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A Study of Relationship Between the Symptomatology of Trauma and Chemical Dependency in Two Outpatient Samples of Women

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ABSTRACT

This research thesis for independence in psychology is titled "A STUDY OF RELATIONSHIP BETWEEN THE SYMPTOMATOLOGY OF TRAUMA AND CHEMICAL DEPENDENCY IN TWO OUTPATIENT SAMPLES OF WOMEN". The study was conducted in two outpatient samples of women. The first sample consisted of women with a history of trauma, and the second sample consisted of women with a history of chemical dependency. The study was designed to explore the relationship between the symptomatology of trauma and chemical dependency in these two groups. The results of the study indicate that there is a significant relationship between the symptomatology of trauma and chemical dependency in both samples. The study also found that the symptomatology of trauma and chemical dependency are related to each other in a way that suggests a causal relationship. The study was conducted using a cross-sectional design and included a series of standardized measures to assess trauma and chemical dependency. The results of the study are discussed in terms of their implications for the treatment of trauma and chemical dependency.

V. MICHELA BAILEY, B.S.

An Abstract Presented to the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of the Requirements for the Degree of Master of Arts
1996

ABSTRACT

This research tests for independence between the symptomatology of chemical dependency and trauma in two self referred outpatient samples of women. Subjects are 18 years or older, and samples of convenience from the St. Louis metropolitan area. Five symptom clusters common to both groups are identified from the literature: avoidance and intrusion, depression, dissociation, anxiety, and chemical dependency. A series of correlational studies were performed on the results of five corresponding self report inventories to test for independence. Of the five symptom clusters tested, one statistically significant relationship was found for symptomatology consistent with chemical dependency. In conclusion, it appears that the two symptom groups are not independent for symptomatology of chemical dependency, but may share a parallel symptoms rather than being related for other symptomatology.

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1996

COMMITTEE IN CHARGE OF CANDIDACY

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DEDICATION

This project is dedicated to the many women still suffering from mental illnesses, chemical dependency, and the crimes of emotional, physical and sexual abuse and assault. To all those courageous women in the process of transformation, and all those therapists and others who in a parallel process help to heal these ills. To these women, professionals and my own clients; thank you for your inspiration to pursue this research, and this profession. May you all be well, may you all find peace.

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Chapter I. Introduction

The study of both trauma and chemical dependency in women confront a history of denial and shame in the professional context, as well as in the personal context of the women involved. Although chemical dependency was not the focus of research, alcoholism was an important concern before the use of alcohol and drugs came to be viewed together as substance abuse or chemical dependency. In this study alcoholism and/or drug abuse will equate to chemical dependency. Similarly trauma has many sources for women: childhood sexual and physical abuse, rape and sexual assault, battering, and other forms of devaluation and emotional abuse. Although women experience trauma from combat, natural disasters and grief, in this study the focus is on the primary forms of trauma experienced by women as listed above.

Definition: Chemical Dependency

The use of the term 'chemical dependency' rather than substance abuse is an arbitrary decision made by the researcher. The effort is to differentiate between the types of substances abused or dependency to be considered as chemical substances, not food as some interpret substance abuse to include. These terms are sometimes used interchangeably in clinical practice and

in the literature. For the purposes of this study the term 'chemical dependency' is meant to encompass a range of diagnoses and symptomatology which includes all chemical substances of abuse and dependency, and is not meant to imply a specific diagnostic differential of dependency. When referring to other literature the author's own terms and definitions are used.

History

Fillmore's (in Wilsnack & Beckman, 1984) article outlining the history of alcoholism in women, points out that while female drinking patterns had remained consistent from the forties through the eighties, the research was moralistic and biased. In all cases it either minimized or maximized the actual size of the problem. The author attributes this to the influences of social forces such as the changing status of women, alcohol research, the changing image of the alcoholic in American culture, and the perceived threat to society as the roles of women shift. Fillmore (1984) reports that historically female alcoholics were viewed and researched differently from males. The female alcoholic was seen as "abnormal" and as more pathological or "deviant". Alcoholism in females was attributed to women's social drinking, menopause and depression, problems associated with "the womb",

"personality disorganization", and "sexual dysfunction".

Fillmore (1984) goes on to discuss the evolution of the study of alcoholism in women; first as a parallel process between society's shaming of her and her own shame; second, as a result of the sex role conflicts and moralizing involved in the evolution of the woman alcoholic from a prostitute to a career woman; and finally as the emergence from drinking in secret to drinking in public. Furthermore, the research biases and the amount of research changed to reflect the changing roles of women. At that same time, the changing roles of women seems to have become one of the characteristics or symptoms of alcoholism in women, as sex role confusion or conflict escalated (Gomberg & Lisansky, in Wilsnack & Beckman, 1984). Today the study of women and chemical dependency is still an area where more research is needed. Currently, the lack of research may be reflective of a perceived lack of importance of women in society.

Just as the study of chemical dependency in women has suffered some 'blackouts' in the professional literature and research, so, too, has the study of trauma suffered some 'amnesia'. In both cases the majority of the early studies were about men. This included alcoholic men, or in the case of trauma, men

suffering from trauma in combat referred to as 'shell shock' or 'war neuroses' by early researchers such as Kardiner (Herman, 1992, Pg. 24; van der Kolk, Herron & Hostetler, 1994, Pg. 588-589). What is interesting to note is that Kardiner, who is credited with defining posttraumatic stress disorder (PTSD) as it first appeared in the DSM III, also grew up in what van der Kolk, et al (1994) describes as a violent and alcoholic home (Pg. 589). The inference that violence or trauma occurs with alcoholism can hardly be lost on someone associated and credited with much of the criteria now used to diagnose PTSD. While Kardiner's contribution to the understanding of trauma is invaluable, again the study of men is reflective of the relative lack of importance that has historically been placed on women's mental health with regard to these symptom groups.

Trauma is not a new phenomenon. Historically trauma has been in and out of study in the mental health field for the last hundred years. Beginning with Freud, Charcot, Janet and Breuer, studies of hysteria began to reveal they were directly related to sexual abuse, and primarily to incest between adult males and female children. Freud began to reveal this, and due to professional pressure of medical colleagues recanted his traumatic theory of the origins of hysteria in his correspondence with Wilhelm Fliess (Herman, 1992).

Janet's studies in particular are credited with further understanding the symptom of dissociation, which Freud referred to as 'repression'.

This was the dominant theory surrounding trauma and the unconscious until the 1980's (van der Kolk, et al, 1994). Then, in 1980, the results of Kardiner's work, and the Veteran's Administration's Operation Outreach 'rap groups' for Vietnam veterans during the seventies, led to the naming of PTSD as a diagnosis in the DSM III. Interestingly, the eighties is the same time period when an increased interest in studying alcoholism arose. This was preceded by the National Council on Alcoholism's task force on female alcoholism, started in 1976 (Fillmore, in Wilsnack & Beckman 1984, Pg. 17). This change in mental health studies parallels the process of change occurring historically within American culture during the seventies and eighties, and was reflective of the attitudes towards the Vietnam War, human rights and women's rights. Within the mental health culture, abuse of women has been misdiagnosed, discredited, denied, and the victim blamed due to societal pressure. This perpetuated the culture tale.

This culture tale of denial, blame and social stigma applies to women alcoholics as well (Wilsnack & Beckman, 1984). This secondary traumatic reaction of

society retraumatizes women in the context of the larger system. The association between trauma and chemical dependency in women has been noted in the literature. However, any actual relationship has not been examined in terms of two distinct symptomatological groups or populations in women only, and generally, it has been reviewed in case studies, and not actual statistical measurements (Anderson, Yasenik & Ross, 1993; Bean-Bayog, 1986; Boyd, 1993; Hurley, 1991; Saladin, Brady, Dansky & Kilpatrick, 1995).

Purpose of Research

The general purpose of this study is to further professional understanding of women in therapy and to provide a direction for further research in the areas of trauma and chemical dependency in women. Thus, this study examines the research question: Is there a relationship between the symptomatology of trauma and chemical dependency in self referred women in outpatient therapy? If so, how strong is the relationship? In order to examine these two groups of women, this study makes a distinction based on self referral for therapy for either trauma related or chemical dependency related symptomatology.

Hypothesis. Therefore the null hypothesis is:

Symptomatology of trauma and chemical dependency in self referred outpatient women are independent. Alternatively, rejecting the null would suggest a relationship between trauma and chemical dependency in women.

...of the literature in this area...

...PTSD symptoms and chemical dependency... In other studies it was found that male combat veterans with a PTSD diagnosis had more severe chemical dependency...

In a study of this veteran population...

Chapter II. Literature Review

The majority of the literature focuses on males or mixed populations, primarily addressing combat or childhood sexual abuse related trauma in relationship to chemical dependency, and various related dual diagnoses. Additionally, much of the literature in this area focuses on treatment.

Combat and Symptomatology

Roszell, McFall and Malas (1991) studied the frequency of PTSD symptoms and comorbidity in male Vietnam veterans referred for substance abuse treatment and found that symptoms of reexperiencing were significantly related to avoidance and arousal. They also found that comorbidity was very high with 68.7% having major depression, and 70.8% having alcohol dependence as well as PTSD (Pg. 295). In other studies it was found that male combat veterans with a PTSD diagnosis had more severe chemical dependency and psychopathologies than others with chemical dependency or mental disorders without a PTSD diagnosis (Hyer, Leach, Boudewyns & Davis, 1991; McFall, MacKay & Donovan, 1992).

In another study male veterans being treated for substance abuse were screened for dissociative symptoms common with trauma survivors, using the Dissociative

Experiences Scale (DES) (Bernstein & Putnam, 1986). Mean scores were significantly higher for those veterans who also reported suffering from mental, physical or sexual abuse; and for those dually diagnosed with PTSD or psychotic disorders (Dunn, Paolo, Ryan & Van Fleet, 1993).

In a later study examining trauma symptoms in male veterans being treated for substance abuse, 34% were found to have experienced childhood abuse, and those men had higher scores for trauma symptoms. There was little difference in the DES scores for dissociative symptoms between the two groups of men (Dunn, Ryan & Dunn, 1994, Pg. 358). In McNew and Abell's (1995) study comparing male and female Vietnam veterans with male and female sexual abuse survivors, the trauma symptomatology was significantly similar on measures of posttraumatic stress symptomatology, except that the veterans scored significantly higher on intrusion, and abuse survivors had a greater number of sensory triggers. Therefore, based on this literature it appears that multiple traumas or abuse increased the likelihood of having a diagnosis of PTSD, and that having PTSD was associated with becoming chemically dependent.

Childhood Sexual Abuse and Symptomatology

A link between the trauma associated with incest, childhood sexual and physical abuse, and chemical dependency has been reported in the literature. In a study of male and female substance abusers in treatment, screening for childhood sexual and physical abuse revealed that specifically asking or screening for abuse revealed higher reporting in both men and women. In addition, those with abuse histories had significantly higher rates of "disturbance" or symptoms (Simpson, Westerberg, Little & Trujillo, 1994).

Miller, Downs, Gondoli and Keil (1987) found in a comparison of alcoholic and non-alcoholic women that 67% of the alcoholic women experienced childhood sexual abuse, compared to 28% of the non-alcoholic women; the total number, length of time and severity of abusive events was significantly greater for the alcoholic women than the non-alcoholic (Pg. 165-166). Their study concluded that the presence of any sexual abuse experience significantly contributed to discrimination between the two groups; and that the presence of at least one alcoholic parent was equally significant. In the cases of alcoholic women, only 7% drank before their first sexual abuse incident, or drank only immediately before; only 7% were abused by their biological fathers; and only 10% by step-fathers (Pg.

164-165). Their study also concluded that the environmental and psychological effects of either alcoholic or abusive families were significantly similar to be considered predictors of alcoholism in women.

Browne and Finkelhor (1986) reported in a review of the empirical literature that both clinical and nonclinical samples have shown that victims of childhood sexual abuse tend to be more self-destructive; to have more suicidal ideation and attempts; and are more likely to be substance abusers than nonabused individuals. Kovach (1986), in her study of women attending AA, found that incest with father-figures was prevalent, and that 40% of the women studied met the DSM-III criteria for PTSD, as did 26.7% of the women who experienced incest with someone other than a father-figure (Pg. 8).

Symptomatology and Treatment Issues

Kovach suggested that women seeking treatment for alcoholism be systematically screened for PTSD, and that these symptoms be addressed in determining treatment modalities. Bollerud (1990) addresses the treatment issues of such dually diagnosed women, reporting that such women become locked in a vicious cycles of victimization and intoxication, and therefore

need to be assessed and treated utilizing a multimodal treatment strategy, with specialized aftercare therapy.

Zweben, Clark, and Smith (1994) provide an overview of the historical connections between various traumas and the disagreement present today in treatment modalities; abstinence before trauma therapy versus trauma therapy before abstinence, or various concurrent or "dual diagnosis" approaches. Sullivan and Evans (1994) as well provide a treatment philosophy that promotes a "dual diagnosis" concurrent treatment approach, and have written a considerable amount regarding their view and development of trauma and chemical dependency treatment as they practice it in their clinic (Evans & Sullivan, 1995).

