INTERPERSONAL VIOLENCE, DRUG USE, AND ADULT ATTACHMENT

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Abstract

Interpersonal Violence, Drug Use, and Adult Attachment

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Although numerous studies have investigated the effects of Post-Traumatic Stress Disorder (PTSD), little research has examined the effects of violent and non-violent trauma on individuals with sub-clinical levels of PTSD. Texas A&M undergraduates (N = 396) completed a PTSD self-report scale, the Adult Attachment Questionnaire, the World Assumptions Scale, the Lifetime Involvement in Violent Events Survey, and a substance abuse questionnaire. Subjects were also asked if they had experienced a trauma, and if not, what was the worst thing that had ever happened to them. Sexual trauma was the best predictor of PTSD symptoms, insecure attachment in romantic relationships and friendships, marijuana use, and frequency and amount of alcohol use. Gender effects indicated that women reported higher levels of PTSD symptoms, avoidance, and ambivalence, whereas men reported high levels of marijuana and alcohol use.

Post-traumatic Stress Disorder (PTSD) is "among the most extreme reactions that individuals can have to high magnitude life events and can result in severe and chronic impairments across the major life areas" (Brown & Wolf, 1994). Diagnosable PTSD is characterized by reexperiencing the traumatic event, avoidance, and hyperarousal.

Early research on PTSD focused on combat veterans. Although PTSD became more commonly diagnosed after the Vietnam War, veterans from earlier wars also suffered. Many veterans from World War II, Korea, and Vietnam survived with flashbacks, depression, and isolation until treatments for PTSD became more readily available during the 1970's (Nelson & Wright, 1996).

Traumas resulting from the Khmer Rouge Terror in Cambodia have also resulted in diagnosable PTSD. A quarter of Cambodia's population died of execution, disease, or starvation as a result of Pol Pot trying to return the country to a primitive form of Marxism (Sack, Clarke, & Seeley, 1996). Children were separated from their parents and sent to labor camps, often witnessing their own family's execution. Some children were made to spy on their elders in exchange for food. The individuals who survived have suffered greatly. They not only lost their homeland, but witnessed the slaying of loved ones and had all of their belongings destroyed. These losses are compounded by the struggle to move to a new country and learn a new language and culture. The study of the effects of war commonly have focused on adult survivors. Sack et al. (1996) in their study of Cambodian adolescents surviving the Khmer Rouge Terror, found that 26.5% suffered from diagnosable PTSD, whereas 2% of the control group experienced PTSD. The prevalence of PTSD in the Cambodian adolescents is comparable to rates of around 20% in

combat veterans (Buydens-Brachey, Noumair, & Branchuy, 1987). These results point out that war trauma is strongly related to PTSD in both adults and children.

The diagnosis of PTSD has recently expanded to include the diagnosis of survivors of a wide variety of traumas. Application outside a military context began with evaluation of the effects of relatively uncommon distinct events, such as natural disasters or extremely violent events. Research on the psychological effects of natural disasters includes the study by La Greca, Silverman, Vernberg, and Prinstein (1996) of third-fifth grade students following Hurricane Andrew. Through the use of a self-report questionnaire, researchers identified clinical levels of PTSD in 39.1% of the children. Ten months after the initial investigation, 80 of the original 173 students with diagnosable PTSD were still suffering. Although symptoms seemed to decline with time, 18.1% of the children showed long-term symptoms, with 12% reporting severe to very severe levels of reexperiencing, avoidance, and hyperarousal. The effects of Hurricane Andrew on school children were comparable, regardless of gender, race, or socioeconomic status (Zimmerman, Khoury, Vega, & Gil, 1996).

DSM-IV (APA, 1994) suggests that PTSD "may be especially severe and longer-lasting if the stressor is of human design." After an elementary school bus was hijacked with twenty-six children and buried by kidnappers, Terr (1979) studied the effect of the trauma on the children. She noted that every child was suffering from diagnosable PTSD. Over the next four years the children's symptoms had decreased, however all were still preoccupied with death and most experienced nightmares, difficulty concentrating, and depression.

North, Smith, and Spitznagel (1994) studied the traumatic effects of a massacre that occurred in Luby's cafeteria in 1991 where 25 of the 150 civilians were killed. Of the survivors, 36 met criteria to be diagnosed with PTSD, with a mere 2% not exhibiting any PTSD symptoms. This leaves over 60% of the survivors suffering from sub-clinical levels of symptoms such as intrusive recall and insomnia, but not the disorder itself. The researchers point out that this was not a "combat-like traumatic event" for several reasons. The civilians had not been trained for combat, were not prepared for a combat-like situation, and were not armed. These findings support the idea that PTSD can be a result of a wide variety of traumas, both violent and non-violent, but not only combat.

More recently, work in PTSD has focused on how individual traumatic events involving only a few people, affect populations taken from the community. For example, Segal and Figley (1988) in their study of stressful experiences of college students found that eighty percent (80%) of their sample developed PTSD symptoms due to a stressful life event. McGruder, Davidson, Stock, Finch, and Gleaves (1996) in their study of undergraduates at Texas A & M, found that nearly half (45.1%) of the students reported at least one episode of interpersonal violence, and one-third (31.75%) had experienced at least one direct negative sexual experience. Although students did not qualify as having diagnosable PTSD, they did have sub-clinical levels of distress.

Studies of PTSD have focused primarily on the direct victim of the trauma (e.g., the individual who experienced the traumatic event). Recently, clinicians have begun to identify PTSD symptoms in those closely related to trauma victims. Although the DSM-III-R emphasizes that to be diagnosed with PTSD an individual must experience the trauma directly, Diagnostic

Criterion A implies that trauma may result from learning that a spouse, child, or close relative or friend has experienced a serious threat (APA, 1994). Nelson and Wright (1996), point out that female partners of combat veterans with PTSD often experience PTSD symptoms themselves. The unique circumstances of having someone with PTSD in the family and sharing in their experiences puts them at risk for PTSD symptoms. Some women experienced flashbacks and dreams related to their husband's combat. Figley (1983) suggests that members of a family become victims, because of their close emotional ties to the victimized family member. Those who interact with the traumatized loved one may experience similar symptoms, even if the details of the trauma are not explicitly discussed, because of the exposure to the emotional reactions of the victim. This indirect influence of traumatic events on individuals other than the direct victims has been referred to as secondary traumatization. DSM-IV takes this into account.

