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Single Vs. Multiple Sexual Assaults
*be accepted as fulfilling this part of the requirements for
the degree of* Doctor of Philosophy

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POST-TRAUMATIC STRESS DISORDER
AND BORDERLINE PERSONALITY DISORDER
IN VICTIMS OF SINGLE VS. MULTIPLE SEXUAL ASSAULTS

A dissertation submitted to the
Division of Graduate Studies and Research
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in the Department of Psychology
of the College of Arts and Sciences

1989

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ABSTRACT

Participants were 50 women, ages 18 to 49, in counseling or psychotherapy who experienced one incident of sexual assault at least six months ago (n=18) or more than one sexual assault at least six months ago (n=32). The women represented a range of socioeconomic and educational backgrounds and marital status, although there were no significant demographic differences between single and multiple victims. Overall, 88% and 46% of the women met the criteria for lifetime and current diagnosis of post-traumatic stress disorder (PTSD; DSM-III-R; APA, 1987), respectively, while 74% met the criteria for a current borderline personality disorder. Multiple victims were more likely to be diagnosed with PTSD and score significantly higher on Scales 1 (Hypochondriasis), 3 (Hysteria), and 8 (Schizophrenia) of the MMPI than victims experiencing one assault. Multiple victims also scored above the norm (T-score > 70) on Scales 4 (Psychopathic Deviate) and 8 (Schizophrenia) of the MMPI, while single-assault victims scored within the normal range on all scales. While multiple victims did not differ from single-assault victims in borderline pathology, women who were assaulted before the age of twelve were more likely to meet the criteria for the disorder than women assaulted in adolescence or as an adult. In addition, the current PTSD diagnosis was significantly correlated with higher MMPI scores on Scales 1 (Hypochondriasis), 2 (Depression), 3 (Hysteria), 7 (Psychasthenia), and 0 (Social Introversion), while the borderline diagnosis was significantly correlated with higher scores on Scales 4 (Psychopathic Deviate), 6 (Paranoia), 7 (Psychasthenia), 8 (Schizophrenia), and 9 (Hypomania). Implications for the assessment and treatment of sexual assault victims and recommendations for future treatment.

For the Many Memories and Years of Love,
This Manuscript Is
Dedicated to My Family

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CHAPTER I
INTRODUCTION

Historical Background. In 1896, Sigmund Freud addressed a group of physicians regarding his most recent observations on the etiology of hysterical neuroses. He stated:

"I therefore put forward the thesis that at the bottom of every case of hysteria there are one or more occurrences of sexual experience, occurrences which belong to the earliest years of childhood..."

(Freud, 1896, as reported by Masson, 1984, page 263).

At the time, the significance of Freud's clinical revelation was twofold: he was not only the first clinician to attribute psychopathology to the occurrence of external stressors, but he was the first to recognize the negative effects which sexual trauma may have on later development (van der Kolk, 1987). His original assertions, however, received sharp criticism from the medical community. Consequently, within a short period of time, Freud himself had renounced his theory and supplanted it with a new one, which became the foundation upon which further psychoanalytic thought was based. Freud suggested that neurosis was a function of intrapsychic, repressed conflicts, primarily sexual in nature, which originated in the fantasies of childhood. Thus, not only was external trauma relegated to a lesser role in the development of symptoms, but sexual trauma was virtually ignored as a precursor to later difficulties. Had Freud not doubted the stories of his patients or his own clinical acumen, research on the effects of early childhood stressors, particularly sexual abuse, may have continued through the 1900's.

As it was, for the next thirty to forty years systematic responses to traumatic stimuli were studied primarily by psychophysiologicalists, such as Cannon and Selye, and behaviorists, such as Pavlov and Skinner (Scrignar, 1984). Within the confines of laboratories, investigators studied the effects of "induced" trauma upon the endocrine and nervous systems of lower animals and humans and the relationship between "traumatic stimuli" and anxiety symptoms. What evolved from this work was the stimulus-response (trauma-anxiety) model (Scrignar, 1984), which later helped to legitimize the trauma-related syndrome now known as post-traumatic stress disorder (PTSD; APA, 1980, 1987).

At the same time, clinical research, primarily in anecdotal form, focused on the symptoms observed in adult survivor groups following exposure to a traumatic event. These groups primarily consisted of combat veterans (see Lewis and Engle, 1954, for a review) and disaster victims (James, 1911, and Kutak, 1938, as reported by Guarantelli, 1985). Studies on the effects of childhood trauma were noticeably absent in both the psychiatric and psychological literature throughout the first half of the twentieth century. Even rarer were reports on the consequences of sexual trauma, regardless of age, until 1937 when Bender and Blau observed and reported on 16 child victims of sexual assault who had been hospitalized following disclosure of the assault(s). They found the children "charming and attractive" in their outward personalities and considered the possibility that "the child might have been the actual seducer rather than the one innocently seduced" (page 514). While the authors acknowledged acute deleterious effects of the sexual incidents, e.g., impaired social relations and cognitive functioning, they minimized how such difficulties might influence

further development. In 1952, Bender and Grugett followed up on ten out of the 16 children observed by Bender and Blau (1937). They found, through clinical interviews, that three of four children who experienced incest and three of six children who had had sexual relations with other adults recovered and adjusted well. The authors obviously did not report on the adjustment of the six children who did not participate, but concluded that such early sexual experiences were not harmful, based on the positive reports of six out of 16 individuals. Although both studies were methodologically lacking, they have been quoted extensively in the literature as support that sexual abuse of children is not injurious.

It was not until the second half of the century that clinicians and researchers began to systematically examine sexual traumata as a precursor to later symptomatology in children, adolescents and even adults. This renewed interest appears to be attributable to several developments in the field. First, there was no longer general acceptance by the psychological or psychiatric communities that reports of child sexual abuse were confabulated, as suggested by Freud. Studies indicated that approximately 20 to 25 percent of females and ten percent of males would experience some form of sexual abuse as children (Kinsey, Pomeroy, Martin, & Gebhard, 1953; Finkelhor, 1979). Estimates for females in lower socioeconomic families were even higher (Gagnon, 1965). Secondly, those working with victims of sexual assault began to question earlier reports that such trauma did not have negative consequences.

However, what most significantly influenced the proliferation of studies on sexual trauma during the late twentieth century was the women's movement (Albin, 1977; Herman and Hirschman, 1977; Russell,

1986). Heightened interest in the psychology of women, freer communication on sexual issues, and general recognition of female victimization rejuvenated an interest in the effects of sexual trauma which Freud had suppressed decades ago. Consequently, researchers began to examine not only the prevalence and incidence of such events, but the short and long-term repercussions in individuals who were sexually traumatized as children, adolescents and adults.

Research on Children. Case reports published from 1960 to the early 1980's indicate that a variety of symptoms may develop in male and female children who are sexually abused. Clinicians have noted the following responses in children who were referred to counseling for behavioral, emotional or physical problems following disclosure of a sexual victimization: anxiety and phobic reactions (Brant and Tisza, 1977); paralysis, hysterical seizures and projectile vomiting (LaBarbera and Dozier, 1980, 1981; Goodwin, Simms & Bergman, 1979; Gross, 1979; Lewis and Sarrel, 1969; and Peters, 1976); changes in eating, sleeping and school habits (Brant and Tisza, 1977); phobic reactions such as nightmares and resistance to leaving home (Felice, Grant, Reynolds, Gold, Wyatt & Heald, 1978); excessive eroticism inappropriate for age level, including compulsive masturbation and excessive curiosity (Yates, 1982; Finch, 1973); physical complaints, including abdominal pains and gastric distress (Raphling, Carpenter & David, 1967) and delinquency (James & Meyerding, 1977). Young infants not cognitively aware of the meaning of the sexual act may manifest psychological problems such as fretfulness, clinging behaviors, feeding or bowel disturbances or later speech problems as a result of the anxiety evoked from stimulation beyond that of the infant's capacity (Lewis and Sarrel, 1969).

A few empirical studies on the immediate effects of childhood sexual trauma have been conducted in recent years. DeFrancis (1969), in one of the most thorough studies to date on cases of child sexual abuse, found that of 263 cases reported to authorities, 64% of the children experienced varying degrees of guilt, 83% were anxious, 58% lacked self esteem, and 55% became hostile and aggressive. Overall, DeFrancis reported that more than two-thirds of the children were emotionally disturbed by the event at the time of the interview, with 14% being severely disturbed. In the opinion of the researchers, 33% were only mildly disturbed. Other researchers have observed short-term symptoms in the categories of behavioral disturbance (e.g., sexualized behaviors, delinquency and running away); emotional problems, such as depression, anxiety, and impaired trust; and somatization (e.g., psychosomatic complaints, pain and enuresis/encopresis) (Adams-Tucker, 1982; Rosenfeld, Nadelson, & Kreiger, 1979).