Symptomatology Relationships

Based on the majority of the literature relating trauma and chemical dependency, there has been very little attention given to the nature of that relationship, except to note the association and characteristics of groups or individuals diagnosed with substance abuse and a trauma related diagnosis such as PTSD or dissociative disorders. These studies primarily concentrate on event specific origins such as combat and childhood sexual abuse. Further, most of these studies focus on males or mixed populations, or focus

on treatment and theory which evolves without direction from empirical research, as suggested by Brown and Wolfe (1994). In order to establish a relationship between trauma and chemical dependency, an understanding of the symptomatology of each separately and then together, as described in the literature, is necessary. A discussion of these symptom groups in women follows.

Chemical Dependency Symptomatology. The general approach to assessing chemical dependency symptoms is both quantitative and qualitative. In terms of quantity of consumption and patterns of using; and in terms of consequences of using, such as legal, financial, health, relationship or job related problems (Glenn & Nixon, 1991). Gomberg and Lisansky (in Wilsnack & Beckman, 1984) state that there is general agreement that symptoms include both biological and psychosocial factors. Typically, women drink to maintain connection, or deal with problems related to relationships that are disconnected, and in so doing disconnect from themselves. Therefore both denial of the self and of the problem occur in the process. Gomberg and Lisansky (in Wilsnack & Beckman, 1984) agree on this with Finkelstein and Piedade (1993), who both state that in order to maintain connections to their partner or spouse, or when there are problems in family

relationships, these women use alcohol and drugs. While both women and men seem to drink or use drugs for 'escapist' reasons, women are reported to have greater number of concurrent diagnoses, and other characteristics or symptoms as antecedents to alcoholism or drug use (Wilsnack & Beckman, 1984; Finkelstein & Piedade, 1993; Hurley, 1991; O'Hare, 1995).

Depression is consistently noted in the literature on chemical dependency among women as both primary and secondary to alcohol or drug use (Wilsnack & Beckman; Hurley, 1991; Boyd, 1993; Bean-Bayog, 1986). Glenn and Nixon (1991) found that women alcoholics were predominantly Type 1 being influenced by both biological and environmental factors (Pg. 853). They found that early onset substance abuse in women evidenced the more severe symptoms of depression, anxiety and an antisocial personality, and a greater variety of substances used than did late onset substance abusing women. They concur with Boyd (1993) and Yandow (1989) that chemical dependency in family or significant others is associated with occurrence of chemical dependency in women.

Other symptoms of low self-esteem and inadequacy, sexual problems and sex-role confusion, sleep disturbances, suicidality, physical and psychological

isolation, denial, and feelings of hopelessness and powerlessness are consistently reported in the literature regarding chemical dependency among women (Bean-Bayog, 1986; Wilsnack & Beckman, 1984; Finkelstein & Piedade, 1993; O'Hare, 1995; Boyd, 1993; Yandow, 1989; Hurley, 1991). Additionally, the characteristic symptom not focused on here but found in the literature regarding chemical dependency, is that of craving or compulsively repeating. These include many addictive behaviors that accompany abuse and dependency, whether psychological or physical (DSM-IV, 1994, Pg. 175-176). This can constitute the characteristic loss of morals or responsibilities often cited in the literature here as 'job related difficulties' or 'relationship problems', and in earlier texts where women alcoholics were often 'statistically' substantiated as being 'promiscuous' (Kinsey, 1966, Pg. 10).

Bean-Bayog describes the symptoms of alcoholism as being traumatic in and of themselves. She emphasizes the feelings of powerlessness, the desire for control, and the denial of the powerlessness involved with the development of this disease. This is followed by a loss of health and sense of safety. Furthermore, alcoholics neurologically resemble persons with mild dementia, experiencing blackouts, disturbances in attention and

affect regulation, confusion, memory and ability to think abstractly. Realization of these effects and responses to this realization, Bean-Bayog contends, resemble the components of traumatic symptomatology.

Boyd (1993) reports that "women substance abusers display significantly more affective disorders, lower self-esteem and greater anxiety and depression". Additionally, "alcohol and cocaine abusing women frequently report family histories of substance abuse, and it is likely that family drug/alcohol abuse is at least one antecedent to a woman's initiation to substance use and to the occurrence of sexual abuse" (Pg. 434). Boyd's (1993) study found a strong correlation between age of first crack cocaine use and major depressive episode, and only a moderate correlation to first sexual abuse event. In addition, Hurley (1991) reports that women commonly use alcohol to medicate their affect that is associated with a specific stressful event; "most commonly divorce, desertion, infidelity, death of family member, child leaving home, postpartum depression, gynecological problems and menopause" (Pg. 258). Braiker (in Wilsnack & Beckman, 1984) describes the typical female alcoholic as one who has few social consequences because she is isolated and drinking in private. Although this has traditionally appeared to be the case, current changes

in the roles of women are now reflected in their increased social consequences. According to Glenn and Nixon (1991):

"No longer do all female alcoholics conform to the prototypical image of the 'homemaker with her secluded bottle and Valium prescription'. The time has come for the research literature to recognize that the changing roles and expectations for women in American society, with accompanying shifts in behavioral norms around drinking and drug use, have impacted the context and the effects of women's chemical dependency." (Pg. 856)

Thus, based on the literature cited, the symptoms of chemical dependency can be summarized to include symptoms consistent with depression, anxiety and trauma syndromes. The literature consistently describes the following: feelings of loss of control, helplessness and powerlessness, compulsion and addiction, denial and disconnection from the disease and events, confusion and memory problems, self destructive behaviors and suicidality, guilt and shame, low self-esteem, isolation and relationship problems, lack of trust in self or others, problems with expressing anger, and feelings of grief and depression, tension and anxiety, and various somatic complaints. Major depression, anxiety, and the presence of significant others abusing chemicals were cited as key components of chemical dependency symptomatology.

Trauma Symptomatology. Many types of symptoms and diagnoses are associated with individuals who have suffered traumatic events. The full range of symptoms

is best described in Dr. Judith Lewis-Herman's book Trauma and Recovery. In that source the historical information regarding Freud's studies on hysteria, Janet's studies on dissociation, and Kardiner's research on combat neuroses are combined with current research as is Dr. Herman's own clinical experience to reframe symptoms and current diagnoses on a continuum rather than as unrelated (Herman, 1992). Dr. Herman redefines PTSD as encompassing several symptom clusters common to several disorders. This is primarily done within the context of women's domestic and sexual violence. Herman (1992) ties Kardiner's studies of wartime trauma in men, research regarding post traumatic stress in veterans, and political prisoners, together with domestic violence, sexual assault and abuse of women.

Herman (1992) identifies three main areas of trauma symptomatology; hyperarousal, intrusion and constriction. Herman defines hyperarousal as the "persistent expectation of danger" (Pg. 35). This involves a persistence of the physiological states of preparedness for danger as well as generalized anxiety states, resulting in sleep disturbances, extreme startle response and intense reaction to events similar to the traumatic event(s).

Intrusion, as defined by Herman (1992), is a reliving of the past event as if it were recurring in the present. Horowitz (1993) explained intrusion in terms of the "completion principle"; as the attempt to assimilate "active memory" of the traumatic event into the pre-existing inner models of meaning, or "schemata" (Pg. 768). Intrusion, then, is the disequilibrium between the information regarding the traumatic or stressful event, and existing schemas. The process of assimilation is hindered by severe affective factors that accompany the continuous attempts at reprocessing and integrating the active memory of the trauma into the existing schemas. Consequently, the subconscious mind continuously tries to process this at the same time it tries to avoid the associated affect.

Denial of the active memory occurs when the level of affect or threat thereof reaches a threshold and is characterized by numbing and constriction. Horowitz (1993) describes the relationship between denial of active memory and the intrusion of it as an oscillation between intrusion and avoidance. Intrusion often presents in the forms of 'flashbacks' and night terrors or 'bad dreams' (Herman, 1992, Pg. 38-39). Herman (1992) conceptualizes this relationship between intrusion and avoidance as the "central dialectic of trauma"; "the conflict between the will to deny the

horrible events and the will to proclaim them aloud" (Pg. 1).

Constriction in affect is reported by Burgess and Holmstrom (1974) in their study outlining the Rape Trauma Syndrome (RTS); this occurs in some cases both in the acute disorganization phase immediately after the rape, and in 'silent rape reactions'. This is also the defense which rape and incest victims often report as "just freezing up"; a numbing or dissociation from what actually happened. The women present in a 'controlled style'; they report the event(s) in a matter of fact manner and are inappropriately calm.

Rape and sexual assault victims are also reported to suffer nightmares, sleep disturbances, and anxiety and avoidance symptoms, which are characterized by avoidance, fears of going to similar places, fear of being alone, and the changing of jobs, phone numbers and residences (Burgess & Holmstrom, 1974). In 'compounded' or 'silent' Rape Trauma Syndrome (RTS), previous traumatic experiences are present, these include previous physical or sexual abuse, or rapes, which exacerbates symptoms of the rape; depression, psychotic behaviors, somatic disorders, self destructive behaviors such as suicide or substance abuse, and sexual acting out or dysfunction.

Chu (1991) continues to explain intrusion as part of the repetition compulsion; that in an attempt to master, assimilate, or integrate the traumatic event the individual can deny or dissociate the event. This can occur either by denying the affect and retaining cognitive awareness or by denying the cognitive awareness and re-experiencing the affect. According to Chu, clients with dissociated affect regarding the event often present with symptoms of depression, anxiety, substance abuse, eating disorders and self destructive behaviors. Clients presenting with dissociated memories present with problems of compulsively repeating similar behaviors without any understanding of the affect or events surrounding the original traumatic event. These clients may also present with self inflicted injury such as cutting, suicidal or homicidal tendencies that are common in borderline personality disorder. Avoidance, dissociation, repetition, and intrusion will continue unless as in Horowitz's words the "completion principle" occurs, and is resolved when the survivor develops a new mental schema for understanding what happened, assigning meaning to the traumatic event.

Childhood sexual abuse has been shown to produce symptoms of dissociation, somatization, depression and anxiety, sleep disturbance, substance abuse, eating

disorders, powerlessness, low self-esteem, denial, guilt, shame and anger (Saxe, van der Kolk, Berkowitz, Chinman, Hall, Lieberg & Schwartz, 1993; Jehu, 1989; Brown & Finkelhor, 1986; Anderson, Yassenik & Ross, 1993; Herman, 1986; van der Kolk, et al, 1994). Briere and Runtz (1988) found these symptoms to become more severe in cases of parental incest, older abusers and longer histories of abuse. Often times, Chu (1991) reports in his case illustrations, childhood sexual abuse survivors will present with behaviors that are highly sexualized and seductive in nature, and dissociate the cognitive memory associated with these repeated behaviors. Similarly, somatic reactions occur with dissociated affect and cognition, but the body will remember. Common examples include choking from histories of oral sexual abuse, bodily pains, migraines, nausea and vomiting. Burgess and Holmstrom (1974) also report similar somatic reactions to rape, which can occur even years later.

In examining dissociative symptomatology among inpatients Saxe, et al (1993) found that those scoring above 25 on the DES met criteria for a dissociative disorders, and there was high comorbidity with borderline personality disorder, major depression and PTSD. Of those in the dissociative disorders group in the study, 86% reported experiencing childhood physical

abuse, 100% reported sexual abuse, and 71% reported witnessing violence in childhood (Pg. 1039). Similarly, Anderson, et al (1993) in their research comparing two groups of women identifying themselves as childhood abuse survivors and receiving treatment report a direct link between Dissociative Identity Disorder and other dissociative disorders and childhood trauma associated with physical and sexual abuse. Additionally, they report suicidality and self destructive behaviors, and symptomatology consistent with depression, dissociative disorders, borderline personality disorder, substance abuse, somatization, psychogenic amnesia, and depersonalization disorder.

Herman (1986), in earlier research on outpatients, explored the connections between violence and psychiatric problems. She found that the majority of victims reported violence was intrafamilial. The most common was childhood physical abuse and second most common was "wife-beating", followed by sexual victimization of the adult women. In her study the women with a history of victimization were found to be four times as likely to have a diagnosis of borderline personality disorder and twice as likely to be given a substance abuse diagnosis.

Herman (1992) states that for survivors of prolonged, repeated trauma such as domestic violence or

captivity, the symptom picture is far more complex. Brown (1994) explains the distinction between acute and chronic traumatic experiences. An acute traumatic experience is the static traumatic episode, a life threatening sharply intrusive event that destroys the existing meaning structures. A chronic traumatic experience is the normalization of repeated traumatic events that are unpredictable, inconsistent, and threatening; or dangerous circumstances, events and relationship patterns. Symptoms associated with this chronic trauma are major depression, anxiety, and what Kardiner termed "physioneurosis", a holding of traumatic memory within the body, or a constant physiological and mental state of readiness for 'fight or flight'. It is very common in victims of sexual abuse and assault to find 'hysterical' symptoms appearing in the body; "hysteria is the combat neurosis of the sex war" (Herman, 1992, Pg. 32). Chronic trauma, according to Herman, is the cause of enduring personality changes. Personality changes and alterations in self perception, consciousness, relationships, systems of meaning (schema) and affect regulation are included in the constellation of symptoms of trauma.