Evidence of PTSD can also be seen in substance use by victims of traumatic events. Although Brown and Wolfe (1994) suggest that the wide range of effects experienced by some drug users may indicate a more complex relationship between PTSD and substance abuse, "the frequent co-occurrence of PTSD and substance abuse is consistent with the hypothesis that trauma and its psychological sequelae have etiological significance in the development and/or maintenance of substance abuse" (McFall, Mackay, & Donovan, 1992). McFall et al. found that veterans with PTSD were more likely to become dependent on alcohol and drugs than those veterans not exhibiting PTSD. Recently, Brondy and Davidson (1996) completed a study which points to a large consumption of alcohol by undergraduates at Texas A & M. Eighty-five per cent (85%) of their sample had experience with alcohol in the past six months, with over forty percent

(43.1%) consuming four or more drinks in one sitting, and twenty percent (22.9%) consuming six or more at one sitting. Some of these students may be diagnosable as alcohol abusers, placing them at risk for future alcohol abuse or dependence.

A theory of the effects of trauma has been proposed by Janoff-Bulman (Schwartzberg & Janoff-Bulman, 1991). She suggests that most people have three core assumptions: that the world is benevolent, that events have meaning, and that the self is worthy. Trauma shakes these core assumptions. In Janoff-Bulman's work, traumatic events are often non-violent events such as divorce of parents (e.g., Franklin, Janoff-Bulman, & Roberts, 1990) or violent and non-violent events are combined (e.g., Morgan & Janoff-Bulman, 1994). It seems likely that interpersonal violence may be particularly likely to produce disruptions in the core assumptions. It is also probable that secondary victimization may be more likely to shake core assumptions than to produce PTSD.

Attachment theory, proposed by Bowlby (1980), identifies three patterns of attachment in a child's relationship to a caregiver. Children with secure relationships use their caregiver as a secure base to provide comfort when distressed. Children with avoidant relationships do not seek support from others, relying on themselves to control negative situations. Children with anxious/ambivalent relationships are inconsistent in their behavior with their caregivers due to an uncertainty of their caregiver's role (Simpson, Rholes, & Phillips, 1996). Simpson et al. propose that adults exhibit patterns of attachment similar to those seen in children. In his study, highly ambivalent individuals view their partner in less positive terms after discussing a major conflict. Also, individuals with secure attachment actually view their partner more favorably after resolving

a major problem. It seems probable that interpersonal violence may be likely to lead to avoidant or ambivalent attachment in adults. It was hypothesized that adult attachment styles would be associated with the existence of PTSD symptoms, the development of substance abuse, and a shift of core assumptions.

These studies support the notion that interpersonal violence plagues not only combat veterans, but also society at large. Directly experienced traumas, as well as secondary traumas, often lead to PTSD at diagnosable and sub-clinical levels. Recent research has begun to focus on other reactions to trauma. However, little research has been done on how victims of violence differ from those whose trauma was non-violent in their relationships with others, views of the world, and levels of substance abuse. The purpose of the current study was to determine how direct and secondary victims of interpersonal violence vary in their response to trauma they have experienced.

METHOD

Sample

The sample of 396 college undergraduates was drawn from the psychology research pool at Texas A&M. This research pool is composed of undergraduates taking Introductory Psychology who are required to participate in four hours of research to receive credit for the class. The questionnaire took approximately 45 minutes to complete, and was administered with several other questionnaires from other studies to make up the hour credit the students needed.

Of the 396 students surveyed, the mean age was 18.8 years. The sample was 66.9% female, and 60.3% were first year college students. The ethnicity of the sample was 72.2%

Anglo-American, 10.1% Mexican-American, 2.8% African-American, and 14.9% from other ethnic backgrounds. 97.2% of the sample were not married. The parental marital status of the sample was 80.1% with parents married, 15.4% divorced, and 4.5% with single parents or other. 57.4% of the sample had parental income above $60,000 per year, while 13.4% had parental income at or below $30,000 per year. The lack of significant effects for demographic variables may be due in part to the sample's homogeneity. Demographic characteristics of the sample are presented in Table 1.

Measures

The questionnaire consisted of 184 questions and was a combination of five measures:

Demographics Questionnaire Background information was collected, including age, gender, classification, ethnicity, urban or rural hometown residence, subject's marital status, parent marital status, and parental income.

The Post Traumatic Stress Disorder Interview (PTSD-I). Watson, Juba, Manifold, Kucala, & Anderson (1991) developed and validated this interview on male combat veterans who were psychiatric inpatients. According to a recent review (Carlson, 1996), a strength of this measure is that it assesses onset, frequency, and severity of symptoms. The PTSD-I is based on DSMIII-R criteria, and there are three sub-scales representing the diagnostic criteria subgroups: reexperiencing, avoidance, and hyperarousal. Frequency of symptoms are rated on a scale from 0 to 7, "no/never" to "extremely/always," respectively. Combat exposure is a trauma involving interpersonal violence, thus, the PTSD-I should be sensitive and specific to interpersonal violence and yield PTSD diagnoses.

Lifetime Involvement in Violent Events Survey (LIVES). (McGruder, Stock, & Davidson, 1995). Eleven categories of the LIVES were combined into one scale, Lifethreat events (LIF), which includes the following: held hostage, shot intentionally with a gun, stabbed with a knife, mugged, chased by a gang, beaten, attempted rape, completed rape, forced sex play, forced sex acts, and carjacking. The answers to these items were also used to develop ratings of direct, witnessed, and told about lifethreat. They were also subdivided by sexual threat only and other life threats.

Adult Attachment Questionnaire (AAQ). Simpson et al (1996) developed a two dimensional, 17-item measure to determine the individual's style of attachment. The first dimension measures the level of avoidance (i.e., the tendency to withdraw from intimate relationships). The second dimension measures the level of ambivalence (i.e., the tendency to have conflicting thoughts on the stability of others' dependence).

World Assumptions Scale (WAS). Janoff-Bulman (1989) developed this 32-item scale to measure the individual's assumptive world by examining three categories: the benevolence of the world, the meaningfulness of the world, and the worthiness of the self.

Substance Use Questionnaire. Information was collected regarding lifetime use and use in the past six months of tranquilizers, marijuana, cocaine, opiates, inhalants, and other drugs. Subjects were asked to respond by selecting the frequency of use in the past six months and lifetime use. Choices range from "not at all" to "forty or more times". Subjects were also asked how much alcohol they consume in one sitting, how many cigarettes they smoke, and how much caffeine they drink per day. The number of alcoholic drinks per setting is reported in Table 2.