In 1984, researchers affiliated with the Division of Child Psychiatry at the Tufts New England Medical Center reported on data gathered on overt behavior, somatization, internalized emotional states and self-esteem from male and female children and adolescents who had been victimized or had revealed their victimization in the previous six months (Gomes-Schwartz, Horowitz & Sauzier, 1985). Seventeen percent of the four-to six-year olds were assessed as having "clinically significant pathology" and demonstrated more global disturbance than a group of normal peers, but were less disturbed than children of the same age group who were in psychiatric care. In addition, 13% of these children manifested severe fears, as measured by the Louisville Behavior Checklist (Miller, 1981); 13% to 17% scored above the norm on aggression

and antisocial behavior, as assessed by the same instrument; and 25% had elevated scores on hostility directed outward, according to the Gottschalk-Gleser Content Analysis Scales (Gottschalk, Uliana & Holgard, 1979). By contrast, forty percent of the children in the seven- to 13-year old age group scored in the seriously disturbed range. Additionally, 45% reported severe fears; 45% to 50% showed hostility levels which were substantially elevated on aggression and antisocial behavior; and 35% were elevated on the measure of hostility directed outward. However, Tufts (1984) researchers found no evidence that sexually abused children at any age had consistently lower self-esteem than their "normal" counterparts.

Friedrich, Urquiza, and Beilke (1986, 1988) administered the Child Behavior Checklist (Achenbach & Edelbrock, 1983) to 61 sexually abused girls who had been referred by a local sexual assault center for evaluation or by the outpatient department of a local hospital within 24 months of the abuse. Forty-six percent of their subjects had elevated scores on the Internalizing Scale (fearful, inhibited, depressed, and overcontrolled behaviors) and 39% had elevated scores on its Externalizing Scale (aggressive, antisocial and undercontrolled behaviors). These scores were compared to only 2% of the children in a normative sample, suggesting "much greater deviance" (page 51) in the group of abused children.

Conte (1988) also found that male and female children with a history of sexual abuse differed from children without such histories on a number of conceptual dimensions on their Child Behavior Profile, which was completed by mothers twelve months after the incident(s) was reported. These dimensions included concentration problems,

aggressiveness, withdrawal, somatic complaints, character/personality style, antisocial behaviors, anxiety, depression, behavioral regression, body image and self-esteem problems, fear, and post-traumatic stress. Variations in symptom expression and severity were related to aspects of the child's home environment, such as family functioning, characteristics of the abuse and relationship factors between the victim and perpetrator (Conte & Schuerman, 1987).

There are theorists who postulate that the effects of childhood sexual assault continue into adulthood. Primarily, these individuals assert that such trauma impinges upon the child's ability to master specific developmental tasks in the cognitive, social and emotional domains, which may interfere with the attainment of subsequent skills (Fish-Murray, Koby & van der Kolk, 1987). At this writing, no long-term studies (i.e., more than five years) have been conducted with sexually traumatized children, although research on other forms of trauma, e.g., long-term separation from parents, the witnessing of murder and combat, and survival of man-made and natural disasters (Bowlby, 1977; Eth and Pynoos, 1985; Klein, 1974; Terr, 1983) has demonstrated the inhibiting effects of trauma on normal developmental sequelae. For no groups, however, have the effects of trauma on development and mediating variables which might attenuate symptomatology been systematically studied. At this writing, the only data on chronic symptomatology following sexual assault have been derived retrospectively by interviewing adults who experienced such abuse, which will be discussed below. As Browne and Finkelhor (1986) state:

"At present, little research in the area of sexual abuse is available to document the mechanisms or

processes that interfere with the abused child's development, although it is evident that such interference does occur in some cases (page 162).

Research on Adolescents. Research on adolescents who have experienced sexual trauma(s) can be divided into two types. The majority of the studies focus on those individuals who were assaulted as children who present for the first time at a mental health clinic, psychiatric setting or juvenile court with subsequent emotional and/or behavioral problems. Symptomatology found to be associated with early sexual abuse includes self-destructive behaviors, such as substance abuse, suicide attempts, running away from home and promiscuity, and cognitive and affective responses, such as anxiety, depression, depersonalization and loss of self-esteem (Carper, 1979; Lindberg and Distad, 1985a, 1985b; Peretti and Banks, 1980; Reich and Gutierrez, 1979).

In a recent study of MMPI profile constellations in incest families (Scott and Stone, 1986a, 1986b), scores of the adolescent daughters who had been victimized were found to score significantly higher than their mothers, fathers and stepfathers on Scale F (one of the MMPI's validity scales), Scale 7 (Psychasthenia) and Scale 8 (Schizophrenia). The daughters also scored significantly higher on Scale K (another of the MMPI's validity scales), Scale 1 (Hypochondriasis), Scale 2 (Depression), Scale 6 (Paranoia), Scale 7 (Psychasthenia), Scale 8 (Schizophrenia), Scale 9 (Mania) and Scale 0 (Social Introversion), compared to a group of normal adolescents. Two-thirds of the victims also produced either a 48/84 or 89/98 code-type on the MMPI, indicating significant psychological disturbance.

A second group of researchers has investigated the effects of a single assault on male and female adolescents. Tufts (1984) included 14- to 18-year olds in their study and found that few of the adolescent victims exhibited psychopathology following sexual assault, except on a measure of Neuroticism, which assessed depression, anxiety and obsessive concerns. They also found that 36% of the adolescents had elevated scores on "ambivalent hostility," or the fear of being harmed, while 23% had elevated scores on hostility directed outward on the Gottschalk-Gleser Content Analysis Scales.

Anderson, Bach and Griffith (1981, as cited by Browne & Finkelhor, 1986) also investigated female adolescents who had been treated for recent sexual assault in a medical center. They reported that 63% had psychosocial complications, including "internalized psychosocial sequelae" (e.g., sleep and eating disturbances, fears and phobias, depression, guilt, shame, and anger) and "externalized sequelae" (including school problems and running away). Anderson et al. also reported that 40% of their sample showed symptoms of fear; 25% were depressed; and 25% felt guilty and shameful.

Finally, in a follow-up of female adolescent rape victims, Felice et al. (1978) found that almost half were experiencing phobias, denial and psychosomatic complaints; approximately one third were experiencing insomnia and depression; 15% were having school difficulties; and 10% had attempted suicide.

In the majority of studies, however, adolescent responses are incorporated into adult data, prohibiting generalizations specific to this more youthful population. In addition, no long-term studies have been conducted which examine the course of symptomatology in adolescents

or the effects such victimization may have on developmental tasks of puberty, including sexual identity, peer attachments, autonomy from the family of origin, and a search for personal identity (Garmezy, 1983). As with children, no studies have examined characteristics of the trauma and variables which might be associated with later symptomatology. In addition, there have been few efforts to compare the symptoms of adolescent victims with those of their non-victimized peers. In fact, judging from the number of studies reported in the literature overall, adolescents may be the most neglected group of victims thus far examined.

Research on Adults. Research on adult populations can also be divided into two types: individuals who were sexually victimized as children and/or adolescents and individuals who were victimized as adults.

Research conducted through the 1970's on the effects of childhood and/or adolescent abuse consisted primarily of case reports of female adult patients. (Although researchers acknowledge the sexual abuse of boys, there is little empirical data to date as to how such victimization affects later adult development or symptomatology.) Symptoms cited by clinicians as part of the treatment assessment and attributed to the early sexual trauma of females include prostitution and frigidity, sexual aversion and genital complaints; borderline syndrome and hysterical character disorders; drug and alcohol abuse; and depression (Benward and Densen-Gerber, 1975; Gagnon, 1965; Greenland, 1958; Gross, Doerr, Caldirola, Guzinsky & Ripley, 1980; Herman and Hirschman, 1977; James and Meyerding, 1977; Landis, 1956; Lukianowicz, 1972; Maisch, 1972; Rosenfeld, 1979). Of these reports, few have used

formal assessment measures for the symptoms observed or included individuals without histories of psychiatric treatment and/or sexual abuse for purposes of comparison.

During the late seventies, however, researchers began to publish studies which incorporated comparison groups and more standardized instruments. Meiselman (1978) examined the extent to which psychopathology differed in intensity or kind in incestuous versus non-incestuous cases. One hundred and fifty-eight women in a clinical population with and without histories of childhood molestation, specifically incest, were studied. Patients with incestuous histories presented with 3.4 problems as opposed to 2.5 within the control group; 23% of the incest patients had been hospitalized for psychiatric problems, while only 14% of the control group had been similarly institutionalized; and 32% of the incestuous group were severely disturbed, while only 20% of the control group were classified as such. Additionally, 32% of the incestuous group were characterized as only mildly disturbed as opposed to 43% of the control group. Out of ten specific problems reported to the clinicians, only two (phobias and anxiety) were more frequently recorded by the control group than the incestuous group. Meiselman (1980) has also reported that MMPI profiles of female psychotherapy patients with histories of incestuous experiences do not significantly differ from nonincest-reporting patients matched on age, education, ethnic group and referring therapist. Women with histories of incest do differ, however, on specific MMPI items relating to sexual deviations or difficulties, e.g., "I have never indulged in any unusual sex practices" or "My sex life is satisfactory."