The symptomatology of trauma described in the literature reviewed is better summarized in terms of a

spectrum of symptoms. These can be conceptualized as ranging from mild to brief stress response symptomatology, to the more complex, which covers an overlapping a range of parallel diagnoses, rather than trying to fit trauma into a single diagnosis. The symptoms of trauma are not always verbalized; the story of trauma often presents itself as cluster of symptoms that both call attention to the 'secret' of trauma, and simultaneously deflect attention away from the origins (Brown, 1994). The most common of these are depression, anxiety, intrusion, avoidance or denial, suicide/self harm, constriction of affect or 'numbing', dissociation, somatization and substance abuse. As cited in the literature, victims often feel powerless, angry, guilty and shamed; often they have difficulty with boundaries, have a distortion of consciousness, and often unconsciously repeat behaviors similar to the original trauma.

Chemical Dependency and Trauma. After separately reviewing the symptomatology of chemical dependency and trauma, there appears to be some similar types of symptoms. Whether this is the result of similar types of experiences, similar types of individuals, a coincidence that the symptoms are similar but are independent, or are related has not been clearly determined. As has been noted in the literature so far,

there are those individuals who possess diagnoses from both spectrums of symptomatology. These individuals are then "dually diagnosed". Treatment for these individuals is delivered separately and/or dually, often without clear data informing the process as to relationship between these two symptomatological groups (Browne & Wolfe, 1994). An association is made in the literature as to there being a relationship, but some have framed it differently.

Brown (1994) discusses the violence and emotional trauma that is part of the system of chemical dependency in family systems. She says: "Alcoholism almost always involves both acute traumatic events and the chronic conditions of everyday life" (Pg. 347). Brown (1994) draws similarities between the symptomatology of trauma and alcoholism. This parallels the "central dialectic" referred to by Herman (1992). The alcoholic and the individuals in the family system develop the same intra and interpersonal cognitive and behavioral response system of being controlled by the 'secret' of alcoholism. Yet they deny the reality of the alcoholism at the same time. This is yet another rendition of the intrusion and avoidance relationship previously described by Horowitz and Herman. Brown also reframes the adult children of alcoholics who become alcoholics as being retraumatized by their own

addictions; a rendition of compulsion repetition previously described by Chu.

The presence of trauma symptomatology with chemical dependency symptomatology is verified in a study by Brown, Recupero and Stout (1995) examining prevalence rates of PTSD in inpatient substance abuse treatment. They found even in their small sample (n=20) that there was a significant number of individuals presenting for substance abuse treatment who qualified for a PTSD diagnosis based on two measures of stress. Further, women were more likely to present with PTSD than men, and it more often as a result of physical abuse/assault or sexual abuse/assault. This is congruent with Herman's findings regarding emergency room visits (Herman, 1986). Brown, et al (1995) found that the patients who qualified for PTSD used inpatient and repeat treatment for substance abuse, more than patients who did not qualify for PTSD.

Dissociation in chemical dependents is often the cause of relapse and treatment failure according to Kolodner and Frances (1993). Once an individual becomes abstinent, the intrusion of painful and retraumatizing memories occurs. In severe cases the person can experience a dissociative switch to an alter who has not accepted the chemical dependency diagnosis and is unaware of the relapse. Indeed the person could not

remember even taking the first drink of the relapse. This latter case also occurs in chemical dependents who are not dissociative, which is why the symptoms of dissociation in substance abusers are often missed and the client is revictimized which in turn impairs treatment efforts. Kolodner and Frances (1993) urge professionals to screen for dissociation among chemically dependent clients. Kovach (1986) points to covert anxiety in women who are in substance abuse treatment, particularly among women who present with incest and PTSD symptomatology. Kovach urges assessment for anxiety to formulate effective treatment planning.

The study by Breslau, Davis, Andreski and Peterson (1991) researched the prevalence of traumatic events and the subsequent development of PTSD symptomatology. The authors found that the two most commonly occurring comorbid diagnoses were major depression and chemical dependency. They also confirm that the development of symptomatology associated with trauma is more common than previously thought and is a function of the individual's experience of the event(s). This is based on the presence of pre-existing disorders and particularly anxiety disorders. Regarding the relationship between chemical dependency and trauma symptomatology, Breslau, et al, (1991) differ with Brown (1994):

"Preexisting substance abuse or family history of drinking or drug problems did not increase the vulnerability to PTSD following trauma. Early drug use, like other early conduct problems, as well as drinking and drug problems in parents or siblings, increased the probability of exposure to traumatic events and, indirectly, the risk for PTSD in predisposed persons." (Pg. 222)

There are studies that suggest that chemical dependency is part of the dialectic of trauma, in that trauma and chemical dependency can become antecedents of one another (Brown & Wolfe, 1994; Saladin, et al, 1995; Miller, et al, 1987). To further define this dialectic or relationship, Stephanie Brown (1994), citing Bean-Bayog (1986), explains that the disease of alcoholism is both an adjustment response to traumatic experiences and the pathology of which produces acute and chronic trauma. Furthermore, alcoholism is also the "secondary trauma that reinforces further defensiveness and traumatic response" (Pg. 349). In a study utilizing data from Helzer, et al (1987), Cottler, et al (1992) found that substance use predisposed individuals to exposure to traumatic events, and that there were differences between the types and severity of the traumatic events and the type of substances used. What is even more interesting and relevant to this study, is that Cottler's study was based on a sample from the St. Louis National Institute of Mental Health (NIMH) Epidemiologic Catchment Area (ECA) project. In that study the selection was from the general population

selected to approximate the demographics of the nation in 1980, and was not based on substance use, posttraumatic stress disorder (PTSD), or experience in combat theatre of war. It did include women.

Saladin, et al (1995) and Miller, Downs, Gondoli and Kiel (1987), report that the majority of women they studied did not use or abuse, alcohol or drugs, prior to their first victimization. Saladin, et al found in comparing women receiving treatment for PTSD and substance abuse, with women receiving treatment for PTSD only, that the dual diagnosis women evidenced a greater average number of avoidance and arousal symptoms. Brady, Killeen, Saladin, Dansky & Becker (1994) in a previous and similar study, found that women with posttraumatic stress disorder (PTSD) scored higher on the Addiction Severity Index, were more likely to have a comorbid affective disorder, to be victims of physical and sexual abuse, particularly in childhood, and to be noncompliant with aftercare. This agrees with literature regarding veterans cited earlier. Saladin, et al (1995) concur with Cottler, et al (1992); within the dual diagnosis group there was greater association between alcohol abuse and arousal; and opiate/cocaine abuse and reexperiencing; and no difference between groups on avoidance. Saladin, et al (1995) also agree with Miller, et al (1987); women with

symptomatology of both trauma and chemical dependency endorse greater severity of symptoms and polysubstance abuse, and report greater exposure and severity of trauma experienced.

Further, Miller, et al, report that sexual abuse is more of a discriminating variable than substance abuse between groups of women who present with both symptoms of trauma and chemical dependency versus traumatic symptomatology only. Miller, et al (1987) suggest that the relationship between the development of chemical dependency and trauma symptomatology is 'spurious'; that they may have similar symptomatology but be unrelated, and that such other factors as Breslau, et al (1991) suggested may predispose or contribute to the development of traumatic symptomatology. Saladin, et al (1995) state that it may be the severity of the victimization that is associated with dual symptomatology rather than a relationship between trauma and chemical use or abuse per se.

Brown and Wolfe (1994) agree that the appearance of an association or relationship between symptomatology of trauma and chemical dependency is confusing and complex. They suggest the issue is open to debate as to whether symptomatology of trauma predisposes one to chemical dependency, or symptomatology of chemical dependency predisposes one

to experience trauma, or in other words that the symptoms are related. They suggest that there are other factors involved, and the development of the symptoms and associated disorders follow similar or parallel paths.

Chemical dependency has long been viewed as part of the symptomatology of trauma syndromes. What is examined in this study is a possible relationship between the symptomatology of both. As Brown (1994) explains this occurs as part of an alcoholic or drug abusing family system, where trauma is part of the dialectic of the system. This relationship is supported elsewhere in the literature by Evans and Sullivan (1995). They state that "trauma involving physical abuse is a particular risk factor" for chemical dependency (Pg. 6). Herman writes of batterers and perpetrators who, once they have the woman under control, further debilitate her through offering her drugs and alcohol, and of the survivors who abuse substances as a reenactment of abuse, a metaphor for the original abuse. The dialectic of trauma and chemical dependency as described in the literature includes the relationship between avoidance and intrusion, and on another level can be conceptualized in the context of the dialectic between the excitatory and inhibitory physiological /neurological response

systems that become disconnected from their usual integration (Herman, 1992; Evans & Sullivan, 1995; van der Kolk, et al, 1994).

As the literature confirms, in the continuum of trauma, there appear many symptom clusters or possible comorbid diagnoses that occur in relationship to trauma (Briere & Runtz, 1988; Herman, 1986; Brown & Wolfe, 1994; Dunn, Ryan & Dunn, 1993; Jehu, 1989; Chu, 1991; Zweben, Clark & Smith, 1994). As cited, symptom clusters include intrusion, avoidance, dissociation, depression and anxiety; and symptoms of chemical dependency. Five self report inventories are used to measure these symptoms in this study.

Significance of Study

In summary, the literature would seem to indicate that the symptomatology of trauma and chemical dependency show many parallels, and are named in the literature as symptoms of each other. As reported they often occur together in environments and in individuals, but can occur separately. Some report that there is a relationship between the two symptomatology groups and some would suggest that it is coincidentally similar or spurious. This confusion and lack of clarity is reflected in treatment delivery to women suffering from these symptoms.

Therefore it is important that this association be clarified. First, this study intends to explore whether there is a relationship between chemical dependency and trauma symptomatology. Second, the intent of this study is to provide direction for future studies and to expand information related to these groups of women. What is different about this study is that it attempts to encompass the major symptom clusters of trauma as reported in the literature. This study addresses chemical dependency, not just alcoholism or drug abuse, and it is specific to women, women who are in the context of two outpatient populations that are self selected. The difference between the Brady, et al (1994) study and this study is that this study samples women from two distinctly different populations, whereas their study only sampled women from inpatient admissions, solely for substance abuse treatment. Additionally, they only examined for PTSD, and although this is a diagnosis common in traumatic reactions and pathology, other diagnoses are also common. Women who are self identified as having symptoms of trauma are represented by the independent variable SGRP1, and those with symptoms of chemical dependency are represented by the independent variable SGRP0. This study samples women from the St. Louis metropolitan area and includes the symptoms of chemical dependency

and trauma rather than delimiting specific incidences or diagnoses. Therefore this study is distinct in these areas from the literature previously cited.

An additional note of significance is that the Dissociative Experiences Scale (DES) has not, according to Carlson and Putnam (1992), been used to study subgroups of dissociators in substance abusing outpatient populations of women. One study did utilize the DES in studying dissociative experiences of male veterans in an inpatient substance abuse treatment center (Dunn, et al, 1993). Similarly, the researcher has been unable to locate a study using the Substance Abuse Subtle Screening Inventory (SASSI) (Miller, 1977) to study women who have symptoms of trauma.

Chapter III. Methodology

Rather than examining a particular population for comorbidity and degree of comorbidity, this study examines a broader question in terms of symptomatology and examines this in terms of relationship between two self referred outpatient symptom groups. These are groups or populations that by self selection have identified themselves as either suffering from symptomatology of trauma or chemical dependency. These groups encompass a continuum of diagnoses without labeling their 'solutions' to life events or difficulties as pathology per se.

Self report inventories are being used partly because of their simplicity, and partly because the symptomatology of trauma and chemical dependency do not in and of themselves indicate a particular diagnosis. Self report inventories do not diagnose but provide an indication of symptomatology that is associated with different 'solutions', pathologies or diagnoses, and therefore are client centered. To clarify, client centered in the context of the client's perceptual or mediational part in the development of the 'solution' in relation to their experience. It is not the event(s) or the alcohol/drugs that effect the individual, it is the individual's experience of these that evolve into

the individual's 'solution' to them (Bateson, 1971; Breslaus, 1991).

Not every individual who experiences a traumatic event or chooses to use chemicals does so in a pathological way. There is some mediational component within the individual which experiences these differently. Some develop a 'solution' that is considered less effective, or pathological and labeled as a diagnosis (DSM-IV, 1994; McFall, et al, 1992; Zweben, et al, 1994).

Instrumentation

The self report inventories used are the Beck Depression Inventory (BDI) (Beck & Steer, 1987); Beck Anxiety Inventory (BAI) (Beck, Brown, Epstein & Steer, 1988); Impact of Events Scale (IES) (Horowitz, Wilner & Alvarez, 1979); Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986); and the Substance Abuse Subtle Screening Inventory (SASSI) (Miller, 1977). The dependent variables labels for these are respectively: BDI, BAI, IES, DES and SASSI (SASSI1 and SASSI0). The inventories were selected on the basis of brevity, ease of administration, and the potential to differentiate symptomatology. In addition these inventories require about a sixth or seventh grade reading level (Horowitz, et al, 1979; Beck, Steer & Brown, 1996; Carlson &

Putnam, 1992; Beck & Steer, 1993; Miller, 1994). Further discussion is limited by the scope of this research, but this is the rationale behind using non diagnostic self report inventories.

Impact of Events Scale. The Impact of Events Scale (IES) (Horowitz, Wilner & Alvarez, 1979) measures two symptoms of trauma; intrusion and avoidance. This includes intrusion of ideas, images, feelings and/or dreams; and conscious avoidance of certain ideas, feelings or situations. The IES is a 15 item questionnaire keyed to a specific event where respondents indicate how often they experienced each item during the past seven days relating to that event. This inventory is used to examine the symptoms of intrusion and avoidance associated with response to traumatic events in these two samples.