(Lifetime use of alcohol, tobacco, and caffeine was not requested because of the low frequency of those who have never used them). Overall substance use is reported in Table 3.

Open-Ended Questionnaire Subjects were asked "Have you ever experienced something that is so horrible that it would be very distressing to almost anyone?" Those who answered yes, described that trauma. Those who answered that they had not experienced such an event were asked to describe the most horrible thing that had ever happened to them. Written responses were coded according to the DSM-V definition of trauma, as well as if they were direct vs. secondary victims of trauma and if the trauma was a violent act. Rating of each response was done independently by two coders who conferred to reach a final rating which was uses for all analyses. Participants are then asked to rate how fearful they were at the time of the event, how helpless they felt, and how horrified they were, on a scale from 1 to 10, with 10 being "extremely".

Procedure

This investigation was approved by the Institutional Review Board for Human Subjects. The students read and signed a consent form, which informed them of the nature of the study and that they could discontinue the study at any time without penalty. Subjects placed their responses in sealed envelopes to insure their anonymity. Participation in this investigation was voluntary and students could discontinue their participation in the study and still receive course credit.

Data Analysis

Preliminary Analysis Analyses were done on the demographic information of each participant. Due to the small number of subjects in some ethnic groups data were collapsed into

Anglo/White and all others. There were no significant differences between these two groups. Data from parental income was also collapsed into $60,000 and above and all others. This yielded no significant differences. There were also no significant differences between students with married parents and all others. Analyses of marital status and size of hometown were insignificant. A comparison of freshman and all other classifications did expose a significant effect for romantic avoidance and friendship avoidance, such that freshman were less avoidant than all other classifications in romantic relationships and friendships.

Internal Consistency Coefficient alphas were calculated for the three sub-scales of the PTSD-I, the combined scales of the PTSD-I, the four sub-scales of the AAQ, and the eight sub-scales of the WAS. As shown in Table 4, the outcome measures were internally consistent.

Exposure Data Incidence of traumas was high, based on the open ended responses, with 47.4% having experienced a trauma according to the DSM-V criteria. Over forty per cent (40.9%) had experienced a trauma directly, 20.2% experienced a violent trauma, and 14.4% experienced a trauma that was both direct and violent. The LIVES indicates high incidence of traumas. Women more commonly reported sexual traumas, whereas men reported other life threats. Prevalence of exposure to lifethreats is presented in Table 5.

Gender and Self-Reported Trauma Differences The first analysis investigated the relationship between the subjects who had answered that they had experienced a traumatic event and those who responded that they had not. For these purposes a 2 (trauma) X 2 (gender) MANOVA was conducted, with the PTSD-I, AAQ, and WAS scales and the substance use questionnaire as dependent variables.

Results indicated a significant main effect for trauma, Wilk's Lambda F (19, 344) = 2.57, p<.0004. Univariate analyses yielded significant differences in the PTSD-I Scale of reexperiencing [F(1,365)=39.68, p<.0001], avoidance [F(1,365)=45.60, p<.0001], hyperarousal [F(1,365)=56.97, p<.0001], in the AAQ Scale of romantic avoidance [F(1,365)=7.84, p<.005], romantic ambivalence [F(1,365)=7.64, p<.006], and friendship avoidance [F(1,365)=6.73, p<.001], in the WAS Scale of self worth [F(1,365)=7.15, p<.008] and luck [F(1,365)=14.10, p<.0002], for lifetime marijuana use [F(1,365)=9.08, p<.003], and marijuana use in the past six months [F(1,365)=6.64, p<.01].

Examination of the means indicated that those who had reported that they had experienced a trauma were more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms, to be avoidant in both romantic relationships and friendships, to be ambivalent in romantic relationships, to have low self worth, not to feel lucky, and to have higher lifetime use and use in the past six months of marijuana. Means are presented in Table 6.

Results also revealed a significant main effect for gender, Wilk's Lambda F (19, 344) = 5.87, p<.0001. Univariate analyses yielded significant differences in the PTSD-I Scale of reexperiencing [F(1,365)=17.63, p<.0001], avoidance [F(1,365)=13.21, p<.0003], hyperarousal [F(1,365)=15.78, p<.0001], in the AAQ Scale of friendship avoidance [F(1,365)=8.63, p<.004] and friendship ambivalence [F(1,365)=6.67, p<.01], in the WAS Scale of benevolent people [F(1,365)=19.29, p<.0001] and control [F(1,365)=14.11, p<.0002], for lifetime marijuana use [F(1,365)=7.85, p<.005], alcohol consumed in the past six months [F(1,365)=8.98, p<.003], and consumed in one setting [F(1,365)=16.45, p<.0001].

Analysis of the means indicated that women are more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms, as well as believe that people are basically benevolent beings, whereas men were more likely to experience avoidance and ambivalence in friendships, feel that people have control over their lives, have higher lifetime marijuana use, consume more alcohol in the past six months, and consume more alcohol per setting. Gender was included in following analyses in order to examine interactions; but main effects are not presented subsequently. Means are presented in Table 7.

Results also revealed a significant trauma X gender interaction, Wilk's Lambda F (19, 344) = 3.03, $p<.0001$. Univariate analysis showed significant differences in the PTSD-I Scale of reexperiencing [$F(1,365)=9.99$, $p<.002$], avoidance [$F(1,365)=23.14$, $p<.0001$], and hyperarousal [$F(1,365)=23.06$, $p<.0001$], and in the WAS Scale of a benevolent world [$F(1,365)=4.98$, $p<.03$] and luck [$F(1,365)=3.73$, $p<.05$]. Post-hoc analyses (Newman Keuls) revealed that women who experienced a trauma were higher on reexperiencing, avoidance, and hyperarousal, and believed the world is less benevolent and that they are not lucky, than women who had not experienced a trauma and men in general. The means are shown in Table 8.

Rated Trauma Differences The previous analysis was based on the subject's response to whether they had experienced a trauma or not. However, some events that were reported as not being traumas met the DSM-IV criteria of a trauma. This led to an additional analysis dealing with the trauma rated according to DSM-IV criteria. A 2 (rated trauma) X 2 (gender) MANOVA was conducted with events that met the DSM-IV criteria of a trauma. The phenomenon that some students reported that they had never experienced something that would be traumatic to almost

anyone, and then proceed to describe the most horrible thing that ever happened to them as a trauma according to DSM-IV will be mentioned in the discussion portion of this study.