Tsai, Feldman-Summers & Edgar (1979) recruited three groups of women for assessment: a clinical group consisting of women seeking treatment for problems associated with early sexual abuse; a non-clinical group, consisting of women molested as children who had never been involved in therapy and who considered themselves well adjusted; and a control group, consisting of women never molested. The clinical group was found to differ from the non-clinical group on four factors: a higher frequency of molestation incidents (more than two times per week as opposed to less than two times per week); a higher frequency of attempted intercourse by the offender; a stronger negative reaction immediately following the offense; and a greater age when the last molestation incident occurred (greater than 12 years old). Based on these findings, Tsai et al. theorized that age, frequency and type of act and initial trauma are important in later adjustment. Their findings also showed that the clinical group differed significantly from the non-clinical group and control group in that they reported as adults fewer orgasms during intercourse, less responsiveness to and satisfaction with sex, and a higher number of sexual partners. The clinical group also scored higher on the MMPI scales for Psychopathic Deviance (4), Paranoia (6), Psychasthenia (7), Schizophrenia (8) and Social Introversion (0). More recently, Roland, Zelhart, Cochran and Funderburk (1985) reported that using a stepwise multiple regression analysis of k-corrected scores, scales of Hysteria (1), Masculine/Feminine (5), Hypochondriasis (3) and Psychopathic Deviate (4) enabled them to correctly identify 73% of the female therapy patients who reported a childhood sexual trauma and 72% of those who did not.

In a study of 115 adult female victims of sexual assault, Ellis,

Atkeson and Calhoun (1982) found that those with a history of multiple rapes were more dysfunctional in the areas of social networks, sexual adjustment, paranoia and anger/hostility, depression, and suicidal behavior than women who were raped only once. The multiple victims were also more likely to have undergone psychiatric treatment. In this particular study, a multiple victim was defined as any woman who had experienced more than one rape after the age of 13 years.

In one of the largest studies to date, investigators at the Crime Victims Center of the Medical University of South Carolina have interviewed a community sample of 391 women with histories of sexual and physical assaults (Murphy et al., 1988). Of these, 207 were identified as having experienced at least one incident of sexual trauma in childhood, adolescence or as an adult. Thirty-eight (18%) women were child victims; 48 (23%) were adolescent victims; 81 (39%) were adult victims; and 34 (16%) were multiple victims. The women who were multiple victims showed greatest distress, with scores deviating significantly from one or more of the other abused groups on the Symptom Checklist 90-R (SCL-90-R; Derogatis, 1977) scales of somatization, obsessive-compulsive behaviors, depression, anxiety, hostility, and overall symptom severity. The multiple victims also differed significantly from non-victims on the interpersonal sensitivity, phobic anxiety, paranoid ideation and psychoticism scales. Victim groups were also differentiated from non-victims in the following manner: children's scores were higher than non-victims on the anxiety scale; adolescents' scores were higher than non-victims on obsessive-compulsive behaviors, interpersonal sensitivity, anxiety, hostility and paranoid ideation; and adult scores differed significantly from non-victims on interpersonal

sensitivity, depression, paranoid ideation, hostility and psychoticism. There were no significant differences by group on the Impact of Event Scale (IES; Horowitz, Wilner & Alvarez, 1979). The authors concluded that generalized anxiety not attached to specific stimuli appears to be typical of adult reactions to childhood abuse, while adult reactions to adolescent abuse are more pronounced with regard to social relationships. Adult women's reactions to rape are characterized by sadness, self-blame, and loss of sexual interests, unless their victimization was one of several, in which case distress was more global.

An incident of sexual assault at any time during an individual's life is also associated with later onset of major depression, substance use disorders and anxiety disorders, when compared with a group of matched non-victims (Burnam et al, 1988). Their group found that men and women with a history of sexual assault at any time in their lives were 2.1 times as likely as non-sexually assaulted women to be diagnosed with major depression; 2.3 times as likely to abuse alcohol; 2.5 times as likely to abuse drugs; and four times as likely to be diagnosed with phobic, panic or obsessive-compulsive disorders. Those men and women who were assaulted in childhood were also more likely than those first assaulted in adulthood to meet criteria for a mental disorder. (e.g., depression, phobia, obsessive-compulsive disorder, etc.)

Other studies in which formal assessment procedures have been used with female victims indicate that childhood sexual assault may be related to adult sexual dysfunctions, depression, lower self esteem, increased and more intensified psychological symptoms, and poorer social adjustment (Becker, Skinner, Abel, & Cichon, 1986; Gold, 1986; Harter,

Alexander, and Neimeyer, 1988; Logan, 1980; Owens, 1984).

Early sexual abuse may also be related to later more chronic and global personality disturbances. In a study of hospitalized psychiatric patients, Nelson et al (unpublished manuscript, no date provided; as cited by Herman and van der Kolk, 1987), compared 14 female borderline patients with 96 other in-patients, not diagnosed as borderline. Of these 14, 12 (86%) had a history of sexual abuse prior to age 16, as opposed to 34% of the entire patient population. Herman and van der Kolk (1987) also report findings of two other pilot studies in which histories of childhood abuse were found in the majority of female in-patients diagnosed with borderline personality disorder (Herman, 1986; Stone, 1981). The literature also suggests that female patients with multiple personality disorder suffer a 70% to 90% incidence of physical and sexual abuse in childhood (Bliss, 1980; Boor, 1982; Coons, 1980; Coons & Milstein, 1984).

A second group of studies has focused on the effects of sexual trauma in women assaulted during their adult years. Research has shown that such victimization is associated with increased and intensified phobias and startle reactions; depression; anger and hostility; anxiety; reduced or increased sexual activity or total abstinence; physical trauma and psychophysiological disturbance; problems with eating and sleeping; shame, humiliation and guilt; altered self esteem and interpersonal worth; loss of memory, concentration and role functioning; and withdrawal from relationships and support networks (Atkeson, Calhoun, Resick & Ellis, 1982; Becker et al, 1986; Brickman and Briere, 1983; Burgess and Holmstrom, 1974; 1979a, 1979b; Frank & Anderson, 1987; Frank, Turner and Duffy, 1979; Frank, Turner & Stewart, 1980;

Kilpatrick, Veronen & Resick, 1979a; 1979b; Libow and Doty, 1979; McCahill, Meyer & Fischman, 1979; Meyer and Taylor, 1986; Santiago, McCall-Perez, Gorcey & Beigel, 1985; Veronen, Kilpatrick & Resick, 1979). Studies have shown that these symptoms may persist long after the original trauma occurred and may be more severe if the assault was perceived as life-threatening or resulted in completed intercourse and/or injury (c.f., Kilpatrick, Saunders, Amick-McMullan, Best, Veronen, & Resnick, in press; Sales, Baum and Shore, 1984).

PTSD: A Synthesis of Symptoms. From the above review of child, adolescent and adult studies, it appears that all three groups share common, post-assault symptoms, including anxiety, phobias, sleep disturbances, nightmares, somatization and extreme efforts to avoid cognitive and/or affective reminders of the abuse. In fact, empirical evidence is mounting which suggests that although symptom expression may vary depending on important developmental issues and age at the time, the core response to trauma may be fairly consistent across age groups and even traumatic experiences. This response, which received official recognition in 1980 with the publication of DSM-III (APA, 1980), has been called Post-traumatic Stress Disorder, or PTSD.

Prior to the 1970's, discussion of traumatic symptoms across the lifespan and comparisons among various survivor groups was almost non-existent. While a number of labels emerged from the literature to describe various reactions to environmental stimuli (e.g., rape trauma, shell shock, combat fatigue, traumatic neurosis, etc.), there was little effort to explore more long-term effects of such syndromes, much less integrate these concepts. However, since the recognition of PTSD as a clinical diagnostic category, in both DSM-III and DSM-III-R, the field

of traumatic stress research has developed steadily (Figley, 1988). Investigators are exploring the interaction between the survivor's experience of the event, his or her pre-morbid characteristics, and the recovery environment (Green, Wilson & Lindy, 1985). As a result, models for understanding the effects of trauma and the subsequent coping process of victims have been proposed across a range of stressful events. This synthesis of symptoms has occurred with regard to man-made and natural disasters as well as exposure to combat and sexual trauma (Figley, 1988).

The criteria of DSM-III-R's PTSD are divided into four major headings: the presence of a traumatic event or stressor, and symptoms which can be classified as intrusion, avoidance/denial and hyperarousal. The symptoms delineated in each of these three categories have been observed in women who have been sexually traumatized. The other remaining category, definition of the stressor event, has been somewhat overlooked in the literature.

Definition of the Stressor. Within DSM-III-R (APA, 1987), trauma is defined as the existence of a recognizable stressor that is outside the range of usual human experience and that would be markedly distressing to almost anyone (page 248). Stressors are defined as natural disasters, or those produced by other individuals, either accidentally (such as airplane or automobile crashes), or deliberately (such as torture or bombings). Rape is included in the latter category.

Although DSM-III-R has listed a number of traumatic events which would qualify under the present criteria, controversy remains concerning various elements of the stressor event. For example, whether to include duration of the trauma, degree of life-threat or subjective experience

of life threat, individual reactions to the trauma, etc., have been debated among researchers for several years. As Scurfield (1985) has pointed out:

"...a number of the studies that have suggested a primary relationship between pre-military factors and PTSD have inadequately (or not at all) measured the severity or other more refined aspects of the trauma (page 222).