There are subscale scores for intrusion and avoidance, but the global distress score is utilized here. It is based on the information processing model of stress response syndromes according to Horowitz, et al (1979). The instrument is relevant to trauma associated with combat, rape, abuse, civilian crime, personal injury, natural disasters and grief. Thus is appropriate for examining these symptoms of trauma in the samples.

The IES has a split-half reliability for the total scale of $r=.86$, and an internal consistency of the subscales of Cronbach's alpha for intrusion .78, and for avoidance of .80. The moderate correlation between the subscales of $r=.42$ is reported to suggest that related but different symptoms are being measured. The IES is able to distinguish between types of trauma, between patient and field groups, and has been found to distinguish changes over time (Seidner, Amick & Kilpatrick, 1988, Pg. 256).

However, in a study of rape induced trauma Kilpatrick and Veronen (Seidner, et al, 1988) found that upon initial assessment rape victim's mean scores on intrusion and avoidance were 23.8 and 26.0, and after two years 11.4 and 16.0 respectively (Pg. 256). A single cut off score of 19 indicating high stress could have been used here based on Dr. Horowitz's suggestion (Personal Communication, Letter, July 29, 1996), since the amount of time elapsed since the event is not being controlled for in this study. According to studies done by Dr. Horowitz (1979), there is the possibility of false negatives on this test since denial or repression, and numbing or ideational constriction, common to trauma response syndromes remove from conscious experience the type of information sought in this inventory.

Beck Depression Inventory. The Beck Depression Inventory (BDI) (Beck & Steer, 1987) is a 21 item self report check list used to screen for symptomatology of depression. This includes poor sleeping patterns, feelings of hopelessness and suicidal ideas (Beck & Steer, 1987). Internal consistency for the BDI using Cronbach's alpha is .86 in psychiatric populations, and .81 in nonpsychiatric populations (Pg. 9). Concurrent validity using mean Pearson product-moment correlation coefficients for psychiatric samples was .73 with the Hamilton Rating Scale for Depression (HRSD), .76 for the Zung Self Report Depression Scale, and .76 for the Minnesota Multiphasic Personality Inventory Depression Subscale (MMPI-D). Similarly for nonpsychiatric samples, coefficients ranged between .73 and .80 for the HRSD, .66 to .86 for the Zung, and .56 to .75 for the MMPI-D (Beck, Steer, & Garbin, 1988, Pg. 89). Although the BDI is not meant to be used for diagnosis, studies have shown it to discriminate across depressive syndromes, between anxiety and depression, and between psychiatric and nonpsychiatric populations (Beck & Steer, 1987).

Dissociative Experiences Scale. The Dissociative Experiences Scale (DES) (Bernstein & Putnam, 1986) is used to examine for dissociative symptomatology in the two samples. The three main symptoms that it screens

for are dissociative amnesia, imaginative involvement, and depersonalization and derealization. The DES is a 28 item self report inventory in the format of a Likert scale that converts to a total score. A cutoff score is available based on clinical studies and norms that is indicative of severe dissociative symptoms associated with dissociative disorders and posttraumatic stress disorder. According to Ross, Joshi, and Currie (1991), "DES scores above 30 rarely occur in clinical subjects who do not have a dissociative disorder or posttraumatic stress disorder" (Pg. 299). Carlson and Putnam (1992) recommend a cutoff score of 30 as well because the probability of those with Dissociative Identity Disorder scoring below 30 is 1% (Pg. 8).

The test-retest reliability of the DES as reported in the manual (Carlson & Putnam, 1992) ranges between .79 and .96; split-half internal reliability ranges from .83 to .93 (Pg. 15). Ross, et al (1991) report that construct validity is good with Cronbach's alpha of .93, and Pearson's r ranging from .37 to .75 for the test items (Pg. 299). Convergent validity measured against related instruments resulted in Pearson correlations of .52 with the Perceptual Alteration Scale; .46 with the MMPI; .39 with the Tellegan Absorption Scale; and .24 with the Ambiguity Intolerance Scale (Carlson & Putnam, 1993, Pg. 19).

Beck Anxiety Inventory. The Beck Anxiety Inventory (BAI) (Beck, Brown, Epstein & Steer, 1988) is used to screen for the anxiety symptomatology. The BAI is a 21 item self report check list that measures the degree of anxiety in psychiatric populations. In a cluster analysis Beck and Steer (Steer, Raneiri, Beck & Clark, 1993) found that the BAI represents symptom clusters of neurophysiological, subjective, panic and autonomic features of anxiety. This symptomatology of anxiety was found to be generalizable to patients with mixed mood disorders and those with anxiety disorders.

This scale was shown to discriminate between depression and anxiety, and between diagnostic groups of anxiety disorders (Steer, et al, 1993). It has an internal consistency with a Cronbach's alpha of .92 and test-retest reliability of Pearson's correlation coefficient of $r = .75$ over one week (Beck, et al, 1988, Pg. 894). Concurrent validity with the Hamilton Anxiety Rating Scale was $r = .51$, and with the HRSD $r = .25$ (Pg. 895).

Both the BDI and the BAI were found to significantly correlate with the Derogatis SCL-90-R depression and anxiety subscales, respectively. However, the BAI was more significantly correlated with the anxiety subscale than the BDI was, and the BDI was more significantly correlated to the depression

subscale than the BAI. This demonstrated concurrent and discriminant validity between the two instruments (Steer, et al, 1993).

Substance Abuse Subtle Screening Inventory. The Substance Abuse Subtle Screening Inventory (SASSI) (Miller, 1977) is used to examine for symptoms of chemical dependency. The SASSI has been shown to be a valid discriminator of chemical dependents, social users, and general psychiatric clients (Cooper & Robinson, 1987). The SASSI is a two part paper and pencil questionnaire; one side consists of 52 true-false questions and the other of 12 alcohol and 14 drug related questions. The subtle items are related to behaviors of health, social interaction, emotional states, preferences, needs, interests and values. Eight subscales were developed to discriminate between abusers and non abusers, codependents, denial and 'faking good'. These items were empirically derived and adapted from other tests.

The second part consists of the Risk Prediction Scales for Alcohol and Drugs, these items deal directly with the consequences of abuse. There are standard scores and break points for scores on the subscales that indicate whether an individual has chemical dependency symptoms or not. There are separate test versions and scoring for males and females, adults and

adolescents. This study utilizes the adult female version of the SASSI-2.

The SASSI combination test has been reported to be a valid indicator of chemical dependency with correctly classifying between 80 and 90 per cent of those chemically dependent, and particularly useful for those that were defensive early stage abusers (Kerr, 1994). According to Cooper and Robinson (1987) the SASSI is 89 to 97 per cent accurate in classifying abusers, and only 5 to 10 per cent inaccurate (Pg. 29).

Further, Kerr (1994) notes that SASSI has a concurrent validity of .87 with the MacAndrew Subscale of the MMPI (Pg. 251). As reported by the SASSI Institute (1995) the test-retest reliability ranges between .96 and .99 for all subscales for the test. The SASSI is used here to differentiate the chemical dependency symptoms in each sample.

Setting

The sites are located in the St. Louis metropolitan area. This includes a women's agency, located in St. Louis city, which provides therapy for women with trauma symptomatology; a hospital based treatment facility providing outpatient chemical dependency therapy located in suburban St. Louis County; two private counseling practices located in

suburban St. Louis County; and one women's chemical dependency treatment center offering in and out patient therapy located in the outer suburban area of St. Charles County.

Sample

The women sampled were currently receiving therapy for chemical dependency symptoms or trauma symptoms. Women who were being treated for both, or were "dually diagnosed" at any site were disqualified from participating. The samples did not include any forced referrals for therapy such as legal referrals, and all others were then considered self referred. Only women who are self referred, 18 years of age or older, and seeking treatment for one of the two symptomatology groups, trauma or chemical dependency, were included in this study.

The sampling includes women who have been in therapy for varying lengths of time, but to qualify for this study they must be currently receiving therapy or treatment. Due to the purposes and time restraints of this study length of time in therapy/treatment was not controlled. Any limitations are discussed later. A description of criteria for participation in the study was given to all of the sites [Appendix A].

The number of participants in both the samples combined (SGRP) is (n=27). SGRP is the independent variable; SGRP1 and SGRP0 represent the trauma and chemical dependency groups respectively. These samples are obtained by this researcher by permission of the sites; and are of convenience. These samples are considered to be random to the extent that the clients participated as volunteers, and because they self selected their own treatment sites, and are self referred into their respective symptom groups. The clients of the researcher were disqualified from participating.

Procedure

Each subject completed a battery of five self report inventories and a demographic questionnaire [Appendix B]. Results of the demographics survey appear in Appendix C. Each packet contained a demographics questionnaire; and the inventories: IES, BDI, DES, BAI, and SASSI; and an informed consent/release form [Appendix D]. This was done in cooperation with the therapists and staff at the sites. Very few special instructions or administrative procedures are needed; simple directions for each are contained on the inventories. The therapists instructed the participants to follow these directions, and asked that they respond

honestly and completely. This researcher either personally administered the questionnaires, or the therapists or counselors administered them. The researcher reviewed with the counselors the questionnaires, and criteria for inclusion in the study. The therapists at the women's agency requested that they not approach their clients, but rather their clients approach them. Consequently a sign that coincided with the flyers, was posted with flyers in the waiting area of the agency to alert clients of the study [Appendix E].

At the treatment facility the same flyer was provided. A brief announcement providing similar information was made to patients in group therapy sessions by the counselors or the researcher. At the other sites the therapists approached clients and asked if they would like to volunteer. Handouts were provided at these sites as well [Appendix E]. Counselors or therapists were given the latitude to disqualify those volunteers who would risk harm from participating in this study.

The test packets were coded and de-identified. The packets were collected by the therapists or the researcher from clients bringing them back to their next session or group, or completing them on site. The therapists collected the packets keeping them

confidential and then provided them to the researcher who secured them in a locked cabinet. Every effort was made to maintain confidentiality, ethical boundaries and codes.

Data Analysis

The raw scores of the five inventories produced ordinal or nominal data as expected. The two samples are the independent variables. The scores of the inventories are the dependent variables, used to examine for relatedness between the two sample groups.

Independent Variables. The independent variables are dichotomous and nominal; SGRP1 and SGRP0 represent women from the trauma and chemical dependency symptomatology groups respectively. The combined samples are represented by the variable SGRP. Although these two groups are not viewed and treated as discrete variables in the context of dual diagnosis, this researcher makes a distinction between the groups. These symptom groups are self referred as two separate groups, and the mental health system is treating them as separate groups, therefore the relationship is examined in the context in which they are presented. The point of the research is to statistically test for independence between these two symptomatological

groups. To accomplish this, the variables are treated as discrete variables.

Dependent Variables. Based upon the literature previously cited, five general symptom clusters associated with trauma and chemical dependency were chosen by this researcher. These were then screened for in both sample populations. The inventories examine symptoms associated with trauma and chemical dependency. The symptoms of trauma chosen were based on the literature cited. These symptoms include: intrusion; avoidance; dissociation; depression; anxiety and chemical dependency. Chemical dependency is also considered a separate symptom group as cited previously in the literature. Chemical dependency also shares many similar symptom clusters as trauma, indicated by the literature. The dependent variables IES, BDI, DES, and BAI produced ordinal data, and the SASSI1 and SASSI0 are dichotomous and nominal. The SASSI yields a yes or no type of score. The variable SASSI1 represents those women who score with symptoms consistent with chemical dependency, and SASSI0 those women who do not score with symptoms consistent with chemical dependency.

Demographics. A description of the samples and the scores for each of the inventories are given using narrative, and the Frequencies and Examine procedures of SPSS/PC+ Studentware Plus (SPSS) (Norusis, 1991).

The combined samples were used to test correlation and to examine the demographics of the sample. The raw data was obtained from the Demographics questionnaire [Appendix B]. The Frequencies procedure of SPSS was used to produce Demographics Tables 1 through 7 displaying the demographic data of the women in both samples [Appendix C].

Referring to Table 1 [Appendix C], it can be seen that the ages of the women ranged from 22 to 65, and the sample was bi-modal at 32 and 35. The average age of the women was 39. As Table 2 [Appendix C] indicates, 55.6% of the women sampled were in therapy for eight months or less, and length of time in therapy varied from 1 month to 81 months, with an average length of time in therapy of approximately 17 months. A length of time of 1 to 2 months was typical. As can be seen in Tables 3, 5 6 and 7 [Appendix C]: more of the women sampled were Caucasian (88.9%); Protestant (44.4%); Heterosexual (85.2%); and 77.8% had incomes between \$0 and \$39,999.

As Table 4 [Appendix C] indicates, 6 out of the 27 women sampled were single; 9 married; 9 divorced; and 5 'other'. Other was indicated as living with a partner in all of the cases. The 'other' category under Religious Group netted a description that generally referred to spiritualism when indicated. One woman

identified herself as bisexual, and one as lesbian. The 'not sure' category under Sexual Orientation was meant to capture those who may be struggling with sexual preference or identity issues, although there is no way to be sure what was meant in these cases since no additional notation was made by these participants.

The zip codes indicated on the Demographic questionnaires generally represented areas of the City of St. Louis, central, west and northern suburban St. Louis County, and three from the far northwestern suburban areas located in adjacent St. Charles County. There was no representation from the south or southwestern suburban St. Louis County. The zip codes indicate where in the metropolitan area the women sampled live. Spatially the sample shows that these women are self referring to sites that are within their geographical sphere of functioning.