Results indicated a significant main effect for rated trauma, Wilk's Lambda F (19, 345) = 2.08, $p<.005$. Univariate analyses revealed significant differences in the PTSD-I Scale of reexperiencing [$F(1,366)=22.42$, $p<.0001$], avoidance [$F(1,366)=20.04$, $p<.0001$], and hyperarousal [$F(1,366)=26.47$, $p<.0001$], and also the WAS Scale of luck [$F(1,366)=5.79$, $p<.02$].

The means suggest that those who experienced events considered traumas according to the DSM-IV were more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms and felt as if they were not lucky. Means are presented in Table 9.

The interaction between rated trauma and gender was not significant.

Trauma Criterion Differences The next analysis utilized subject's reflections on either the traumatic event or the most horrible they had ever experienced, taking into account their responses of the effect it had on them. Subjects must have rated their experience as a trauma and have answered a score of five or greater on each of the emotional responses to be classified with PTSD symptoms. This group was considered in a 2 (emotional response) X 2 (gender) MANOVA with the PTSD-I, AAQ, and WAS scales as well as the substance use questionnaire as dependent variables. An analysis was also done taking into account individuals whose described event was rated as a trauma by the coder and who had reported five or more on how fearful, helpless, and horrified they felt at the time of trauma. These results were not significant.

Results revealed a significant main effect, Wilk's Lambda F (19, 345) = 2.40, p<.001. Univariate analyses indicate significant differences for the PTSD-I Scales of avoidance [F(1,366)=52.38, p<.0001] and hyperarousal [F(1,366)=69.41, p<.0001], the AAQ Scales of romantic avoidance [F(1,366)=6.07, p<.01], romantic ambivalence [F(1,366)=9.60, p<.002, and friendship ambivalence [F(1,366)=6.61, p<.01], the WAS Scales of self worth [F(1,366)=7.66, p<.006] and luck [F(1,366)=13.39, p<.0003], marijuana used in the past six months [F(1,366)=5.70, p<.02], and lifetime marijuana use [F(1,366)=7.72, p<.006].

Examination of the means show that those with high levels of emotional responses are more likely to exhibit avoidance and hyperarousal symptoms, be more avoidant in romantic relationships, be ambivalent in romantic relationships and friendships, have low self worth, feel as if they are not lucky, and to have used more marijuana in the past six months and entire lifetime. Means are presented in Table 10.

Results also revealed a significant interaction between gender and emotional responses, Wilk's Lambda F (19, 345) = 2.32, p<.001. Univariate analysis showed significant differences in the PTSD-I Scale of reexperiencing [F(1,366)=5.24, p<.02], avoidance [F(1,366)=12.41, p<.0005], and hyperarousal [F(1,366)=16.33, p<.0001], and in the WAS Scale of a benevolent world [F(1,366)=6.16, p<.01] and luck [F(1,366)=4.24, p<.04]. Post-hoc analyses (Newman Keuls) revealed that women who experienced greater emotional symptoms were higher on reexperiencing, avoidance, and hyperarousal, and believed the world is less benevolent and that they are not lucky, than women who did not have diagnosable PTSD and men in general. The means are shown in Table 11.

Direct Trauma Differences Events coded as direct traumas were considered next to differentiate between the effects of traumas directly experienced and those either witnessed or told about. A 2 (direct trauma) X 2 (gender) MANOVA was conducted with the PTSD-I, AAQ, and WAS scales as well as the substance use questionnaire as dependent variables. Results reveal no significant main effect for direct trauma, Wilk's Lambda F (19, 345) = 1.14, $p<.30$. The interaction between direct trauma and gender was not significant.

Violent Trauma Differences The next analysis considers traumas coded as violent to separate out the effects of violent events as opposed to events that were non-violent in nature. A 2 (violent trauma) X 2 (gender) MANOVA was conducted with the PTSD-I, AAQ, and WAS scales as well as the substance use questionnaire as dependent variables.

Results reveal a significant main effect for violent trauma, Wilk's Lambda F (19, 345) = 3.02, $p<.0001$. Univariate analyses indicated significant differences in the PTSD-I Scales of reexperiencing [$F(1,366)=16.04$, $p<.0001$], avoidance [$F(1,366)=21.45$, $p<.0001$], and hyperarousal [$F(1,366)=49.41$, $p<.0001$] and the WAS Scales for benevolent world [$F(1,366)=4.51$, $p<.03$].

Examination of means shows that those who experienced a violent trauma were more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms, and also believe that the world is not benevolent. Means are presented in Table 12.

Results also revealed a significant violent trauma X gender interaction, Wilk's Lambda F (19, 345) = 3.07, $p<.001$. Univariate analysis showed significant differences in the PTSD-I Scale of reexperiencing [$F(1,366)=4.86$, $p<.03$], avoidance [$F(1,366)=25.78$, $p<.0001$], and

hyperarousal [F(1,366)=14.81, p<.0001], in the AAQ Scale of romantic avoidance [F(1,366}=5.58, p<.02], friendship avoidance [F(1,366)=5.34, p<.02], friendship ambivalence [F(1,366)=6.52, p<.01],and in the WAS Scale of a benevolent people [F(1,366)=5.60, p<.02]. Post-hoc analyses (Newman Keuls) revealed that women who experienced violent traumas were higher on reexperiencing, avoidance, and hyperarousal symptoms, more avoidant in romantic relationships and friendships, more ambivalent in friendships, and believe that people are less benevolent, than women who did not experience violent traumas and men in general. The means are shown in Table 13.

Direct and Violent Trauma Differences Differences DSM-IV suggested that direct interpersonal violence may be more detrimental to victims than other types of trauma. The next analyses considers the significance of traumas that were both directly experienced and violent. A 2 (direct violent trauma) X 2 (gender) MANOVA was conducted with the PTSD-I, AAQ, and WAS scales and the substance use questionnaire as dependent variables.

Results reveal a significant main effect for direct and violent trauma, Wilk's Lambda F (19, 345) = 1.93, p<.01. Univariate analyses indicated significant differences in the PTSD-I Scales of reexperiencing [F(1,366)=19.31, p<.0001], avoidance [F(1,366)=35.19, p<.0001], and hyperarousal [F(1,366)=55.77, p<.0001].

Examination of means shows that those who experienced a direct and violent trauma were more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms. Means are presented in Table 14.