According to Scurfield, information regarding the traumatic event should therefore include (a) objective factors, such as a description of the event; (b) whether the individual adopted an active or passive role in coping with the event; (c) idiosyncratic (or subjective) meanings of the event for the individual; and (d) the immediate post-trauma reactions of the individual. In a comparative analysis of PTSD among various survivor groups, Wilson, Smith and Johnson (1985) also included whether the event involved the loss of significant other and was life-threatening. (It is important to note, however, that their study included what DSM-III classifies as within the realm of human experiences: divorce, illness and family trauma.)

As mentioned, DSM-III-R includes rape as a precursory event to PTSD. Within this context, however, even rape is not clearly defined. Whether the terminology includes non-stereotypical sexual assaults, e.g., forced intercourse between individuals of varying relationships, or more ambiguous, but perhaps equally traumatic experiences, e.g., recurrent childhood molestation, is unclear. For the most part, investigators have liberalized the criteria to include completed or attempted sexual molestation or miscellaneous sexual crimes such as

voyeurism and exposure (c.f. Kilpatrick et al, in press). Under these expanded criteria, however, between 20% and 40% of the female population would have experienced such a trauma (Koss, Gidycz & Wisniewski, 1987; Russell, 1982), which renders the incident not necessarily outside the realm of commonality.

DSM-III-R also defines the stressor as one which would be "markedly distressing to almost anyone" (page 250). Based on this definition, what has often been used to distinguish a traumatic from non-traumatic event is the presence of symptoms, such as anxiety, depression, startle reactions, etc. This approach results in a circular definition of trauma: if there are symptoms, there is trauma. Unfortunately, this excludes cases in which the individual may have recovered, is experiencing symptoms outside the domain of those being assessed, e.g., interpersonal functioning, or has not yet incorporated the event on a cognitive and/or affective level. This has led to an underreporting of sexual victimization in the literature (Best, Kilpatrick, Kramer & McNeill-Harkins, 1989).

Intrusive Phenomena. The second criterion for PTSD consists of one or more of the following intrusive symptomatology: nightmares, flashbacks, hallucinations or, less severe, recurrent and distressing thoughts or images of the event. While these symptoms have been noted in survivor groups, there have been few attempts to systematically study imagery (Brett and Ostroff, 1985), with the exception of nightmares and flashbacks in the Vietnam veteran. Blank (1985) has classified the intrusive "recall" (page 296) of the combat veteran under four headings: (1) vivid dreams and nightmares of combat events; (2) dreams from which the dreamer awakens without full recognition of the dreaming aspect; (3)

conscious flashback experiences, with little loss of contact with reality, and, even if temporary contact with reality occurs, the individual can later recall details of the incident; and (4) unconscious flashbacks in which the individual does not have conscious awareness of reliving events in Vietnam at the time of the flashback or later. Various studies of the Vietnam veteran have investigated which experiences of war were most closely associated with these intrusive phenomena, such as exposure to combat and participation in abusive violence (Laufer, Brett, Gallops & Phil, 1985).

Only anecdotal mention is afforded intrusive "recall" in the literature on sexual assault. There is acceptance by researchers in this area (c.f., Burge, 1988) that such symptoms occur regularly in survivors of sexual assault, however, there have been no efforts to categorize, assess severity or determine factors contributing to the presence of such.

Avoidant Behavior and/or Numbing of Affect. The third criterion of PTSD has often been classified under the rubric of denial or avoidant symptomatology. In addition to re-experiencing the trauma through intrusive imagery, an individual may also avoid stimuli associated with the original incident or develop a numbing of general responsiveness that was not present prior to the incident. Three or more of the following behaviors or emotional responses must be present: efforts to avoid thoughts or feelings associated with the trauma; efforts to avoid activities or situations that arouse recollections of the trauma; inability to recall an important aspect of the trauma (psychogenic amnesia); markedly diminished interest in significant activities; feeling of detachment or estrangement from others; restricted range of

affect; and a sense of a foreshortened future.

The phobic nature of the first three of these symptoms has been addressed quite extensively in the literature on sexual assault, i.e., the individual avoids the thoughts, feelings, or situations resembling the original trauma because of the anxiety these provoke (c.f. Kilpatrick et al., 1979a, 1979b). The other aspect of denial—the numbing and decreased interest in activities—has also been explored, but has more often been labelled "depression" or "difficulties in interpersonal relationships," rather than conceptualized as defenses which have arisen to deal with real or imagined reminders of the trauma.

Hyperarousal Symptomatology. The fourth criterion of PTSD has been referred to as the "hyperarousal" symptomatology. Two or more of the following symptoms must be present for the diagnosis: difficulty falling or staying asleep; irritability or outbursts of anger; difficulty concentrating; hypervigilance; exaggerated startle response; and physiologic reactivity upon exposure to events that symbolize or resemble an aspect of the traumatic event. These symptoms, often described as the biological reminiscences of trauma (van der Kolk, 1987), are related to the aforementioned cycle of intrusion-avoidance in that they are often what the individual hopes to control by his or her behaviors. Based on laboratory studies and observations of individuals exposed to trauma, researchers have postulated that a physiological component to PTSD exists (see van der Kolk and Greenberg, 1987, for a review). Under extreme and prolonged exposure to stress, autonomic arousal, necessary to cope with the trauma at the time it was occurring remains high, such that there is no differentiation between an emergency situation and more minor external threats. Thus, the autonomic nervous

system of individuals with PTSD appears to continue to prepare them for action.

Recent studies document this hyperarousal syndrome. Blanchard, Kolb, Pallmeyer & Gerardi (1982) monitored the psychophysiological responses of Vietnam combat veterans with PTSD while they engaged in a task which required attention. When compared to a group of non-veterans, the Vietnam veterans demonstrated significantly greater heart rate, systolic blood pressure, and EMG when exposed to combat cues, as opposed to either music or arithmetic conditions. Likewise Malloy, Fairbank & Keane (1983) found that Vietnam veterans with PTSD displayed marked psychophysiological arousal across both heart rate and skin conductance when exposed to the combat cues. In addition, Knight, Keane, Fairbank, Caddell & Zimering (1984, as cited by Keane, Wolfe & Taylor, 1987) demonstrated that combat veterans with PTSD differed significantly from veterans with other major psychological problems on heart rate and subjective measures of anxiety taken during exposure to the combat stimuli. The issue of whether the hyperarousal is a conditioned response to traumatic stimuli alone is controversial. Some evidence favors the view that increased autonomic arousal is a non-specific response independent of the original stimulus (van der Kolk, 1987), and that chronic stress alters the biochemical and physiological systems in the same manner observed in animals with learned helplessness (c.f., Maier & Seligman, 1976). Research has not yet established the validity of this hypothesis.

Measures of hyperarousal have not been made of sexual assault victims, although subjective accounts of anxiety to crime-related cues and other more diffuse stimuli have been reported. In addition,

disruptions in sleep and concentration, along with hypervigilant behaviors and startle responses have been noted in this population. (See Burge, 1988, for a review.)

Interrelatedness of Diagnostic Criteria. The theoretical relationships among the various diagnostic criteria have been explored by a number of writers. More specifically, most models of the stress disorder (Freud, 1920; Horowitz, 1976, 1979a; 1986; Kolb & Multalipassi, 1982; Lifton, 1968; and Lifton & Olson, 1976; as discussed by Brett and Ostroff, 1985) share a fundamental organization which proposes that trauma-linked images, thoughts and perceptions lead to painful affect. Horowitz (1976, 1979a) suggests that individuals possess "schemas" of the world and self which include beliefs, knowledge, images and expectations. Trauma occurs when an outside event presents the individual with information and experience that is discrepant with these schemas; the more acute the discrepancy, the greater the affect it arouses. In response to the painful affect, the individual develops various coping mechanisms to ward off these feelings, which may lead to restriction, numbing, denial and avoidance of affective-inducing stimuli. The cycle, according to Horowitz (1979a), explains how the psychological remnants of a traumatic event will remain in active memory storage until the individual can assimilate and integrate the event into existing schemata. This cognitive processing accounts for the feelings of intrusiveness and numbing experiencing by the survivor. While the individual may be capable of dealing with certain components of the traumatic event, when such factors become overwhelming, he or she may consciously or unconsciously block off the memory and meaning of the experience. Horowitz explains the two poles of the process as follows:

"Excessive controls interrupt the process, change the state of the person to some form of denial and may prevent complete processing of the event. Failures of control lead to excessive levels of emotion, flooding and retraumatization, causing entry into intrusive states. Optimal controls slow down recognition processes and so provide tolerable doses of new information and emotional responses" (page 249).

The model suggests that the "working-through" of a stressful event is a dynamic process in which the individual vacillates between incorporating the event's meaning and effects into his or her existing personality structure and defending against the anxieties resulting from such reorganization (See Figure 1.) Wilson and Krauss (in press) propose that the specific pattern of intrusive/avoidant symptoms may also be a function of cognitive style and personality factors.