Statistical Procedures

To test the null hypothesis that the two symptomatology groups are independent, correlations were run between the two groups' respective test scores. To test the hypothesis and answer the question of relationship between the two groups of women, the Correlations procedure of SPSS was used to examine relationship, Point-biserial is assumed in computing

Pearson's r . The Regression procedure was used to examine for strength of relationship, r squared.

SGRP0 and SGRP1 do not meet the requirement for normality. According to Howell (1992) there is no way a normal distribution of obtained scores can be assumed on a dichotomous variable. However, to test for relationship using Pearson's r correlation coefficient for the combined samples of SGRP1 and SGRP0 it is necessary to assume approximate normality in their joint or bivariate populations (Howell, 1992). Therefore, the dichotomous variables were arbitrarily scored and labeled with 0 and 1 as previously identified, and the Point-biserial correlation coefficient was assumed. In this case the sign of the correlation became unimportant because the 0 and 1 values were assigned arbitrarily. The Correlation procedure of SPSS was used to calculate Pearson's r , since Pearson's r equals the Point-biserial r when one variable is dichotomous and the other is continuous. Therefore r and r squared were calculated for correlations to test the null hypothesis for relationship between the combined independent variables SGRP (SGRP1 and SGRP0), and each of the dependent variables representing the test scores: IES; BDI; DES; BAI; and SASSI.

The combined independent variables SGRP0 and SGRP1 were tested for relationship with SASSI1 and SASSI0 using the Crosstabs procedure, since both are dichotomous variables. The strength of relationship was measured by calculating r squared. Thus addressing the null hypothesis and research questions. An IBM compatible personal computer was utilized with this software. For all tests an alpha = .05 was observed.

Chapter IV. Results

The following results are mixed as to the question of relationship between the symptom groups SGRP0 and SGRP1. Although it appears that symptom clusters are parallel between the two groups, the correlation between the symptom groups test scores was statistically insignificant. The trauma group scored consistently higher than the chemical dependency group. However there was a relationship between the groups in terms of chemical dependency symptomatology based on the SASSI.

Descriptives

Referring to Table 8, the IES scores for the combined samples remained within the low to middle range for symptomatology, with an average score of 7.33 (SD=4.3483) and median score of 7.00. Actually the two groups scored very similarly except for one outlier in the chemical dependency group (SGRP0). The mean scores for SGRP1 and SGRP0 were 7.0485 (SD=4.6135) and 7.6071 (SD=4.2435) respectively. The median score for both groups was 7.00. By examining the box plots in Figure 1 [Appendix F], it is evident that the biggest difference in the scoring between the two groups is in the variability or spread; the chemical dependency group scores are clustered more tightly around the median

than the trauma group scores, with variances of 18.0069 and 21.2847 respectively. Variance for the chemical dependency group is exaggerated by the outlier. In this sample the global IES scores of the samples are consistent with those experiencing a low to moderate amount of intrusion and avoidance symptoms (Horowitz, Personal Communication, July 29, 1996).

IES SCORES BY GROUP

	MEAN	STD. DEV.	VARIANCE
CONTROL	7.222	2.297	5.278
TRAUMA	7.222	2.297	5.278
CHEMICAL	7.222	2.297	5.278
GLOBAL IES	8.222	4.297	18.468
INTRUSION	12.222	12.297	150.069
AVOIDANCE	8.222	4.297	18.468

IES = Intrusion and Avoidance Symptom Scale
 CONTROL = Control Group
 TRAUMA = Trauma Group
 CHEMICAL = Chemical Dependency Group

Table 8

IES SCORES BY SGRP

	SGRP	SGRP1	SGRP0
MEAN	7.3381	7.0485	7.6071
MEDIAN	7.0000	7.0000	7.0000
MODE	7.00	11.00	7.00
STD DEV	4.3483	4.6135	4.2435
RANGE	17.00	12.00	16.50
IQR	6.00	8.75	4.50

(SGRP = combined sample;
 SGRP1 = trauma symptom group;
 SGRP0 = chemical dependency symptom group.)

Referring to Table 9, the BDI scores of the combined sample has a mean of 17.5185 (SD=13.7123), with a wide range of 53 and variance of 188.0285. This is largely due to the outliers, located within each of the sample groups as can be seen from the box plots in Figure 2 [Appendix F]. Again, the chemical dependency group scores lower and in a more tightly clustered range (IQR=13) than the trauma group (IQR=23.50). The mean, median, variance and the outliers compare in the same manner; the scores of the chemical dependency group are lower than those of the trauma group. Based on Beck, et al, (1996): scores of 0-13 is indicative of minimal depression; 14-19 mild; 20-28 moderate; and 29-63 severe depression (Pg. 11). The statistics in Table 9 and Figure 2 indicate that the chemical dependency group scores more consistently in the minimal to mild range, and the trauma group in the moderate to severe range, although both have scores across these ranges.

Table 9

BDI SCORES BY SGRP

	SGRP	SGRP1	SGRP0
MEAN	17.5185	20.7692	14.5000
MEDIAN	15.0000	17.0000	13.0000
MODE	17.00	26.00	9.00
STD DEV	13.7123	16.6791	9.9441
RANGE	53.00	52.00	32.00
IQR	18.00	23.50	13.00

(SGRP = combined sample;
 SGRP1 = trauma symptom group;
 SGRP0 = chemical dependency symptom group.)

Table 10 shows the majority of women sampled in both groups score below a cut off of 25. This is consistent with more severe forms of dissociation. According to Carlson and Putnam (1992) scores above 25 have been found to be consistent with the scores of those diagnosed with PTSD, dissociative disorders and Dissociative Identity Disorder (Pg. 20). The mean score for the combined samples is 19.5185 (SD=20.4871); the chemical dependency group mean is 16.50 (SD=21.0485); and the mean for the trauma group is 22.7692 (SD=20.1831). The box plots in Figure 3 [Appendix F] and statistics in Table 10, are consistent with the IES and BDI scores. The DES scores tend to be higher on average for the trauma group than for the chemical dependency group. Contrary to the previous test scores, the higher scores and greater variance are seen in the chemical dependency group; SGRP0 variance is 443.0385 verses 407.3590 in the SGRP1. As can be seen in Figure 5 [Appendix G] the stem and leaf diagrams show four cases above 25 in the trauma group and three in the chemical dependency group.

Table 10

DES SCORES BY SGRP

	SGRP	SGRP1	SGRP0
MEAN	19.5185	22.7692	16.5000
MEDIAN	13.00	16.00	7.00
MODE	13.00	16.00	7.00
STD DEV	20.4871	20.1831	21.0485
RANGE	71.00	63.00	71.00
IQR	21.00	16.00	19.25

(SGRP = combined sample;
 SGRP1 = trauma symptom group;
 SGRP0 = chemical dependency symptom group.)

As Table 11 indicates, the average BAI score of the chemical dependency group is lower with a mean of 12.2143 (SD=11.1506) than that of the trauma group with a mean of 20.2308 (SD=17.1812). As the statistics in Table 11 and box plots in Figure 4 [Appendix F] indicate, the trauma group scores varied more than the chemical dependency group, with a variance and interquartile range of 124.3352 (IQR=17.50) versus 295.1923 (IQR=27.50). According to Beck and Steer (1993): scores of 0-7 suggest minimal anxiety; 8-15 mild; 16-25 moderate; and 26-63 severe anxiety (Pg. 1). The average score for the combined sample is 16.0741, with a median score of 11.00, suggesting that the women sampled have moderate symptoms of anxiety. The stem and leaf diagrams in Figure 6 [Appendix G] show that 15 of 27 women sampled score below the moderate level, and only five women scored within the severe range; one from the chemical dependency group and four from the trauma group. This is similar to previous test results here.

According to Table 11, 21 out of 100 samples, based on the BAI1 instrument, were identified as having chemical dependency symptoms. This represents 21% of the sample, and suggests that the symptomatology of chemical dependency may occur in this group. This is consistent with the literature which states that chemical dependency occurs in 20% of the symptom clusters generally.

Table 11

BAI SCORES BY SGRP

	SGRP	SGRP1	SGRP0
MEAN	16.0741	20.2308	12.2143
MEDIAN	11.00	20.00	8.50
MODE	4.00	7.00	4.00
STD DEV	14.6653	17.1812	11.1506
RANGE	58.00	54.00	38.00
IQR	20.00	27.50	17.25

(SGRP = combined sample;
 SGRP1 = trauma symptom group;
 SGRP0 = chemical dependency symptom group.)

Table 12. Correlations of BAI by Dependent Variables

Variable	SGRP	SGRP1	SGRP0
BAI1	.271	.271	.271
BAI2	.271	.271	.271

According to Table 12, 21 out of the 27 women sampled, respond on the SASSI consistent with those having chemical dependency symptoms, and 6 as not consistent with having chemical dependency symptoms. This represents 77.8% of the sample, and suggests that the symptomatology of chemical dependency may occur in both groups. This is consistent with the literature cited earlier noting that chemical dependency occurs as part of the symptom clusters generally associated with trauma.

Table 12: SASSI Scores of Combined Samples

Value Label	Value	Frequency	Percent	Cum %
NO CD SYMPTOMS	.00	6	22.2	22.2
CD SYMPTOMS	1.00	21	77.8	77.8
Total		27	100.0	100.0

Correlations

The results of the correlations run between SGRP and the dependent variables are shown in Table 13.

Table 13: Correlation of SGRP to Dependent Variables

Correlations:	IES	BDI	DES	BAI	SASSI
SGRP	-.0654	.2328	.1558	.2783	-.5547
	(27)	(27)	(27)	(27)	(27)
	P= .746	P= .243	P= .438	P= .160	P= .003

(Coefficient / (Cases) / 2-tailed Significance)

Two tailed significance tests were run because any relationship that can exist between the two symptom groups can have either a positive or negative correlation. The sign of the correlation is due to the arbitrary assignment of 0 and 1 to the symptom groups. Here a simple correlation does not seem to indicate a statistically significant relationship between the two symptom groups based on the values of r for the variables IES, BDI, DES and BAI.

The SASSI correlation of $-.5547$ ($P=.003$) suggests that there is a relationship between the two symptom groups. This information appears to be consistent with the descriptive results that indicate a difference in the scoring between symptom groups for IES, BDI, DES and BAI; and some of the women in SGRP1 scoring similar to SGRP0 for SASSI. Further testing of these variables for relationship, and strength of relationship was done by plotting Point-biserial regression lines, and computing Pearson's r for the correlations between SGRP0 and SGRP1 with each of the dependent variables. The relationship and strength of relationship between SGRP (SGRP0 and SGRP1), and SASSI was measured by the Crosstabs procedure of SPSS, and calculating for r squared.

As can be seen from Figure 7, the scores of the trauma group (SGRP1) and the chemical dependency group (SGRP0) were similar; except for one outlier in SGRP0, with the regression line running through the similar mean scores of the two groups. Similarly, as seen in Figures 8, 9, and 10; the plots are consistent with the descriptive statistics showing the difference between scores of the symptom groups on the BDI, DES, and BAI respectively. The trauma group tended to score higher except on the IES; and with more variability except in the case of the DES. This is consistent with earlier results in this study.

Using information from Table 13, the correlation between IES and SGRP is $-.0654$, with a probability of $.7460$. Figure 7 illustrates this relationship. The correlation shows that $.428\%$ of the variability in IES scores is accounted for by SGRP (SGRP1 and SGRP0). The null hypothesis was tested at $\alpha = .05$. The probability of the symptomatology of these groups being independent was found to be $.7460$, indicating at a 95% level of confidence that the groups are independent for symptoms measured by the IES. This is supportive of retaining the null hypothesis of no relationship between the groups, and that symptomatology of trauma and chemical dependency in these two samples are independent.

Using information from Table 13, the correlation between BDI and SGRP is .2328, with a probability of .2426. Figure 8 illustrates this relationship. The correlation shows that 5.42% of the variability in BDI scores is accounted for by SGRP (SGRP1 and SGRP0). The null hypothesis was tested at $\alpha = .05$. The probability of the symptomatology of these groups being independent was found to be .2426, indicating at a 95% level of confidence that the groups are independent for symptoms measured by the BDI. This is supportive of retaining the null hypothesis of no relationship between the groups, and that symptomatology of trauma and chemical dependency in these two samples are independent.

Using information from Table 13, the correlation between DES and SGRP is .1558, with a probability of .4377. Figure 9 illustrates this relationship. The correlation shows that 2.43% of the variability in DES scores is accounted for by SGRP (SGRP1 and SGRP0). The null hypothesis was tested at $\alpha = .05$. The probability of the symptomatology of these groups being independent was found to be .4377, indicating at a 95% level of confidence that the groups are independent for symptoms measured by the DES. This is supportive of retaining the null hypothesis of no relationship between the groups, and that symptomatology of trauma

and chemical dependency in these two samples are independent.