Results also revealed a significant interaction between violent direct trauma and gender, Wilk's Lambda F (19, 345) = 2.64, p<.0003. Univariate analysis showed significant differences in the PTSD-I Scale of reexperiencing [F(1,366)=7.31, p<.007], avoidance [F(1,366)=24.16, p<.0001], and hyperarousal [F(1,366)=19.14, p<.0001], in the AAQ Scale of romantic avoidance [F(1,366}=8.86, p<.003], romantic ambivalence [F(1, 366)=5.60, p<.02], friendship avoidance [F(1,366)=4.97, p<.03], friendship ambivalence [F(1,366)=4.78, p<.03],and in the WAS Scale of a benevolent people [F(1,366)=9.50, p<.002], benevolent world [F(1,366)=3.78, p<.05], and control [F(1,366)=4.82, p<.03]. Post-hoc analyses (Newman Keuls) revealed that women who experienced violent traumas were higher on reexperiencing, avoidance, and hyperarousal symptoms, more avoidant and ambivalent in both romantic relationships and friendships, believe that people and the world are less benevolent, and that they lack control over their life, than women who did not experience direct and violent traumas and men in general. The means are shown in Table 15.

Sexual Threats Versus Violent Threats Based on previous analyses, it has been shown that there are gender and trauma interactions. Data suggests that most sexual traumas are reported by women, whereas violent traumas are reported by men. This led to further analyses in which violent events and sexual events were differentiated. Initially, both genders were included in each analysis, yielding no significant results for violent traumas, and marginally significant results for sexual traumas. When violent events were analyzed with men only, results remained insignificant. Sexual traumas were analyzed with women only, resulting in a significant main effect for sexual trauma, Wilk's Lambda F (19, 222) = 4.54, p<.0001. It seemed more appropriate to include only

women in this analysis due to the small number of men reporting sexual traumas (N = 6). Univariate analyses indicated significant differences in the PTSD-I Scales of reexperiencing [$F(1,241)=30.41$, $p<.0001$], avoidance [$F(1,241)=46.99$, $p<.0001$], and hyperarousal [$F(1,241)=65.38$, $p<.0001$], the AAQ Scales of romantic avoidance [$F(1,241)=6.16$, $p<.01$], romantic ambivalence [$F(1,241)=7.43$, $p<007$], friendship avoidance [$F(1,241)=4.88$, $p<.03$], and friendship ambivalence [$F(1,241)=5.21$, $p<.02$], the WAS Scale of luck [$F(1,241)=5.34$, $p<.02$], use of marijuana in the past six months [$F(1,241)=12.15$, $p<.0006$], and lifetime marijuana use [$F(1,241)=15.06$, $p<.0001$.

Examination of means shows that women who experienced a sexual trauma were more likely to exhibit reexperiencing, avoidance, and hyperarousal symptoms, be avoidant and ambivalent in both romantic relationships and friendships, feel unlucky, and have high lifetime use and use in the past six months of marijuana. Means are presented in Table 16.

Discussion

Gender differences were seen throughout this study. Women were more likely to report PTSD symptoms: reexperiencing, avoidance, and hyperarousal, and avoidance and ambivalence in romantic and friendship relationships, whereas men report high levels of marijuana and alcohol use. There were also gender differences in the type of trauma experienced. Women reported more experiences with sexual traumas, and men reported other types of interpersonal violence, including being carjacked, mugged, or beaten. Curle and Williams (1996) examined the effect of a non-fatal school bus crash on 25 adolescents. Their data suggested that females had poorer psychological functioning two years following the accident, suffering from depression, intrusive

thoughts, and avoidance. They propose that due to the increased vulnerability, girls are more likely to exhibit anxiety and depression following a trauma. Recently, studies have investigated gender differences in less severe traumas. Cooney and Kurz (1996) examined the mental health outcomes of children following their parents' divorce. They determined that with females, parental divorce was associated with poorer mental functioning, including depression.

However, the symptoms that women report are often due to the nature of their trauma as well. In the study by McGruder et al. (1996), nearly third (31.75%) of their sample reported at least one negative sexual experience. Sexual trauma may create the most severe and long-lasting effects. In a study by Valentiner, Foa, Riggs, and Gershuny (1996), PTSD symptoms of female sexual assault and non-sexual assault victims were assessed. Two weeks following the assault, rape victims showed higher levels of PTSD symptoms than the non-sexual assault victims. This trend was maintained three months later. These results suggest that poorer functioning in women following a trauma is indicative of the type of trauma they experienced, not only their gender. Lifethreat traumas, such as being robbed, stabbed, or beaten, were not significant predictors of poor functioning.

Results also indicate that self-ratings of trauma, rather than traumas coded according to DSM-IV criteria, were the best predictors of PTSD symptoms, adult attachment, and marijuana use. It is likely that those who did not rate their event as a trauma have an implicit theory that traumas have long-term negative effects, therefore, because they are functioning well now, their experience must not have been a trauma. An unexpected finding was that there was no significant difference between direct and secondary traumas. Violent traumas showed some significance,

predicting PTSD symptoms. This trend was maintained when traumas both direct and violent were examined.

The relationship between trauma and substance abuse remains unclear. Generally, men showed greater lifetime use of marijuana, use in the past six months of marijuana and alcohol, and alcohol consumed per sitting. This trend was replicated in every analysis of both genders. However, when women were analyzed according to the type of trauma they had experienced, those who had been sexually assaulted reported higher lifetime use and use in the past six months of marijuana. This reinforces the hypothesis that sexual assaults have the greatest negative effect.

References

American Psychiatric Association. (1994). Diagnostic and Statistical Manual, Fourth Edition.

Bowlby, J. (1980). Attachment and Loss: Volume 3. Loss: Sadness and depression. New York: Basic Books.

Brondy, T., & Davidson, E. S. (1996). Attention-deficit/hyperactivity disorder and substance abuse in a college population. Manuscript in preparation.

Brown, P., & Wolfe, J. (1994). Substance abuse and post-traumatic stress disorder comorbidity. Drug and Alcohol Dependence, 35, 51-59.

Buydens-Brachey, L., Noumair, D., & Branchuy (1990). Duration and intensity of combat exposure and posttraumatic stress disorder in Vietnam veterans. Journal of Nervous and Mental Diseases, 181, 454-456.

Carlson, E. B. (1996). Trauma Research Methodology. Lutherville, Maryland: The Sidran Press.

Cooney, T. M. & Kurz, J, (1996). Mental health outcomes following recent parental divorce: The case of young adult offspring. Journal of Family Issues, 17, 495-513.

Curle, C. E. & Williams, C. (1996). Post-traumatic stress reactions in children: Gender differences in the incidence of trauma reactions at two years and examination of factors influencing judgment. British Journal of Clinical Psychology, 35, 297-309.