A more cognitive-behavioral explanation is provided by Kilpatrick, Veronen & Best (1985) who have done extensive research on sexual assault. This learning theory model hypothesizes that fear and anxiety responses are classically conditioned by a rape. Later, a woman associates stimuli originally occurring at the time of the rape with the terror she experienced. These stimuli, if re-encountered or generalized to similar stimuli, have the capacity to re-trigger these anxiety responses from the victim, weeks to months following the assault. Consequently, a woman learns to avoid such situations or activities where she may be faced with such reminders, which characterizes the avoidant behavior. Cognitive events such as thoughts or nightmares can

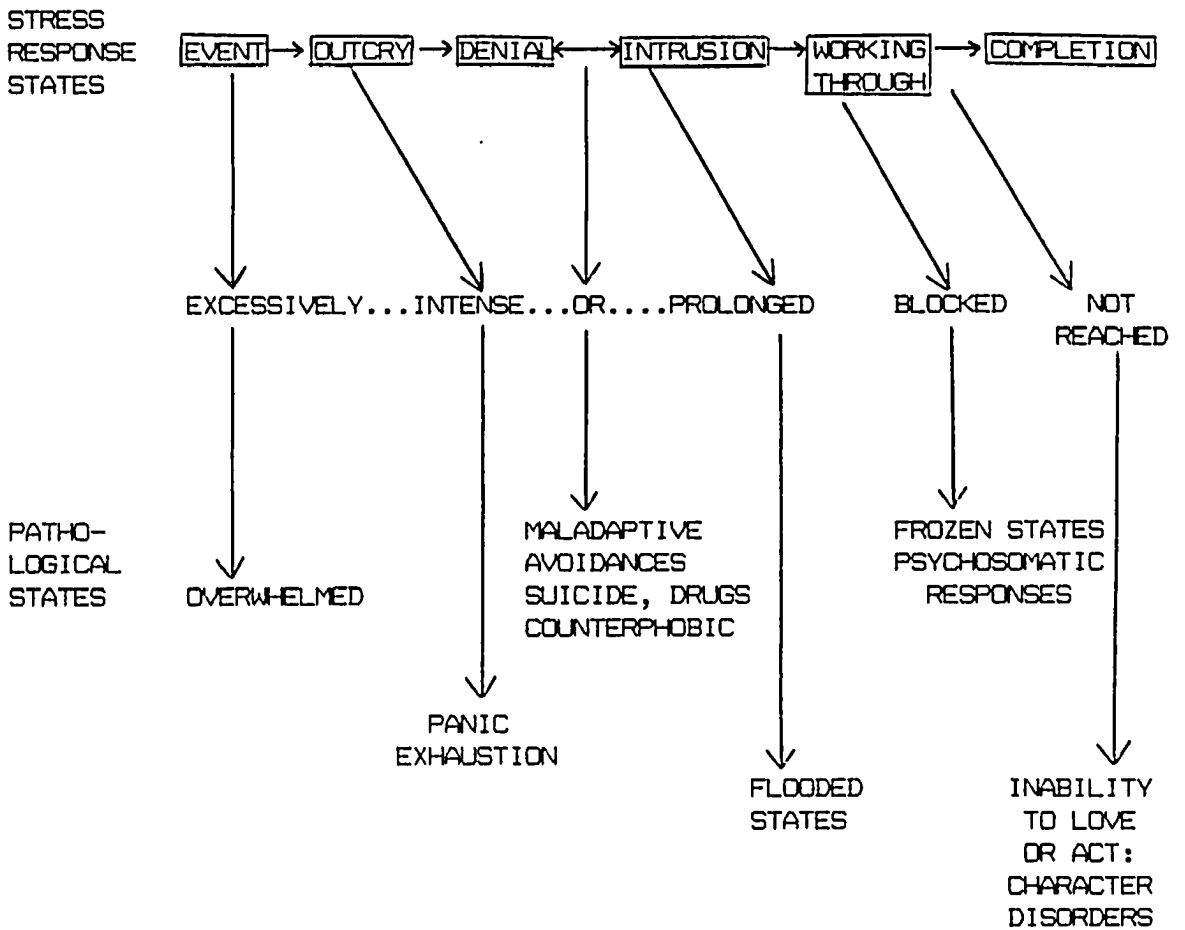


FIGURE 1. Phases of states following serious life events (From Horowitz, 1982, p. 54).

also become conditioned stimuli; hence the avoidance of talking about the event or going to sleep at night. Based on their empirical findings, Kilpatrick et al. (in press) proposed a model for crime victims in which mediating effects of cognitive appraisal of life threat and/or physical injury also influence PTSD symptomatology. Figure 2 provides the intercorrelations among several relevant variables, e.g., cognitive appraisal, completed rape, physical injury, age, and time since last assault, which the authors found had contributed significantly to the development of crime-related PTSD.

The Assessment of PTSD. Keane, Wolfe and Taylor (1987) reviewed the methods by which PTSD has been assessed, which, when combined, document the validity of this diagnosis. In essence, clinical descriptions; laboratory-based data, combining psychometrics and psychophysiological methods; and studies which examine concurrent diagnoses, family history and longitudinal follow-up subsequent to trauma have supported the homogeneity of the diagnosis.

The authors proposed that the comprehensive assessment of PTSD involves two basic goals: (a) the identification of experiences and symptoms that would qualify for the diagnosis; and (b) consideration of co-existing psychological disorders. To accomplish both goals, the authors recommend the use of structured clinical interviews [e.g., the Structured Clinical Interview from DSM-III, Spitzer & Williams (1985) and Spitzer, Williams & Gibbon (1986), or the Jackson Structured Interview for PTSD, Keane, Zimering & Caddell (1985)]; psychometric measures [e.g., the MMPI and MMPI subscales developed specifically for PTSD, the Spielberger State-Trait Anxiety Inventory, Spielberger, Gorsuch and Lushene (1970), and the Beck Depression Inventory, Beck,

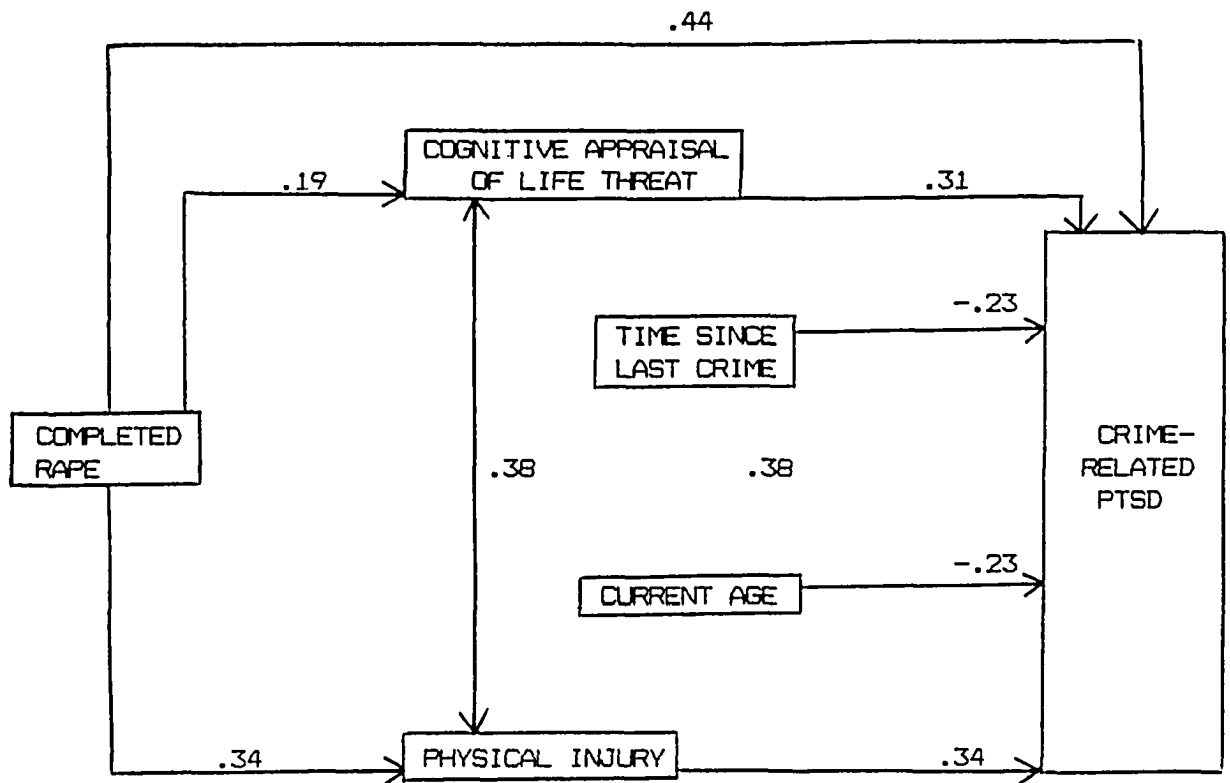


FIGURE 2. Model explaining development of crime-related PTSD (from Kilpatrick et al., in press).

Ward, Mendelson, Mock & Erbaugh (1961)]; and psychophysiological measures. Additionally, the Impact of Event of Scale has been used (c.f. Woolfolk & Grady, 1988) primarily because the scale's intrusion and avoidant subscales "tap dimensions that parallel the defining characteristics of DSM-III PTSD" (Zilberg, Weiss & Horowitz, 1982, page 408).