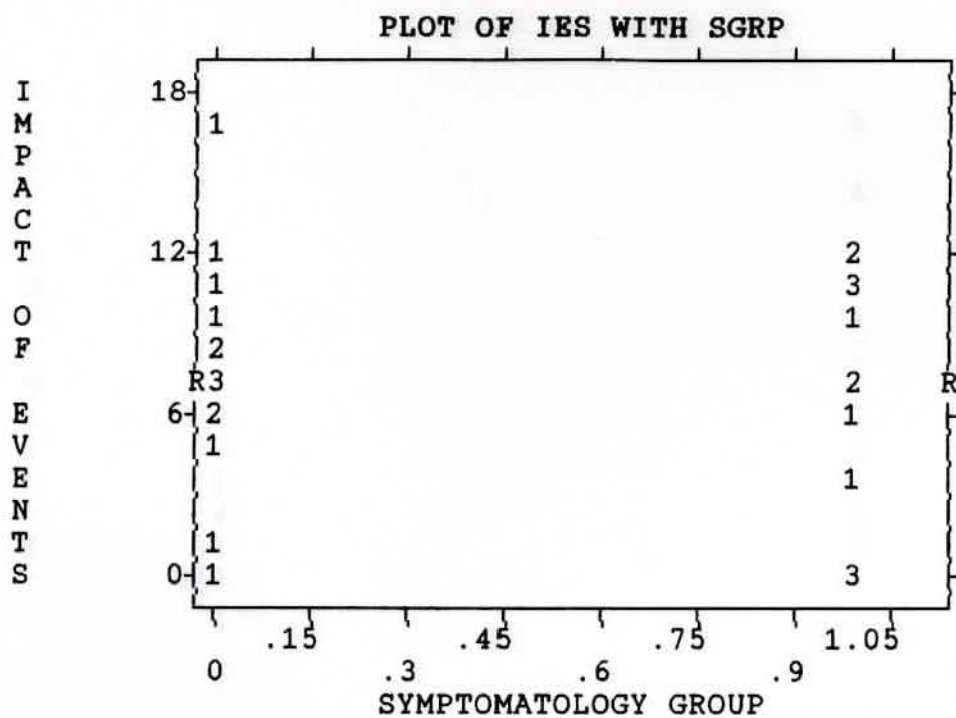
Using information from Table 13, the correlation between BAI and SGRP is .2783, with a probability of .1598. Figure 10 illustrates this relationship. The correlation shows that 7.75% of the variability in BAI scores is accounted for by SGRP (SGRP1 and SGRP0). The null hypothesis was tested at $\alpha = .05$. The probability of the symptomatology of these groups being independent was found to be .1598, indicating at a 95% level of confidence that the groups are independent for symptoms measured by the BAI. This is supportive of retaining the null hypothesis of no relationship between the groups, and that symptomatology of trauma and chemical dependency in these two samples are independent.

Referring to Table 13, SASSI and SGRP were correlated at $-.5547$, with a probability of .003. The Crosstabs in Figure 11 displays the frequency of SASSI by SGRP. By observing cell (2,2), 7 (53.8%) out of 13 SGRP1 group members scored consistent with SASSI1 members, positive for chemical dependency symptoms measured by SASSI. Examining cell (2,1), 6 (46.2%) out of 13 SGRP1 members scored inconsistent with SASSI1 members, negative for chemical dependency symptoms. Cell (1,2) shows 14 (100%) all 14 SGRP0 members scored

consistent as SASSI1 members, positive for chemical dependency symptoms. As cell (1,1) indicates, no SGRP0 members scored negative for chemical dependency symptoms. This suggests the SASSI agrees with the women and sites in their selection process of these women into the chemical dependency symptom group (SGRP1). Calculating for r squared .3077 is obtained; therefore 30.77% of the variability in SASSI is attributable to the variability in SGRP (SGRP0 and SGRP1). As this information indicates, the probability is .003 or less there is no relationship between SGRP and SASSI groups. The null hypothesis was tested at alpha = .05. The probability of the groups being independent was found to be .003. This means that SASSI and SGRP are statistically related. This suggests that at a 95% level of confidence a relationship does exist between these two groups in this sample for chemical dependency symptomatology. This is supportive of rejecting the null hypothesis.

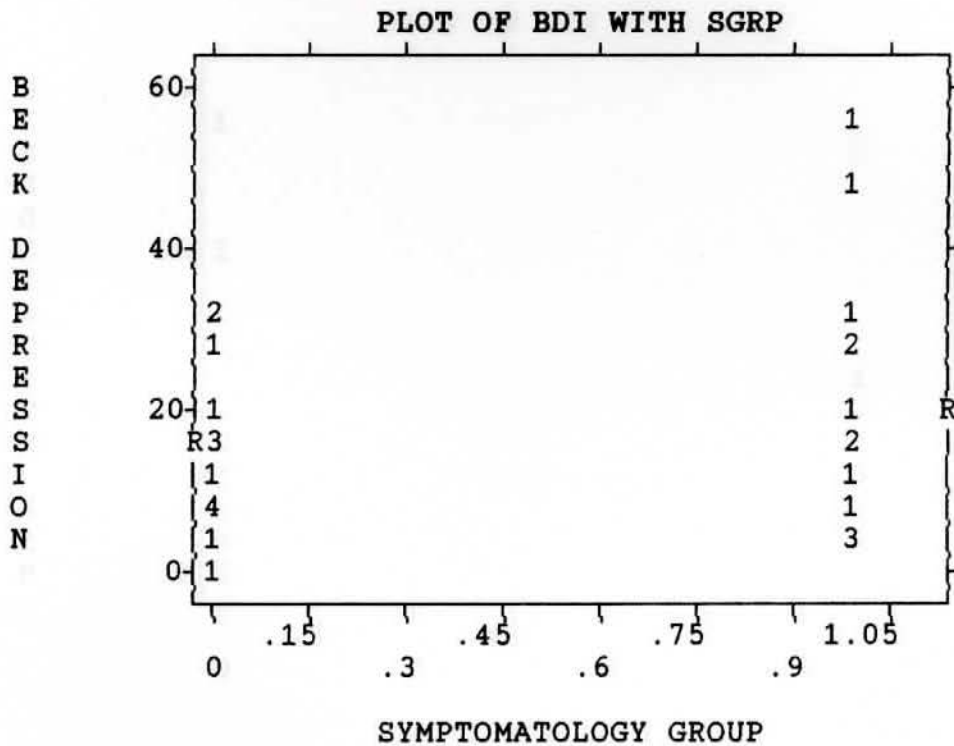
This conflicts with earlier findings that there is no relationship between the scores of the women in the two symptom groups. Correlations found no statistically significant relationships for symptoms measured by the IES, BDI, DES and BAI; but a statistically significant relationship was found for symptoms measured by the SASSI.

Figure 7

Regression Statistics of IES with SGRP

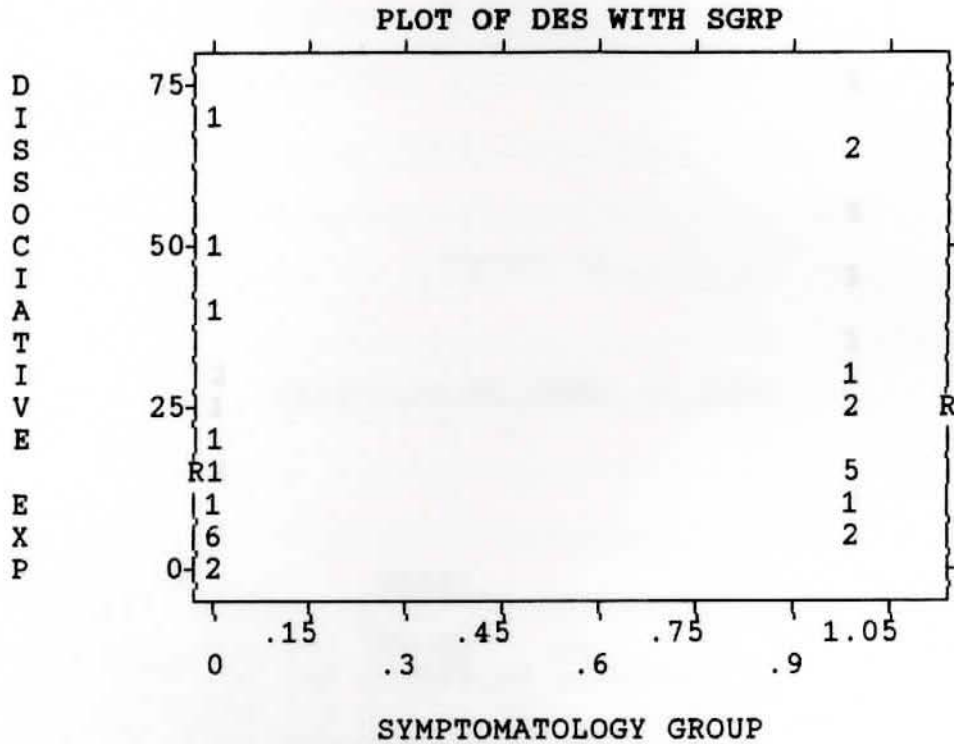
27 cases plotted. Regression statistics of IES on SGRP:
 Correlation $-.06542$ R Squared $.00428$
 S.E. of Est 4.42495 Sig. $.7458$
 Intercept(S.E.) $7.60714(1.18262)$
 Slope(S.E.) $-.55868(1.70434)$

Figure 8

Regression Statistics of BDI with SGRP

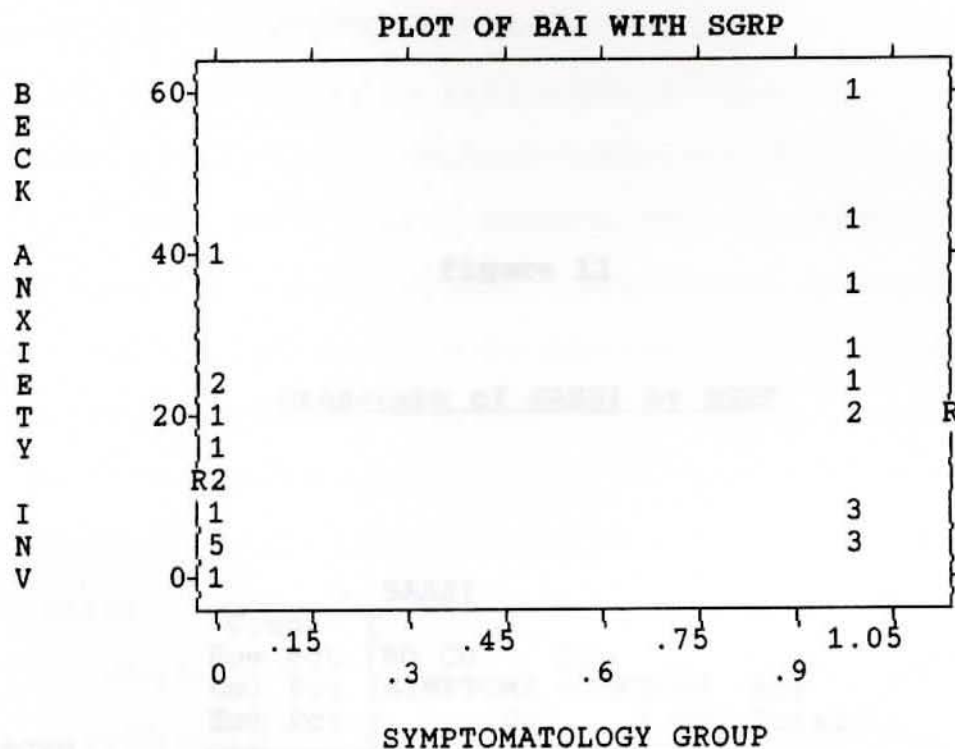
27 cases plotted. Regression statistics of BDI on SGRP:
 Correlation .23279 R Squared .05419
 S.E. of Est 13.59972 Sig. .2426
 Intercept(S.E.) 14.50000(3.63468)
 Slope(S.E.) 6.26923(5.23813)

Figure 9

Regression Statistics of DES with SGRP

27 cases plotted. Regression statistics of DES on SGRP:
 Correlation .15581 R Squared .02428
 S.E. of Est 20.63764 Sig. .4377
 Intercept(S.E.) 16.50000(5.51564)
 Slope(S.E.) 6.26923(7.94889)

Figure 10

Regression Statistics of BAI with SGRP

27 cases plotted. Regression statistics of BAI on SGRP:
 Correlation .27833 R Squared .07747
 S.E. of Est 14.36477 Sig. .1598
 Intercept(S.E.) 12.21429(3.83915)
 Slope(S.E.) 8.01648(5.53280)

Figure 11

Crosstabs of SASSI by SGRP

SGRP	Count Row Pct Col Pct Tot Pct	SASSI		Row Total
		NO CD	CD	
		SYMPTOMS	SYMPTOMS	
		.00	1.00	
CHEMICAL DEPENDENCY	.00		14 100.0 66.7 51.9	14 51.9
TRAUMA	1.00	6 46.2 100.0 22.2	7 53.8 33.3 25.9	13 48.1
Column Total		6 22.2	21 77.8	27 100.0

Chapter V. Discussion

The study explored the research question of relationship between the symptomatology of trauma and chemical dependency in self referred women in outpatient therapy. Findings indicated that there was a significant relationship between the two symptom groups of women in terms of chemical dependency symptoms. The association was found to be moderate between groups. No significant relationship was found between symptom groups for other symptom clusters associated with intrusion and avoidance, depression, dissociation or anxiety. Possible explanations of the findings, limitations of the study, recommendations for further research and some final comments are offered for consideration here.