Franklin, K. M., Janoff-Bulman, R., & Roberts, J. E. (1990). Long-term impact of parental divorce on optimism and trust: Changes in general assumptions or narrow beliefs? Journal of Personality and Social Psychology, 59, 743-755.

Janoff-Bulman, R. (1989). Assumptive worlds and the stress of traumatic events: Applications of the schema construct. Social Cognition, 7, 113-136.

La Greca, A. M., Silverman, W. K., Vernberg, E. M., & Prinstein, M. J. Symptoms of posttraumatic stress in children after Hurricane Andrew: A prospective study. Journal of Consulting and Clinical Psychology, 64, 712-723.

McFall, M., Mackay, P., & Donovan, D. (1992). Severity of substance abuse in Vietnam veterans. Journal of Studies on Alcohol, 53, 357-363.

McGruder, A., Davidson, E. S., Stock, W., Finch, J. F., & Gleaves, D. (1996). Prevalence of exposure to violence and PTSD symptoms in middle income undergraduate students representing three ethnic groups. Submitted for publication.

McGruder, A., Stock, W., & Davidson, E. S. (1995, November). The Lifetime Involvement in Violent Events Survey. Poster session presented at the annual meeting of The Association for the Advancement of Behavior Therapy, Washington, D.C.

Morgan, H. J., & Janoff-Bulman, R. (1994). Positive and negative self-complexity: Patterns of adjustment following traumatic versus non-traumatic life experiences. Journal of Social and Clinical Psychology, 13, 63-85.

Nelson, B. S. & Wright, D. W. (1996). Understanding and treating post-traumatic stress disorder symptoms in female partners of veterans with PTSD. Journal of Marital and Family Therapy, 22, 455-467.

North, C., Smith, E., & Spitznagel. (1994). Posttraumatic stress disorder in the survivors of a mass shooting. American Journal of Psychiatry, 151, 82-88.

Sack, W. H., Clarke, G. N., & Seeley, J. (1996). Multiple forms of stress in Cambodian adolescent refugees. Child Development, 67, 107-116.

Schwartzberg, S. S., & Janoff-Bulman, R. (1991). Grief and the search for meaning: Exploring the assumptive worlds of bereaved college students. Journal of Social and Clinical Psychology, 10, 270-288.

Segal, S., & Figley, C. (1988). Stressful events. Hospital and Community Psychiatry, 39, 998.

Simpson, J. A., Rholes, W. S., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. Journal of Personality and Social Psychology, 71, 899-914.

Terr, L. (1979). Children of Chowchilla: A study of psychic trauma. Psychoanalytic Study of the Child, 34, 547-623.

Valentiner, D. P., Foa, E. B., Riggs, D. S., & Gershuny, B. S. (1996). Coping strategies and posttraumatic stress disorder in female victims of sexual and nonsexual assault. Journal of Abnormal Psychology, 105, 455-458.

Watson, C., Juba, M., Manifold, V., Kucala, T., & Anderson, P. (1991). The PTSD Interview: Rationale, description, reliability, and concurrent validity of a DSM-II-based technique. Journal of Clinical Psychology, 47, 179-188.

Zimmerman, R. S., Khoury, E. L, Vega, W. A., & Gil, A. G. (1996). Disaster related stresses, depressive signs and symptoms, and suicidal ideation among a multi/ethnic sample of adolescents: A longitudinal study. Journal of Child Psychology and Psychiatry, 37, 435-444.

Table 1

Demographic Variables

Variable	%	N
Gender		
Male	33.1	131
Female	66.9	265
Ethnicity		
African-American	2.8	11
Anglo-American	72.2	285
Mexican-American	10.1	40
Asian-American	4.1	16
Native-American	1.8	7
Other	9.1	36
Age		
17	0.3	1
18	58.6	232
19	22.5	89
20	10.4	41
21	4.8	19
22+	3.8	14

Table 1 Continued

Classification		
Freshman	60.3	238
Sophomore	24.8	98
Junior	9.6	38
Senior	4.8	19
Other	0.5	2
Marital Status		
Single	97.2	384
Married	1.8	7
Other	1.0	4
Parent Marital Status		
Single	1.5	6
Married	80.1	317
Divorced	15.4	61
Other	3.0	12
Parent Yearly Income		
Below 5,000	1.0	4
6 - 10,000	0.8	3

Table 1 Continued

11 - 15,000	1.3	5
16 - 20,000	2.1	8
21 - 30,000	8.2	32
31 - 40,000	6.9	27
41 - 50,000	11.0	43
51 - 60,000	11.3	44
Above 60,000	57.4	224
Hometown		
Rural	36.9	146
Urban	63.1	250

Table 2

Alcoholic Beverages Consumed per Setting	%	N
0 - I Don't Drink Alcohol	17.7	69
1 - Half a Drink	4.4	17
2 - One Drink	11.8	46
3 - Two or Three Drinks	20.8	81
4 - Four or Five Drinks	19.0	74
5 - Six Drinks	13.1	51
6 - Between Seven and Twelve Drinks	10.3	40
7 - Thirteen or More Drinks	2.8	11

Table 3

Prevalence of Drug Use

	Subjects Who Had Used the Drug	
	%	N
Marijuana		
Past 6 months	20.4	79
Lifetime	31.7	125
LSD		
Past 6 months	4.2	16
Lifetime	8.4	16
Uppers		
Past 6 months	2.1	8
Lifetime	4.4	17
Downers		
Past 6 months	1.9	7
Lifetime	3.9	15
Tranquilizers		
Past 6 months	0.9	3
Lifetime	2.9	11
Ecstasy		
Past 6 months	2.3	9
Lifetime	5.3	21

Table 3 Continued

Cocaine		
Past 6 months	1.7	6
Lifetime	3.7	14
Crack		
Past 6 months	0.3	1
Lifetime	0.6	2
Poppy Derivatives		
Past 6 months	0.8	3
Lifetime	1.9	7
Inhalants		
Past 6 months	0.8	3
Lifetime	5.2	20
Codeine		
Past 6 months	2.9	11
Lifetime	7.9	31
Alcohol		
Past 6 months	79.3	313
Caffeine		
Past 6 months	96.4	382
Tobacco		
Past 6 months	42.4	171