Studies on Vietnam veterans in treatment using varied methods of assessments have shown correlations between PTSD and other symptomatology. More specifically, individuals with combat-related PTSD show MMPI elevations on Scales 2 (Depression), 4 (Psychopathic Deviate), 6 (Paranoia), 8 (Schizophrenia), and 0 (Social Introversion) (Foy, Sippelle, Reuger & Carroll, 1984; Fairbank, Keane & Malloy, 1983; Roberts et al., 1982). Overall, the MMPI has been used in 26 studies of PTSD samples (McKutcheon, 1987), which show several scales [e.g., 2 (Depression), 4 (Psychasthenia), and 8 (Schizophrenia)] to be consistently elevated in such groups).

Research has also shown that Vietnam veterans in treatment score higher on the Beck Depression Inventory and Zung Depression Scale (Fairbank, Keane & Malloy, 1983); and reveal trait and state anxiety on the Spielberger State-Trait Anxiety Inventory (Fairbank, Keane & Malloy, 1983). In addition, there has also been reported a high incidence of concurrent diagnoses in PTSD-afflicted Vietnam veterans, including alcohol and drug abuse, depression, generalized anxiety disorder, dysthymia, compulsive disorders, manic depression and somatization (Barrett & Mezis, 1988; Grace, Green, Lindy, Gleser & Leonard, 1989; Helzer, Robins & McEvoy, 1987; Sierles, Chen, McFarland & Taylor, 1983). Personality disorders have also been assessed in groups of individuals

diagnosed with PTSD, including antisocial personality, borderline personality and schizotypal personality (Lindy, Grace & Green, 1984; Resnick, Foy, Miller & Donohue, in press; Sierles, Chen, McFarland & Taylor, 1983). There is still controversy, however, as to whether these disorders were present before the trauma or developed following the trauma in conjunction with PTSD.

The Empirical Research on PTSD and Sexual Trauma. As mentioned, rape as a traumatic stressor has recently been studied within a framework of PTSD. Numerous articles have been published in recent years which examine the similarities between earlier symptoms observed in sexual assault victims, including children, and this more newly-formed diagnostic category. For example, Burgess and Holmstrom (1985) have discussed their rape trauma syndrome, a concept originally developed in 1974 following one of the first major studies of sexual assault victims, in terms of post-traumatic stress. They concluded:

"The early conceptualizations of the stress response patterns of rape victims are consistent with the diagnostic criteria post-traumatic stress disorder (PTSD) of the DSM-III within the major category of anxiety disorders" (page 49).

Despite the many conceptual and theoretical articles linking the symptoms of PTSD with women's response to sexual trauma, few empirical studies exist to date. Most of those published have separately examined the symptoms of adult women assaulted earlier in childhood or adolescence and the more acute responses of women assaulted as adults.

To date, only a handful of studies assess PTSD in adult women within the short-term recovery phase. Kilpatrick, Best, Veronen, Amick,

Villeponteaux & Ruff (1985) administered the Impact of Event Scale (IES) (Horowitz, Wilner and Alvarez, 1979) to a group of sexual assault victims and found that most were experiencing significant levels of rape-related intrusion and avoidance six to 21 days, three months, six months and one to two years post-rape. As mentioned previously, these subscales are associated with the intrusion and avoidance criteria of PTSD, although the correlation between the subscales and PTSD is only moderate. Similarly, Popiel and Susskind (1985) found elevated scores on the Impact of Event Scale ($\bar{x}=35.9$; $S.D.=14.5$) in women who had been raped approximately three months prior to assessment.

In another study of 59 rape victims and 37 male and female crime victims, Rothbaum and Foa (1988) found that at one week post-assault, 97% of all rape victims met the diagnostic criteria for PTSD, while 57% of the crime victims met the diagnostic criteria. At nine weeks, post-assault, 46% of the rape victims still had PTSD, compared to 16% of all crime victims. In this study, PTSD was assessed by mental health professionals via a structured interview developed for the study and based on DSM-III criteria and the IES. While there was a trend for IES means to decrease during the nine-week period, rape victim scores remained consistently higher than those of crime victims. Those victims with PTSD also obtained significantly higher scores on the Beck Depression Inventory (Beck et al., 1961) and the Spielberger Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1970).

In a study of 29 women who had been raped within the past three years, Burge (1988) found that victims showed elevated scores on the IES similar to Horowitz's sample of female psychiatric patients. The study also showed that 13.8% of the victims were little affected by PTSD;

58.6% were moderately affected; and 27.6% were extremely affected. The authors assessed for PTSD in this group by extrapolating DSM-III-R symptoms from the Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982).

Kramer and Green (1989) also reported that in follow-up interviews six to eight weeks after a rape, 20 out of 30 women reported enough symptoms of PTSD to meet the diagnostic criteria of DSM-III-R, using a structured interview developed for the purposes of that study. In addition, IES intrusion and avoidant subscale means were similar to bereaved individuals assessed in an outpatient setting prior to treatment (Horowitz, Marmar, Weiss, DeWitt & Rosenbaum, 1984). Kramer and Green also reported that a diagnosis of PTSD and elevated IES scores were associated with a previous history of sexual assaults.

Finally, in a community sample of adult women, Kilpatrick et al. (1987), found that 57.1% of the women with histories of rape met the criteria for PTSD, compared to 27.8% of all crime victims. PTSD lifetime rates for women who experienced attempted rape, completed molestation, attempted molestation and any other form of sexual abuse at some time in their lives were 15.7%, 33.3%, 11.1% and 20%, respectively. Diagnoses of PTSD were assessed by clinicians using a revised version of the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, Williams & Spitzer, 1981). Unfortunately, this study combined multiple and single victimizations, along with child, adolescent and adult assaults. While there is obviously an association between sexual trauma and PTSD, the differential effects of chronic abuse are not readily apparent from the findings of this study.

A few researchers have also conceptualized adult women's response

to childhood sexual trauma as PTSD. For example, Donaldson and Gardner (1985) interviewed women seeking treatment an average of 13 years following an incest experience. They found that 25 of 26 women who had been victims of incest met the criteria for PTSD, based on the DSM-III (APA, 1980), and were experiencing numerous symptoms of Horowitz's Stress Response Syndrome, an amalgamation of symptoms very similar to DSM-III's PTSD (Horowitz, 1979b). They also found that twelve had a history of suicidal behavior, eight had or were presently abusing alcohol, and three had been hospitalized for psychiatric problems.

In a comparison study of several survivor groups, Wilson, Smith and Johnson (1985) found that victims of rape scored highest on IES subscales and second highest on the Stress Assessment Questionnaire for PTSD, developed from the Vietnam Era Stress Inventory (Wilson and Krauss, 1982). The sample of "rape victims" also included individuals who had experienced sexual abuse as children.

In a third study of 17 adult women in treatment who experienced childhood incest, Lindberg and Distad (1985a, 1985b), found that all met the full criteria of PTSD, while four had attempted suicide and four others had suicidal ideation. They based their diagnostic assessment of PTSD on DSM-III (APA, 1980) criteria, using informally structured interview methods.

Finally, Armsworth (1984) administered the IES to adult incest survivors seeking treatment who obtained means on the intrusive and avoidance subscales which were significantly higher than those reported by Horowitz et al. (1984) in their sample of bereaved outpatients, yet within the range of those reported by other researchers of sexual assault. Although no formal diagnoses of PTSD were included, many of

the symptoms on the IES meet the DSM-III criteria.

A few investigators have also gone so far as to conceptualize the borderline personality disorder (APA, 1980), seen often in chronic victims, as an extreme manifestation of PTSD (c.f., van der Kolk, 1987). DSM-III-R identifies eight symptoms, five of which must be present for an individual to meet the borderline personality diagnosis. These symptoms are: impulsivity or unpredictability in at least two self-damaging areas (e.g., substance abuse, shoplifting, bingeing, etc.); a pattern of unstable and intense interpersonal relationships; inappropriate and intense anger; identity disturbance; affective instability and marked shifts from normal mood to depression, irritability, or anxiety; intolerance of being alone; physically self-damaging acts (e.g., suicidal gestures or self-mutilation); and chronic feelings of emptiness or boredom.

While the symptoms of borderline personality disorder and PTSD do not resemble one another directly, it is hypothesized that underlying the behavioral features of borderline personality disorder are cognitive and affective instabilities which are similar to that of PTSD. Kroll (1988) states:

"The convergence of two observations—(1) that the cognitive disorganization of borderlines, which probably underlies many of the behaviors referred to as brief psychotic episodes, resembles at times the intrusive imagery and short-circuited thinking of persons with post-traumatic stress disorder, and (2) that it is primarily the borderlines who have histories of childhood and adolescent sexual and

physical abuse who show these brief psychotic episodes---has led me to hypothesize that one of the main pathways to the development of a borderline personality disorder may be through the repetitive experience of sexual abuse" (pp. 68-69).

Likewise, Herman and van der Kolk (1987) theorize that clinical descriptions of borderline personality disorder are congruent with descriptions of chronic post-traumatic stress disorder and especially with the symptoms described in patients who have been subjected to repeated traumatization over a period of time. Although both authors separately contend that multiple victimization may contribute to the etiology of borderline personality disorder, there has been no empirical research addressing the issue.