Implications

Considering the study did not control for the length of time in therapy, nor was the sample large enough based on the demographics to be considered representative or to provide more validity, some possible explanations for the conflicting results can be discussed. The results on the IES, measuring symptoms common to trauma of intrusion and avoidance, seemed to score similarly based on the descriptive statistics, and remained in the low to middle ranges of

symptoms in both sample groups. This could be accounted for by constriction of thought and affect often experienced during the first few months or even years after the traumatic event. In this study, the majority of the women in the samples had been in therapy between 1 and 8 months, 17 months on average, possibly indicating that due to constriction their responses were lower. This is supported in the literature on trauma response syndromes, and Rape Trauma Syndrome (Horowitz, 1979, Pg. 218; Burgess & Holstrom, 1974, Pg. 985; Herman, 1992, Pg. 43).

The lack of relationship might also be explained by the greater variance in length of time since the traumatic event, or length of time in therapy in the groups sampled. Similarly, the DES scores may have been effected by increased dissociation often experienced during early phases of recovery, or prior to therapy for traumatic events. This is supported by Herman (1992) who states that dissociation is a way of numbing or constriction, and those individuals who are not able to dissociate spontaneously, or to the degree necessary, will use and abuse chemicals. Again, the length of time in therapy and use of chemicals to assist in dissociating may have had an effect on the DES scores' variability.

The Beck inventories measuring degree of affective symptoms of depression and anxiety may have been confounded by the previous symptomatology discussed; either exacerbated or constricted due to chemical dependency or trauma experienced by the women sampled. Time was an uncontrolled variable in terms of the duration of therapy, the time since traumatic event(s), and length of chemical abuse history. Therefore, length of time may have had an effect on the variability in the BDI and BAI scores. It is clear that the results were complicated by not controlling for length of time in these areas.

Although the results of the correlation between symptomatology groups and the SASSI scores of the combined samples are clear, the sample size and demographics are such that these results need to be viewed as an indication of relationship and can not be generalized to the respective populations as a whole. Length of time was not a factor in the scoring of the SASSI since it measures both general thoughts and behaviors, and behaviors specific to chemical usage in the past tense. Additionally, there is a 'faking good' subscale for lying or random responses on which none of the women scored a positive point. These results would seem to agree with other researchers who have found that there may be similar symptomatology paths in each

group (Brown & Wolfe, 1994). The significant number of women in the trauma group scoring consistently with chemically dependent women would appear to suggest some considerations in treatment approaches with these women.

In light of the results, a generalization that can be made is that women in these two groups appear to be related on the basis of the symptomatology consistent with chemical dependency. As to there being a relationship in terms of the other symptom clusters, this study does not indicate a statistically significant relationship. However, examination of the scores displayed some individuals of each group scoring similarly. Without additional controls and larger samples, the most that can be concluded is that chemical dependency appears to be correlated between the two groups sampled at approximately 31%.

Although these results conflict with much of the literature relating the two symptomatology groups, it could be an indication of what others have suggested regarding the two having similar or parallel symptom development (Brown & Wolfe, 1994; Miller, et al, 1987; Breslau, et al, 1991). Results here suggest that the symptom clusters chosen may be parallel, but not related, except for chemical dependency. Chemical dependency has been cited as one of the symptoms of

trauma. Trauma has been cited as being a symptom of chemical dependency symptomatology (Cottler, et al, 1992; Bean-Bayog, 1986; Brown, 1994). These results and the literature suggest that trauma and chemical dependency may be symptoms of each other. The dialectic between trauma and chemical dependency may be one of process, or one of content, or both.

Limitations

Possible bias in selection of the sample exists in that these were not entirely random samples, but samples of convenience. There is a degree of randomness in that the women were self identified into symptom groups, self referred to the facilities, and self selected as subjects by volunteering. Whether this represents truly their choice within the current treatment delivery system or the system's influence on their perception of their presenting problems is a subject for other inquiries. It is perhaps a limitation of this study.

The different sites offer differing treatment venues, modes and approaches. This is a treatment variable and not the focus of this study. However, this may be a limitation of this study since length or method of treatment may have effected the degree of symptomatology experienced by the women. This may have

subsequently presented in the sample and test scores, effecting both the independent and dependent variables.

The independent variables of the samples themselves may be confounded by the sites where the samples are taken as due to the nature of the demographic characteristics of the clients and sites. The presence of men in the hospital based treatment facility was not a factor in selection of the samples nor in the characteristics being examined, but may confound a study focusing on treatment variables. There are a variety of socioeconomic and payment variables included with these sites that impacts on the composition of the sample, and may have confounded the study. These might be related to types of incidents or availability of chemicals effecting the symptoms of the women in the study. Thus there may be a small difference in the demographics of the two samples that may have confounded the study, but the impact was expected to be minimal for the purposes of determining whether there is a relationship between the two populations.

Length of time in therapy at the facilities was not considered to contaminate the sample for the purposes of this study, though it would be important when examining treatment effects. This may have effected the scores. However, similar situations

existed in each setting, although a potential source for bias supportive of the null hypothesis, it was not expected to be statistically significant. This conservative approach to testing the null hypothesis is a limitation to the study.

There may be a slight degree of bias in that the clients or patients may want to please or punish their respective therapists, and therefore the therapeutic relationship may impact on the scores of the inventories. However, this is a treatment effect, and controlling for treatment effects is considered to go beyond the scope of the limited time constraints and focus of this study. To include research and controls into treatment variable effects would involve a larger scale study design, larger sample, more variables and considerably more time than is appropriate for this study.

Research Recommendations

As is consistent with the literature cited earlier, clearly some degree of relationship exists between the two symptomatological groups of women sampled. This study served the purpose of furthering the understanding of women in therapy and providing direction for further research. Given the results herein, recommendations for future research may be

considered. Construction of a similar study with a larger, more representative sample size, and control for length of time in therapy is indicated. Possible alternative designs include measuring the relationship between dependent variables similar to those used here. Given the results of this study, reexamination of the relationship between the two symptomatology groups using a three sample design, adding a third sample group of dual diagnosis women, is appropriate. The presence of dually diagnosed women became obvious in sampling the subjects and it would seem as though there are an abundance of these women available. This was indicative of either their perception, or the system's delivery of services, and perhaps was more representative of a relationship between symptomatology of trauma and chemical dependency. Due to the size and nature of this study, it is recommended that the results be interpreted cautiously and as an indication of areas for future research.

Concluding Remarks

Results of this study indicated that there is an association between the symptomatology of trauma and of chemical dependency. However, these results should be interpreted cautiously. The objective of providing direction for future research in these areas is

inspired by the very inconclusiveness found in this study. Recommendations for future research into this relationship have been made due to the limitations of this study, and inconclusive nature of the findings. Since there is less research in these areas, it is hoped that this proves useful information to counselors working with these populations of women. This is especially relevant because outpatient therapy seems to be the preferred mode of treatment in this era of managed care. Hopefully, this information transforms confusion into direction for clinicians in the process of understanding the nature of this association. The findings here are supported by research reviewed earlier, and this study adds to the literature specific to women in therapy for trauma or chemical dependency. Finally, it is the hope of this researcher and counselor that this study and others may educate therapists and the mental health system to their participation with these women in maintaining their 'solutions', and thereby use this information to make a difference.

Appendix A

RESEARCH STUDY CRITERIA FOR PARTICIPATION (SGRP1)

A. Criteria for Inclusion

- 1) Women, 18 years of age or older
- 2) Currently receiving ongoing therapy for trauma related issues (does not include intake only)
- 3) Women for whom this would not pose a danger to their therapy or psychological well being, and who are supported in their choice therapeutically by their therapist
- 4) Women who are willing (of their own choice) to participate

B. Criteria for Exclusion

- 1) Women who do not meet the above criteria
- 2) Women who have received any type of alcohol or drug treatment, or therapy specific to those problems, in the past or present
- 3) Women who actively pursue working at addiction issues in as a part of their therapy, or for whom it has been suggested to do so by their therapist
- 4) Women who pursue an alcohol/drug recovery program through support groups such as AA, NA, or CA, or Rational Recovery, or similar programs

SIMPLY THERAPIST'S KNOWLEDGE OF ALCOHOL/DRUG USE OR ABUSE, OR THEIR SUSPICION OF THAT, IS NOT ENOUGH TO DISQUALIFY A WOMAN FROM PARTICIPATING IN THE STUDY.

RESEARCH STUDY CRITERIA FOR PARTICIPATION (SGRPO)**A. Criteria for Inclusion**

- 1) Women, 18 years of age or older
- 2) Currently receiving ongoing treatment/therapy for chemical dependency
- 3) Women for whom this would not pose a danger to their therapy or psychological well being, and who are supported by their choice therapeutically by their counselor/therapist
- 4) Women who are willing (of their own choice) to participate

B. Criteria for Exclusion

- 1) Women who do not meet the above criteria
- 2) Women who are or have been diagnosed with schizophrenia, PTSD or a dissociative disorder
- 3) Women who are or have been dually diagnosed, or diagnosed with another mental disorder according to the DSM-IV
- 4) Women for whom such therapy or treatment for such mental disorders has been suggested/recommended, or received
- 5) Patients receiving therapy by the researcher

SIMPLY COUNSELOR'S OBSERVATION OF PATIENT'S PRESENTATION AS SIMILAR TO THESE OR OTHER DISORDERS ALONE, WITHOUT AN OFFICIAL DIAGNOSIS PAST OR CURRENT, DOES NOT DISQUALIFY A WOMAN FROM PARTICIPATION IN THIS STUDY.

Appendix B

DEMOGRAPHIC INFORMATION

DATE OF BIRTH ___/___/___

STATE _____

ZIP CODE _____

LENGTH OF TIME IN THERAPY ___ mos. ___ yrs.

RACIAL IDENTIFICATION:

African American
 Asian
 Caucasian
 Latin
 Middle Eastern or East Indian
 Native American
 Other _____

PARTNERSHIP STATUS:

single
 married
 divorced
 widowed
 Other _____

RELIGIOUS PREFERENCE:

Catholic
 Jewish
 Protestant
 Other _____

SEXUAL ORIENTATION:

Bisexual
 Heterosexual
 Lesbian
 Not sure

INCOME LEVEL:

0-9,999
 10,000-19,999
 20,000-29,999
 30,000-39,999
 40,000-49,999
 50,000-59,999
 60,000-74,999
 75,000-99,999
 100,000-149,000
 150,000-249,999
 250,000 and above

Appendix C

Demographic TablesTable 1: Ages of Women in Combined Samples

<u>Value</u>	<u>Frequency</u>	<u>Percent</u>	<u>Valid %</u>	<u>Cum %</u>
22.00	1	3.7	3.7	3.
23.00	1	3.7	3.7	7.
29.00	1	3.7	3.7	11.1
30.00	1	3.7	3.7	14.8
32.00	3	11.1	11.1	25.9
34.00	1	3.7	3.7	29.6
35.00	3	11.1	11.1	40.7
37.00	1	3.7	3.7	44.4
38.00	2	7.4	7.4	51.9
39.00	2	7.4	7.4	59.3
40.00	1	3.7	3.7	63.0
41.00	2	7.4	7.4	70.4
42.00	1	3.7	3.7	74.1
43.00	1	3.7	3.7	77.8
45.00	1	3.7	3.7	81.5
48.00	1	3.7	3.7	85.2
51.00	1	3.7	3.7	88.9
54.00	1	3.7	3.7	92.6
55.00	1	3.7	3.7	96.3
65.00	1	3.7	3.7	100.0
Total	27	100.0	100.0	

Demographics Tables (Cont'd.)

Table 2: Length of Time In Therapy (Mos.)

Value	Frequency	Percent	Valid %	Cum %
1.00	4	14.8	14.8	14.8
2.00	4	14.8	14.8	29.6
3.00	1	3.7	3.7	33.3
6.00	3	11.1	11.1	44.4
8.00	3	11.1	11.1	55.6
12.00	1	3.7	3.7	59.3
14.00	2	7.4	7.4	66.7
24.00	2	7.4	7.4	74.1
27.00	1	3.7	3.7	77.8
32.00	1	3.7	3.7	81.5
34.00	1	3.7	3.7	85.2
39.00	1	3.7	3.7	88.9
45.00	1	3.7	3.7	92.6
60.00	1	3.7	3.7	96.3
81.00	1	3.7	3.7	100.0
Total	27	100.0	100.0	

Demographic Tables (Cont'd.)Table 3: Racial-Ethnic Groups of Sample

Value Label	Value	Frequency	Percent	Valid %	Cum %
AFRICAN AMERICAN	1.00	3	11.1	11.1	11.1
CAUCASIAN	3.00	24	88.9	88.9	100.0
Total	27	100.0	100.0		

Table 4: Partnership Status of Sample

Value Label	Value	Frequency	Percent	Valid %	Cum %
SINGLE	1.00	6	22.2	22.2	22.2
MARRIED	2.00	9	33.3	33.3	55.6
DIVORCED	3.00	9	33.3	33.3	88.9
OTHER	5.00	3	11.1	11.1	100.0
Total		27	100.0	100.0	

Table 5: Religious Groups of the Sample

Value Label	Value	Frequency	Percent	Valid %	Cum %
CATHOLIC	1.00	8	29.6	29.6	29.6
JEWISH	2.00	1	3.7	3.7	33.3
PROTESTANT	3.00	12	44.4	44.4	77.8
OTHER	4.00	6	22.2	22.2	100.0
Total		27	100.0	100.0	

Table 6: Sexual Orientation of Women Sampled

Value Label	Value	Frequency	Percent	Valid %	Cum %
BISEXUAL	1.00	1	3.7	3.7	3.7
HETEROSEXUAL	2.00	23	85.2	85.2	88.9
LESBIAN	3.00	1	3.7	3.7	92.6
NOT SURE	4.00	2	7.4	7.4	100.0
Total		27	100.0	100.0	

Demographics Tables (Cont'd.)