Table 4

Internal Consistency

	Alpha	Mean	SD
PTSD-I Scales			
Reexperiencing	0.82	2.51	1.22
Avoidance	0.83	2.50	1.34
Hyperarousal	0.85	2.11	1.28
PTSD Symptoms	0.93	2.37	1.17
AAQ Scales			
Romantic Avoidance	0.80	27.35	9.23
Romantic Ambivalence	0.78	32.31	9.94
Friendship Avoidance	0.81	25.99	8.96
Friendship Ambivalence	0.78	26.89	9.36
WAS Scales			
Justice	0.72	13.98	4.76
Benevolent People	0.76	20.04	4.37
Benevolent World	0.85	19.32	5.12
Random	0.73	15.91	5.23
Self Worthy	0.79	21.29	5.21
Luck	0.81	18.47	5.34
Control	0.80	15.82	5.20
Self Control	0.77	20.36	4.17

Table 5

Prevalence of Exposure to Lifethreat

	Direct		Witnessed		Told About	
Lifethreat	N	%	N	%	N	%
Hostage	6	1.6	6	1.6	143	36.6
Threatened with Gun	52	13.5	61	15.8	251	62.9
Shot with Gun	5	1.4	17	4.5	193	48.3
Threatened with Knife	52	12.0	58	15.0	225	56.2
Stabbed with Knife	6	1.5	21	5.5	165	41.1
Mugged	12	3.1	32	6.4	217	54.4
Chased by Gang	96	23.9	56	12.4	215	53.5
Beaten	39	9.4	90	21.3	253	63.4
Carjacked	5	1.3	8	2.1	136	33.7
Forced Sexplay	63	15.2	20	3.3	226	56.3
Forced Attempted Sex	44	11.3	8	2.2	183	45.4
Forced Intercourse	25	6.5	7	1.9	172	42.7
Forced Sex Acts	18	4.7	2	0.6	89	21.3
Murder / Homicide	0	0.0	9	2.3	137	33.7
Military Combat - Related	0	0.0	1	0.3	95	23.0

Table 6

PTSD-I, AAQ, WAS, and Substance Use Scores by Self-Reported Trauma

	Trauma	No Trauma
	N=65	N=301
	Mean	Mean
PTSD-I		
Reexperiencing*	3.33	2.36
Avoidance*	3.42	2.30
Hyperarousal*	3.07	1.91
AAQ		
Romantic Avoidance*	3.82	3.38
Romantic Ambivalence*	3.98	3.57
Friendship Avoidance	3.50	3.22
Friendship Ambivalence*	3.33	2.96
WAS		
Justice	3.60	3.79
Benevolent People	4.85	5.08
Random	4.01	4.08
Benevolent World	4.58	4.91
Self Worthy*	4.96	5.42
Luck*	4.09	4.76

Table 6 Continued

Control	3.92	3.97
Self Control	5.00	5.17
Drug Use		
Marijuana - last 6 months*	0.63	0.33
Marijuana - lifetime*	1.32	0.74
Alcohol - last 6 months	3.58	3.05
Alcohol - lifetime	3.46	3.08

Note: * indicates $p<.05$.

Table 7

PTSD-I, AAQ, WAS, and Substance Use Scores by Gender

	Male	Female
	N=125	N=241
	Mean	Mean
PTSD-I		
Reexperiencing*	2.17	2.72
Avoidance*	2.16	2.67
Hyperarousal*	1.77	2.29
AAQ		
Romantic Avoidance	3.36	3.51
Romantic Ambivalence	3.60	3.72
Friendship Avoidance*	3.15	3.50
Friendship Ambivalence*	2.93	3.21
WAS		
Justice	3.91	3.68
Benevolent People*	4.72	5.21
Random	4.04	4.07
Benevolent World	4.72	4.92
Self Worthy	5.43	5.30
Luck	4.59	4.67

Table 7 Continued

Control*	4.30	3.79
Self Control	5.23	5.10
Drug Use		
Marijuana - last 6 months	0.47	0.33
Marijuana – lifetime*	1.12	0.69
Alcohol - last 6 months*	3.61	2.91
Alcohol – lifetime*	3.72	2.85

Note: * indicates $p<.05$.

Table 8

Rated Trauma and Gender Interactions

	Trauma		No Trauma	
	N=45	N=20	N=196	N=105
PTSD-1				
Reexperiencing*	3.77[a]	2.36[b]	2.48[b]	2.13[b]
Avoidance*	4.01[a]	2.09[b]	2.37[b]	2.17[b]
Hyperarousal*	3.63[a]	1.81[b]	1.98[b]	1.76[b]
WAS				
Benevolent World*	4.43[a]	4.91[a]	5.03[a]	4.69[a]

Note: * indicates $p<.05$.

Means with the same superscript are not significantly different.

Table 9

PTSD-I, AAQ, WAS, and Substance Use Scores by Rated Trauma

	Trauma	No Trauma
	N=174	N=193
	Mean	Mean
PTSD-I		
Reexperiencing*	2.84	2.26
Avoidance*	2.81	2.22
Hyperarousal*	2.45	1.81
AAQ		
Romantic Avoidance	3.50	3.42
Romantic Ambivalence	3.73	3.55
Friendship Avoidance	3.31	3.23
Friendship Ambivalence	3.05	3.00
WAS		
Justice	3.69	3.81
Benevolent People	5.06	5.03
Random	4.14	3.99
Benevolent World	4.80	4.90
Self Worthy	5.34	5.34
Luck*	4.46	4.79

Table 9 Continued

Control	3.92	4.00
Self Control	5.17	5.11
Drug Use		
Marijuana - last 6 months	0.43	0.34
Marijuana - lifetime	0.98	0.72
Alcohol - last 6 months	3.25	3.05
Alcohol - lifetime	3.31	3.01

Note: * indicates $p<.05$.

Table 10

PTSD-I, AAQ, WAS, and Substance Use Scores by Emotional Response (E R)

	E R	No E R
	N=51	N=316
	Mean	Mean
PTSD-I		
Reexperiencing*	3.56	2.36
Avoidance*	3.65	2.31
Hyperarousal*	3.33	1.92
AAQ		
Romantic Avoidance*	3.82	3.40
Romantic Ambivalence*	4.07	3.57
Friendship Avoidance	3.54	3.22
Friendship Ambivalence*	3.37	2.97
WAS		
Justice	3.62	3.77
Benevolent People	4.80	5.08
Random	4.02	4.07
Benevolent World	4.56	4.90
Self Worthy*	4.88	5.41
Luck*	4.02	4.74

Table 10 Continued

Control	3.86	3.98
Self Control	4.95	5.17
Drug Use		
Marijuana - last 6 months*	0.65	0.34
Marijuana – lifetime*	1.35	0.76
Alcohol - last 6 months	3.69	3.06
Alcohol – lifetime	3.55	3.09

Note: * indicates $p<.05$.