Methodological Weaknesses in the Current Sexual Assault Research.

Despite the developing literature on sexual trauma and PTSD, the methodological criteria outlined by Keane, Wolfe & Taylor (1987) and incorporated into studies of combat veterans have not been systematically followed by researchers of sexual assault. First, sexual assault research has suffered from outdated and inconsistent operational definitions of PTSD, and secondly, from vague descriptions of the sexual victimizations.

To date, the most widely used instrument for the assessment of PTSD symptoms has been the IES (Armstrong, 1984; Burge, 1988; Kilpatrick et al, 1985; Rothbaum and Foa, 1988). This instrument taps both avoidant and intrusive criteria; however, there are a number of symptoms in the three PTSD domains of avoidant behavior, intrusive imagery and hyperarousal which are not included. Moreover, while the reliability of

the IES is fairly high and consistent, its validity in detecting PTSD is only moderate. (c.f., Green et al., in press; Kramer & Green, 1989). In addition, the IES was also developed prior to the publication of DSM-III-R (APA, 1987).

Other assessment measures of PTSD which have been used include a modified DIS (Kilpatrick et al., 1987); the Horowitz Stress Checklist (Donaldson & Gardner, 1985) and the Brief Symptom Inventory (Burge, 1988). Again, these instruments are lacking in standardization and do not incorporate the DSM-III-R (APA, 1987) criteria of PTSD. Overall, the literature on sexual assault research is lacking in state-of-the-art screening procedures for PTSD, such as the SCID, which was recommended by Keane et al.

With regard to the descriptions of sexual traumatization, many studies present data on several groups of victims without differentiating between the single versus multiple or child versus adult victims. For example, Kilpatrick et al. (in press) have been among the few researchers to assess PTSD adequately and identify and categorize sexual victimization histories, by attempted rape, completed rape, attempted molestation, completed molestation, etc., However, even in this particular study, there is no estimate of rates of PTSD in women who were repeatedly assaulted. Likewise, other investigators have chosen to focus on one group of survivors, while excluding others, resulting in insufficient knowledge regarding the symptomatic effects of traumas occurring early in life or the cumulative effects of multiple traumas.

The literature linking sexual trauma and PTSD has also ignored the issue of concurrent symptomatology. As Keane, Wolfe and Taylor (1987)

propose, PTSD should be assessed in conjunction with other disorders in order to more fully understand the diagnostic category and differentiate it from others. Although many studies have assessed diverse symptomatology in sexual assault victims, as discussed in the above review, minimal attention has been given to the study of concurrent symptomatology in sexual assault victims with PTSD. This omission in the literature has occurred despite the association between traumatic events and subsequent depression, alcoholism, and anxiety, and the recently proposed relationship between early sexual abuse and adult personality disorders.

Purpose of the Present Study. To address these gaps, the present study was intended to assess women with a history of sexual trauma, using an abbreviated version of the Structured Clinical Interview for DSM-III-R (SCID) and the IES, two different measures previously shown to be sensitive to the PTSD diagnosis. Sexual traumas were to be subjectively defined by the participant, and objectively assessed by the investigator using operationalized criteria. Women's experiences were also classified according to single victimization history and multiple victimization history. Patterns in the expression and manifestation of individual symptoms of PTSD (DSM-III-R, APA, 1987) as well as differences in the diagnosis were examined for women in each group. In addition, differences in symptoms reported by child versus adolescent/adult victims were also explored.

The present study was also designed to assess the incidence of borderline personality disorder, depression, anxiety and psychoticism in sexual assault victims with and without PTSD and to compare the presence of such symptomatology in women who were single or multiple victims.

Finally, exploratory analyses were conducted to determine additional variables which might be associated with the diagnoses of PTSD and borderline personality disorder.

Hypotheses of the Present Study. Based on the above review of the literature, the following hypotheses were proposed:

(1) Women who experienced chronic sexual traumas would report more severe stress-response symptoms than women who were sexually traumatized once. This hypothesis would be supported if a significantly greater number of women in the former category met the criteria for PTSD and if these same women scored significantly higher on the IES subscales.

(2) Women who were chronically traumatized would report more severe, global psychopathology than women who experienced one sexual trauma. This hypothesis would be supported if women in the former group scored significantly higher on one or more of the MMPI scales, with particular attention to Scales 2 (Depression), 7 (Psychasthenia) and 8 (Schizophrenia). It was also hypothesized that a greater number of women in the former group would have more MMPI scales elevated above a mean T-score of 70 than the latter group.

(3) Women who were chronically assaulted would report more symptoms indicative of borderline personality disorder and would be more likely to meet the diagnostic criteria for this disorder.

(4) Current PTSD diagnosis and severity would be correlated with an elevation of Scales 2 (D), 6 (Pa), 7 (Pt), and 8 (Sc) on the MMPI.

CHAPTER 2

METHOD

Participants

As shown in Table 1, the 50 female participants were between the ages of 18 to 49 (\bar{x} =31.5 years), with known histories of sexual assaults, and were involved in counseling and/or psychotherapy. Eleven of the women were between the ages of 18 and 25; 26 were between the ages of 26 and 35; 11 were between the ages of 36 and 45; and two were over 45 years of age.

Forty-nine of the participants were white; one woman was black. Fifty-six percent were single or divorced, while 44% were married or cohabitating with a significant other. Of the 28 women who were single or divorced, 11 reported they were in a primary relationship with a significant other at the time of the study.

With regard to socioeconomic status, six percent of the participants reported incomes of less than \$5,000; 24% reported incomes between \$5,000 and \$10,000; 34% reported incomes between \$10,001 and \$20,000; and 36% reported incomes over \$20,000. (There was no differentiation between personal and family incomes for single versus married participants.) In addition, 18% of the participants had completed high school or obtained a GED equivalent; 48% had completed some vocational training or college; 20% had a college degree; and eight percent had completed some graduate level coursework. Three women had less than a high school education. There were no significant differences among referral sources with regard to age, socioeconomic standing, marital status or educational background. (See Table 1 for a complete listing of demographic information by referral source.)

TABLE 1
Demographics By Referral Source^a

	WCC	WHW	VPC	FS	Other	Total Sample
<u>Age^b</u>						
18-25	4(44.4%)	1(16.7%)	3(21.4%)	1(7.1%)	2(28.6%)	11(22.0%)
26-35	2(22.2%)	4(66.7%)	8(57.1%)	9(64.3%)	3(42.8%)	26(52.0%)
36 & over	3(33.3%)	1(16.7%)	3(21.4%)	4(28.6%)	2(28.6%)	13(26.0%)
<u>Socioeconomic Standing</u>						
<\$5,000	0(0.0%)	0(0.0%)	2(14.3%)	0(0.0%)	1(14.3%)	3(6.0%)
\$5,-10,000	4(44.4%)	0(0.0%)	4(28.6%)	3(21.4%)	1(14.3%)	12(24.0%)
\$10-20,000	1(11.1%)	4(66.7%)	2(14.3%)	8(57.1%)	1(14.3%)	16(32.0%)
>\$20,000	4(44.4%)	2(33.3%)	6(42.8%)	3(21.4%)	4(57.1%)	19(38.0%)
<u>Education</u>						
< H.S.	1(11.1%)	1(16.7%)	0(0.0%)	1(7.1%)	0(0.0%)	3(6.0%)
H.S. Dip.	3(33.3%)	2(33.3%)	1(7.1%)	3(21.4%)	1(14.3%)	10(20.0%)
Some Coll.	3(33.3%)	1(16.7%)	7(50.0%)	7(50.0%)	5(71.4%)	23(46.0%)
Coll. Grad.	2(22.2%)	2(33.3%)	6(42.8%)	3(21.4%)	1(14.3%)	14(28.0%)
<u>Marital Status</u>						
Single/ Divorced	5(55.6%)	1(16.7%)	11(78.6%)	10(71.4%)	4(57.1%)	31(62.0%)
Married	4(44.4%)	5(83.3%)	3(21.4%)	4(28.6%)	3(42.8%)	19(38.0%)
<u>TOTAL^c</u>						
	9(18.0%)	6(12.0%)	14(28.0%)	14(28.0%)	7(14.0%)	

^aWCC=Women's Crisis Center of Northern Kentucky; WHW=Women Helping Women of Cincinnati; VPC=Vernon Psychological and Sex Therapy Center of Cincinnati; FS=Family Services of the Greater Cincinnati Area; and Other=Other informal referral sources.

^bPercentage of column total.

^cPercentage of participants from each source.

Participants for the study were recruited based on reports that they had experienced at least one sexual trauma a minimum of six months ago. [For the purposes of this study, a sexual trauma or assault included any sexual penetration involving vaginal intercourse, sodomy, cunnilingus, or fellatio between two persons of any age, using force or threat of force (Ohio Revised Code, 1984), and/or fondling of the genitals or breasts between a female child and a male five years her senior using force or threat of force.] Victimitizations were categorized according to whether they were multiple or single episodes. Following this definition, 18 of the women met the criteria for single sexual victimizations; 32 were identified as multiple victims. Of the multiple victims, 22 were assaulted more than once by one man; two women experienced two assaults each by a different man; four women were assaulted multiple times by one man and one time by another man; one woman was abused multiple times by two different men; and three women were abused multiple times by more than two men.