Table 7: Income Level of Women Sampled

Value Label	Value	Frequency	Percent	Valid %	Cum %
0-9,999	1.00	9	33.3	33.3	33.3
10,000-29,999	2.00	5	18.5	18.5	51.9
30,000-39,999	3.00	7	25.9	25.9	77.8
40,000-49,999	4.00	1	3.7	3.7	81.5
60,000-74,999	6.00	1	3.7	3.7	85.2
75,000-99,999	7.00	1	3.7	3.7	88.9
150,000-249,999	9.00	2	7.4	7.4	96.3
250,000+	10.00	1	3.7	3.7	100.0
Total		27	100.0	100.0	

Appendix D

CONSENT FOR THE RELEASE OF INFORMATION INFORMED CONSENT/DISCLOSURE STATEMENT

DESCRIPTION: You have been asked to participate in a research study regarding chemical dependency and trauma in women. This is a study that is part of a Masters thesis in Professional Counseling being conducted by Ms. Bailey, a Graduate Intern from Lindenwood College. Your data from these questionnaires will be used for research purposes only, not for diagnosis, and your anonymity and confidentiality will be maintained. However, you have the right to request that your therapist or Ms. Bailey discuss your results with you at your discretion. It is hoped that these may prove useful information to you and your therapist. You will be a part of a two sample study and all identities related to the data gathering will be kept confidential by Ms. Bailey, only the data will be used. **NO IDENTIFYING INFORMATION WILL BE INCLUDED IN THE REPORT.** The results of the study and final thesis will be read by other professionals and professors, and copies of the final report can be requested by indicating so on the attached demographic data.

PURPOSE: The graduate intern Ms. Bailey, who has asked you to participate is conducting this study as part of the requirement for completing her Masters in Professional Counseling at Lindenwood College. Your cooperation enables Ms. Bailey not only to complete this requirement, but to add to the knowledge regarding trauma and chemical dependency in women, in order that Ms. Bailey and other professionals may improve counseling services for women by extending this knowledge.

POTENTIAL RISK TO PARTICIPANT: The risk to you is probably minimal. In fact it is hoped that it is beneficial to you. However, you may disclose some personal material to the graduate intern, and you may experience some anxiety about being tested.

BENEFITS TO PARTICIPANT: Assisting in the development of a Professional Counselor. Adding to the information regarding women in therapy for chemical dependency and trauma related issues. Possibly gaining insight and understanding into your self.

CONSENT AGREEMENT:

GRADUATE INTERN/THERAPIST:

I have fully explained to _____ the nature of this testing and its purpose, and explained any potential risks, confidentiality, and benefits to them. I have and will continue to answer any and all questions regarding this research.

Graduate Intern/Therapist

date

PARTICIPANT:

I have been informed, and to my satisfaction, understand the purpose and nature of this research, the potential risks and benefits. I understand that I may request my results be released to my therapist for the purposes of discussing my results for my own benefit. I hereby authorize release of the information contained in these tests/questionnaires. I hereby consent of my own free will to participate in this study and testing.

Participant

date

Appendix E

WOMEN WANTED
TO PARTICIPATE IN RESEARCH STUDY

WOULD YOU LIKE TO HELP FURTHER THE KNOWLEDGE
OF WOMEN IN THERAPY?

A GRADUATE STUDENT COUNSELOR IS CONDUCTING A RESEARCH STUDY HERE REGARDING WOMEN IN THERAPY. THE STUDY WILL EXAMINE DIFFERENT EXPERIENCES OF WOMEN IN TWO DIFFERENT SETTINGS IN OUTPATIENT THERAPY. WOMEN CLIENTS ARE NEEDED TO COMPLETE QUESTIONNAIRES FOR THE STUDY. THIS WILL ONLY TAKE ABOUT 40-50 MINUTES. ALL IDENTIFYING INFORMATION WILL BE KEPT CONFIDENTIAL. ONLY THE RAW DATA WILL BE USED FOR STATISTICS. IF YOU WOULD LIKE TO DISCUSS THE RESULTS YOU MAY DO SO WHEN THE STUDY IS COMPLETED. CLIENTS OF THE RESEARCHING COUNSELOR DO NOT QUALIFY FOR PARTICIPATION. IF YOU ARE INTERESTED IN PARTICIPATING, PLEASE CONTACT YOUR COUNSELOR. THANK YOU IN ADVANCE FOR YOUR INTEREST AND/OR PARTICIPATION.

Appendix F

Box Plots

Figure 1

Box Plots of IES Scores By SGRP

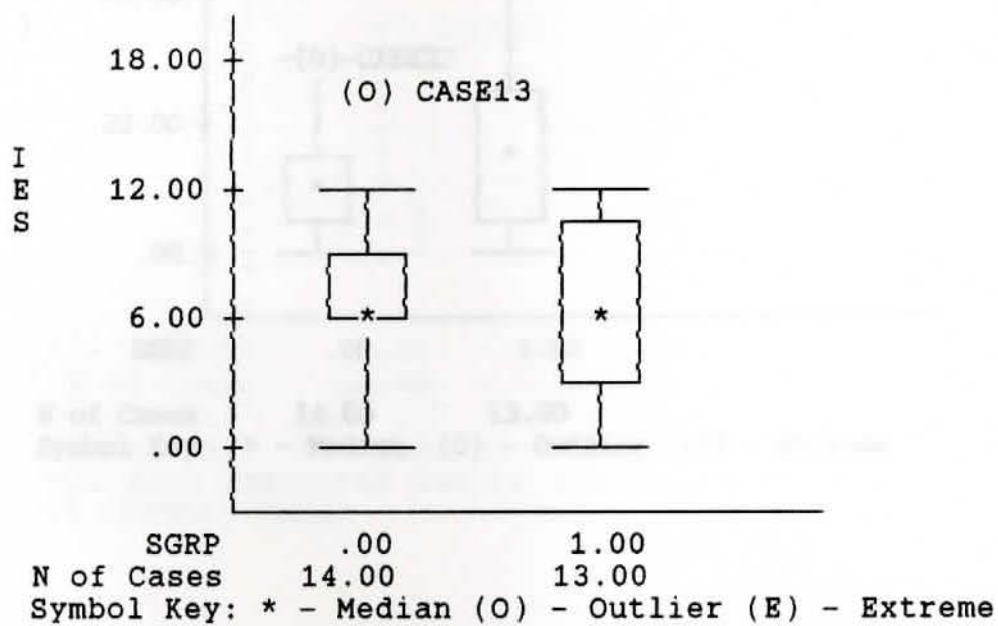
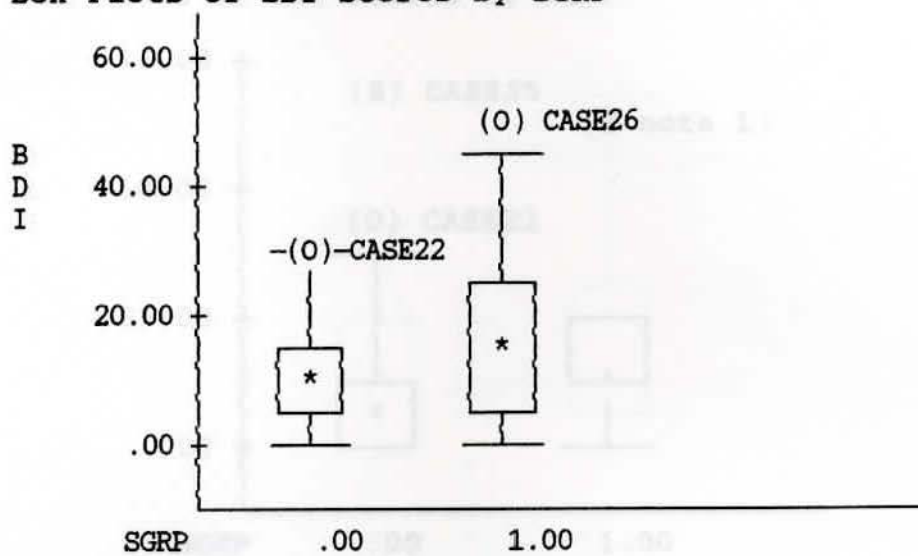


Figure 2

Box Plots of BDI Scores by SGRP

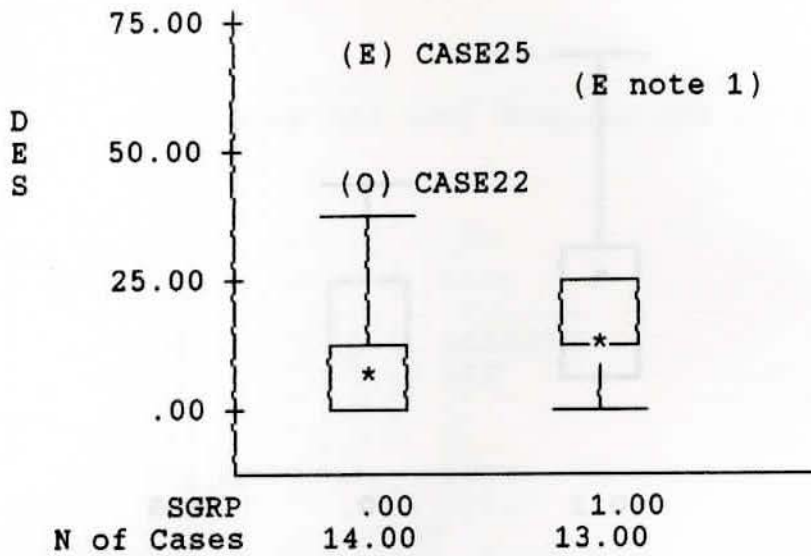


N of Cases 14.00 13.00

Symbol Key: * - Median (O) - Outlier (E) - Extreme

Figure 3

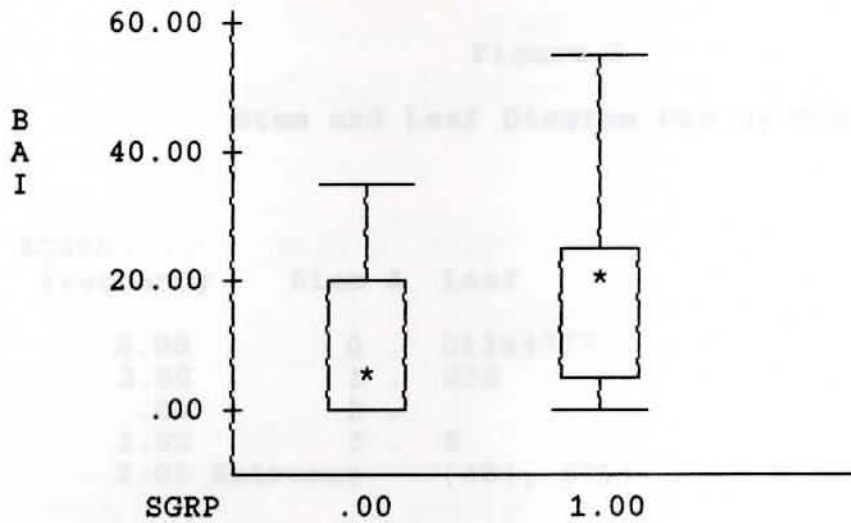
Box Plots of DES Scores By SGRP



Symbol Key: * - Median (O) - Outlier (E) - Extreme
 Box plot footnotes denote the following:
 1) CASE17, CASE5

Figure 4

Box Plots of BAI Scores by SGRP



N of Cases 14.00 13.00
 Symbol Key: * - Median (O) - Outlier (E) - Extreme

Frequency	Step	Leaf
5	0	34
3	1	3
3	2	23
1	3	345
2	4	3
2	5	58
2	Extremes	(84), (60)

stem width: 10.00
 each leaf: 2 case(s)

Appendix G

Stem and Leaf Plots

Figure 5

Stem and Leaf Diagram DES by SGRP

SGRP0

Frequency	Stem &	Leaf
8.00	0 .	01344777
3.00	1 .	038
.00	2 .	
1.00	3 .	8
2.00	Extremes	(48), (71)

Stem width: 10.00
 Each leaf: 1 case(s)

SGRP1

Frequency	Stem &	Leaf
2.00	0 *	34
1.00	0 .	9
2.00	1 *	33
3.00	1 .	566
1.00	2 *	3
2.00	2 .	59
2.00	Extremes	(64), (66)

Stem width: 10.00
 Each leaf: 1 case(s)

Stem and Leaf Plots (Cont'd.)

Figure 6

Stem and Leaf Diagrams BAI Scores by Group

SGRP0

Frequency	Stem &	Leaf
7.00	0 .	0244456
3.00	1 .	116
3.00	2 .	055
1.00	3 .	8

Stem width: 10.00
 Each leaf: 1 case(s)

SGRP1

Frequency	Stem &	Leaf
6.00	0 .	455677
.00	1 .	
4.00	2 .	0129
1.00	3 .	7
1.00	4 .	2
1.00	5 .	8

Stem width: 10.00
 Each leaf: 1 case(s)

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