Table 11

Emotional Response (E R) and Gender Interactions

	E R		No E R	
	N=39	N=12	N=203	N=113
	Mean	Mean	Mean	Mean
	Women	Men	Women	Men
PTSD-1				
Reexperiencing*	3.87[a]	2.58[b]	2.50[b]	2.12[b]
Avoidance*	4.06[a]	2.29[b]	2.41[b]	2.00[b]
Hyperarousal*	3.76[a]	1.92[b]	2.01[b]	1.75[b]
WAS				
Benevolent World*	4.39[a]	5.13[a]	5.02[a]	4.68[a]
Luck*	3.85[a]	4.56[b]	4.82[b]	4.59[b]

Note: * indicates $p<.05$.

Means with the same superscript are not significantly different.

Table 12

PTSD-I, AAQ, WAS, and Substance Use Scores by Violent Trauma

	Violent Trauma	No Violent
	N=74	N=293
	Mean	Mean
PTSD-I		
Reexperiencing*	3.02	2.41
Avoidance*	3.10	2.35
Hyperarousal*	2.95	1.90
AAQ		
Romantic Avoidance	3.61	3.42
Romantic Ambivalence	3.85	3.58
Friendship Avoidance	3.44	3.22
Friendship Ambivalence	3.09	3.01
WAS		
Justice	3.60	3.79
Benevolent People	5.02	5.05
Random	3.91	4.10
Benevolent World*	4.58	4.92
Self Worthy	5.23	5.36
Luck	4.46	4.68

Table 12 Continued

Control	3.95	3.96
Self Control	5.10	5.15
Drug Use		
Marijuana - last 6 months	0.42	0.37
Marijuana – lifetime	1.12	0.77
Alcohol - last 6 months	3.27	3.12
Alcohol – lifetime	3.26	3.13

Note: * indicates $p<.05$.

Table 13

Violent Trauma and Gender Interactions

	Violent Trauma		No Violent	
	N=53	N=21	N=189	N=104
	Mean	Mean	Mean	Mean
	Women	Men	Women	Men
PTSD-1				
Reexperiencing*	3.34[a]	2.21[b]	2.54[b]	2.16[b]
Avoidance*	3.65[a]	1.70[b]	2.40[b]	2.25[b]
Hyperarousal*	3.37[a]	1.88[b]	1.99[b]	1.75[b]
AAQ				
Romantic Avoidance*	3.83[a]	3.07[b]	3.42[b]	3.42[b]
Friendship Avoidance*	3.51[a]	3.28[b]	3.04[b]	3.54[b]
Friendship Ambivalence*	3.18[a]	2.87[b]	2.86[b]	3.28[b]
WAS				
Benevolent People*	5.00[a]	5.07[a]	5.27[a]	4.64[a]

Note: * indicates $p<.05$.

Means with the same superscript are not significantly different.

Table 14

PTSD-I, AAQ, WAS, and Substance Use Scores by Direct Violent Trauma (D V Trauma)

	D V	No D V
	N=53	N=314
	Mean	Mean
PTSD-I		
Reexperiencing*	3.18	2.42
Avoidance*	3.42	2.34
Hyperarousal*	3.19	1.93
AAQ		
Romantic Avoidance	3.71	3.42
Romantic Ambivalence	3.83	3.61
Friendship Avoidance	3.47	3.23
Friendship Ambivalence	3.09	3.01
WAS		
Justice	3.67	3.77
Benevolent People	5.03	5.05
Random	3.91	4.09
Benevolent World	4.59	4.90
Self Worthy	5.33	5.34
Luck	4.40	4.68

Table 14 Continued

Control	3.96	3.96
Self Control	5.16	5.14
Drug Use		
Marijuana - last 6 months	0.42	0.37
Marijuana – lifetime	1.02	0.81
Alcohol - last 6 months	3.23	3.13
Alcohol – lifetime	3.13	3.16

Note: * indicates $p<.05$.

Table 15

Direct Violent Trauma (D V) and Gender Interactions

	D V Trauma		No D V	
	N=41	N=12	N=202	N=113
	Mean	Mean	Mean	Mean
	Women	Men	Women	Men
PTSD-1				
Reexperiencing*	3.52[a]	2.04[b]	2.56[b]	2.18[b]
Avoidance*	3.95[a]	1.64[b]	2.42[b]	2.21[b]
Hyperarousal*	3.63[a]	1.67[b]	2.42[b]	2.21[b]
AAQ				
Romantic Avoidance*	3.97[a]	2.80[b]	3.41[b]	3.42[b]
Romantic Ambivalence*	3.98[a]	3.33[b]	3.52[b]	3.76[b]
Friendship Avoidance*	3.56[a]	3.18[ab]	3.06[b]	3.53[b]
Friendship Ambivalence*	3.18[a]	2.79[ab]	2.88[b]	3.26[b]
WAS				
Benevolent World*	4.48[a]	5.00[b]	5.01[b]	4.69[b]
Benevolent People*	4.92[a]	5.40[b]	5.27[b]	4.64[b]
Control*	3.65[a]	5.02[b]	3.81[b]	4.23[b]

Note: * indicates $p<.05$.

Means with the same superscript are not significantly different.

Table 16

PTSD-I, AAQ, WAS, and Substance Use Scores by Sexual Trauma

	Sexual Trauma	No Sexual Trauma
	N=68	N=174
	Mean	Mean
PTSD-I		
Reexperiencing*	3.41	2.45
Avoidance*	3.59	2.32
Hyperarousal*	3.30	1.89
AAQ		
Romantic Avoidance*	3.81	3.39
Romantic Ambivalence*	3.90	3.48
Friendship Avoidance*	3.39	3.05
Friendship Ambivalence*	3.17	2.83
WAS		
Justice	3.58	3.71
Benevolent People	5.02	5.29
Random	4.00	4.10
Benevolent World	4.79	4.97
Self Worthy	5.09	5.38
Luck*	4.35	4.78

Table 16 Continued

Control	3.81	3.77
Self Control	5.04	5.11
Drug Use		
Marijuana - last 6 months*	0.60	0.22
Marijuana – lifetime*	1.21	0.49
Alcohol - last 6 months	3.04	2.86
Alcohol – lifetime	3.01	2.80

Note: * indicates $p<.05$.