>If I show my face</td>
<td>avoid other people: cover face with hands</td>
</tr>
<tr>
<td>...people will be disgusted because of my scars</td>
<td>use heavy make-up: look down</td>
</tr>
<tr>
<td>If I go to sleep</td>
<td>stay up until very late</td>
</tr>
<tr>
<td>...I will have nightmares</td>
<td></td>
</tr>
<tr>
<td>...I will not notice intruders</td>
<td></td>
</tr>
<tr>
<td>If I have more stress</td>
<td>avoid anything that could be stressful</td>
</tr>
<tr>
<td>...I will have a heart attack</td>
<td></td>
</tr>
<tr>
<td>...I will have a nervous breakdown</td>
<td></td>
</tr>
</tbody>
</table>

Appendix E. In Vivo Hierarchy Form

In Vivo Hierarchy Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>SUDS Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td></td>
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<tr>
<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<td>8.</td>
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<td>9.</td>
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<td>10.</td>
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<tr>
<td>11.</td>
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<tr>
<td>12.</td>
<td></td>
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<tr>
<td>13.</td>
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<td>14.</td>
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<td>15.</td>
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<td>16.</td>
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<td>17.</td>
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<td>18.</td>
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<tr>
<td>19.</td>
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</tr>
</tbody>
</table>
Appendix F. Subjective Units of Distress Form

Self-Monitoring

Target Behavior A:
Target Behavior B:
(Examples of target behaviors include nightmares, exaggerated startle response, outbursts of anger, etc.)

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Situation</th>
<th>Thoughts</th>
<th>Target Behavior</th>
<th>SUDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Appendix G.

Frequency of Trauma Event Occurrence (max. of 5 events per person) in Gender in the treatment sample (n = 31)

<table>
<thead>
<tr>
<th>Trauma Event</th>
<th>f-Male</th>
<th>f-Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Serious accident, fire or explosion</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>2. Natural Disaster</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>3. Non-sexual assault by a family member or someone you know (mugged, physically attacked, stabbed or held at gunpoint)</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>4. Non-sexual assault by a stranger</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>5. Sexual assault by a family member or someone you know</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>6. Sexual assault by a stranger</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>7. Military combat or a war zone</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8. Sexual contact when younger than 18 with someone who was 5 years or more older than you</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>9. Imprisonment</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>10. Torture</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>11. Life-threatening illness of family member</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>12. Stalking and threats to kill you</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>13. Chased by someone who intends to harm or kill you</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14. Sudden death of family member</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15. Witnessing a death by suicide</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16. Near death of a parent during childhood</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17. Unexpected divorce</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18. Abandonment by custodial parent during childhood</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19. Causing death by accidental means</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20. Near death caused by parent</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>21. Forced sexual contact with animals</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: f=frequency,
Appendix H.

Means and Standard Deviations of PTSD Subscales

<table>
<thead>
<tr>
<th></th>
<th>PTSD Number</th>
<th>PTSD Reexperiencing</th>
<th>PTSD Avoidance</th>
<th>PTSD Arousal</th>
<th>PTSD Symptom Sev</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men and Women (N=31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>14.26</td>
<td>2.44</td>
<td>4.19</td>
<td>.83</td>
<td>5.87</td>
</tr>
<tr>
<td>Post</td>
<td>11.48</td>
<td>3.53</td>
<td>3.48</td>
<td>1.50</td>
<td>4.26</td>
</tr>
<tr>
<td>Men (n=10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>13.60</td>
<td>2.55</td>
<td>3.90</td>
<td>1.10</td>
<td>5.70</td>
</tr>
<tr>
<td>Post</td>
<td>9.50</td>
<td>3.89</td>
<td>2.80</td>
<td>1.69</td>
<td>3.80</td>
</tr>
<tr>
<td>Women (n=21)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre</td>
<td>14.57</td>
<td>2.38</td>
<td>4.33</td>
<td>.65</td>
<td>5.95</td>
</tr>
<tr>
<td>Post</td>
<td>12.43</td>
<td>2.99</td>
<td>3.81</td>
<td>1.30</td>
<td>4.48</td>
</tr>
</tbody>
</table>

Note: Number = total number of PTSD symptoms, Symptom Sev = Symptom Severity