Instruments

Information on the woman's functioning and prior background was obtained from three sources. Self-report measures included the Minnesota Multiphasic Personality Inventory (MMPI), the Impact of Event Scale (IES), a shortened version of the Personality Diagnostic Questionnaire (PDQ), and a questionnaire on personal and family history consisting of 26 items, derived from the National Vietnam Veterans Readjustment Study: Childhood and Family History Interview (Kulka, Schlenger & Chromy, 1986).

A second source of information consisted of a structured clinical interview by the investigator to assess the presence of PTSD (derived

from the Structured Clinical Interview for DSM-III-R, Spitzer, Williams & Gibbon, 1986) and several questions concerning the sexual trauma experience.

Finally, therapists and counselors were asked to provide information on the presenting symptoms of the participant and the duration and type of therapy provided. Where applicable, therapists were also asked to provide a primary diagnosis for the client, based on his or her clinical experience with that client. (See Appendix A for all instruments, with the exception of the MMPI.)

MMPI (Form R). This instrument consists of 400 true-false items designed to objectively assess the personality of the individual. The true-false responses of the individual are scored on 10 clinical scales. In addition, scores are also obtained for three validity scales which provide information on the person's test-taking attitude. Test-retest reliability is available and considered relatively high for each scale. (c.f., Greene, 1980).

IES. The IES is a 15-item self-report checklist measuring intrusive and avoidance symptomatology following a traumatic event on a scale of 0, 1, 3, 5, corresponding to having experienced the item not at all, rarely, sometimes or often in the last week (Horowitz, Wilner & Alvarez, 1979; Zilberg, Weiss & Horowitz, 1982). The scale provides sub-scores for the avoidance and intrusive response sets, as well as a total subjective stress score. Split-half reliability is high ($r=.86$); test-retest reliability of .87 has been obtained for the total stress score, .89 for the intrusive sub-scale and .79 for the avoidant sub-scale (Horowitz et al., 1979). Overall scores on the IES are higher for persons seeking help following trauma than for traumatized individuals

not seeking treatment or individuals not traumatized (Horowitz et al., 1979; Horowitz et al., 1984; Zilberg et al., 1982). In addition, studies have shown an association between elevated IES scores and the diagnosis of PTSD (Green, Lindy, Grace & Gleser, in press; Weisenberg, Solomon, Schwarzwald & Mikulincer, 1987; Wilson, Smith & Johnson, 1985). Overall IES means obtained for sexual assault survivors have varied from 42 to 62 (Armsworth, 1985; Kramer and Green, 1989; Kilpatrick et al., 1985).

Personality Diagnostic Questionnaire (PDQ). Developed by Hyler, Reider and Spitzer (1978), this instrument consists of 161 questions directly translated from the diagnostic criteria of DSM-III's eleven personality disorders. Within this form are 21 items used to assess the eight DSM-III (APA, 1980) criteria for borderline personality disorder. Test-retest reliability for this instrument varies according to the type of personality disorder and individual items. The test-retest reliability of the diagnosis of borderline personality disorder is intermediate ($r = .63$) (Hurt, Hyler, Frances, Clarkin & Brent, 1984). Although individual item test-retest varies from .33 (reports of self-damaging acts) to .68 (impulsivity), Hurt et al. concluded that the instrument can be used as a screening device for borderline personality disorder and may at this date correspond more directly to DSM-III criteria than other instruments.

Structured Clinical Interview for DSM-III-R (SCID). The SCID (Spitzer, Williams & Gibbon, 1986) includes the direct diagnostic criteria outlined in DSM-III-R (1987) for all diagnostic categories, including PTSD. Questions focus on specific symptoms of each disorder. If the interviewee reports the presence of such symptoms, the interview

is structured to permit elaboration of such symptoms, and description of the severity and duration of such symptoms.

For the purposes of this study, only the questions regarding PTSD symptomatology were asked. As with most interview methods designed to assess PTSD, the reliability and validity of the instrument have not yet been established. However, the SCID has been recognized as one of the most sensitive screening instruments for the disorder in existence (Keane et al, 1987).

Inter-rater reliability of the PTSD section of the SCID was assessed in the present study. Three researchers of the Traumatic Stress Study Center (Cincinnati, Ohio), who are extensively trained and experienced in assessing PTSD using the SCID, individually listened to 15 audio tapes of interviews conducted by the investigator. The raters assessed for the presence of intrusive, avoidant and hyperarousal symptomatology, and determined whether the participant met the criteria of PTSD. Inter-rater reliability for the diagnosis was high ($\rho=.71$). Reliability for the individual criteria was varied: .60 for intrusive symptomatology; .87 for avoidant symptomatology; and .45 for the hyperarousal symptomatology.

Information on Sexual Trauma. Questions pertaining to the sexual assault consisted of: age of the victim when the trauma began and, if chronic, age at when the trauma ended; the relationship of the offender to the victim; the type of trauma experienced; and whether there was physical abuse in addition to the sexual assault. The interviewee was also asked where she was living at the time of the assault, and, if the assault constituted a single episode, where she was at the time of the assault.

Therapist/Counselor Information. Therapists and counselors also completed a one-page questionnaire which assessed the primary, secondary and tertiary symptoms with which the client presented for treatment, and length and type of treatment. Therapists at Vernon Psychological and Sex Therapy Center and Family Services of the Cincinnati Area were also asked to provide a primary diagnosis for their clients, based on their clinical experience with that client, according to DSM-III-R (APA, 1987) categories. (The other agencies did not provide such information as diagnostic assessments are not considered part of their treatment protocol.)

Procedure

Four agencies agreed to cooperate in this project. Women Helping Women (hereafter referred to as WHW), is a women's crisis center which provides individual and group counseling to survivors of rape and incest on a no-cost basis. The second agency, now defunct, was Vernon Psychological and Sex Therapy Center (hereafter referred to as VPC), a private mental health clinic which treated adult clients on an out-patient basis with sliding-scale fees. This agency also specialized in providing therapy for sexual assault survivors. The Women's Crisis Center of Northern Kentucky (hereafter referred to as WCC), also served as a referral source. Like WHW, this agency provides individual and group counseling to survivors on a no-cost basis. Four branch offices of the Family Services of the Cincinnati Area also referred clients to the study. Family Services provides marital and family counseling in the community on a sliding-scale basis. As the study progressed, a fifth, but unexpected, source of recruitment evolved consisting of an informal network in which participants referred other women to the study

who were in therapy or involved in a survivor's support group. When combined, the five referral sources provided a sample of sexual assault victims of mixed socioeconomic, marital and educational backgrounds.

Therapists and counselors at the four agencies were introduced to the study by the investigator, who explained the primary objectives and interview format for the research project in informational sessions lasting approximately 30 to 40 minutes. This assisted therapists in screening clients for potential participation and enabled them to respond in an informative manner to client's questions. Women were to be invited to participate in the study by the therapist or counselor if, and only if (1) they had directly acknowledged to the therapist the occurrence of a sexual trauma in their past and (2) their participation would not disrupt the therapeutic process, as assessed by the therapist or counselor. When a potential participant was identified by the therapist or counselor, he or she briefly described the objectives of the study, the types of questions to be asked of the client, and the expected time required for the interview. Clients were also informed that their treatment would not be affected in any way by a decision not to participate.

If a woman expressed an interest in the study, the therapist or counselor then obtained her written consent to be contacted by the investigator (see Appendix B). Following notification by the therapist, the investigator contacted the client by telephone to review the purposes of the study, respond to any questions the client may have had about the study and schedule an appointment with the client at a location of her choice, (e.g., VPC, WHW, her home, etc.). If the client chose not to participate, she was given the investigator's telephone

number, but no attempts were made to re-contact her.

At the time of the interview, the participant signed two copies of a consent form (see Appendix C), one of which was placed into her clinical file by her therapist or counselor. The other copy was retained by the investigator in an envelope separate from the data. (In the case of VPC, where MMPI's were administered at intake, the consent form also included a statement which permitted the therapist to release the profile to the investigator.) If a participant agreed to an anonymous audio taping of the SCID interview, this was included in the consent form. The participant was also reminded that she was free to terminate the interview at any time, and that such a decision would not interfere with her treatment.

Once the consent form was completed, the investigator provided oral instructions on how to complete all instruments and remained nearby to answer any questions. The participant was asked to complete the MMPI first, unless she had already done so within the last year as part of her treatment at VPC. Instructions on completing the MMPI were communicated to the participant in accordance with the recommended testing procedures. The participant then completed the personal and family history questionnaire, the modified PDQ and the IES. Upon completion of the self-report instruments, the investigator began the oral interview, which included the SCID and questions regarding the sexual trauma. The entire procedure (including self-report and interview) lasted approximately two to two and a half hours. Due to the sensitive nature of the questions, additional time was allotted to anyone who wanted to discuss her experiences more extensively. When the entire interview was completed, the participant received \$10.

Participation rates varied according to the referring agency; however, due to the careful screening procedures, therapists reported a 75% to 100% participation rate, i.e., of those clients informed of the study by their therapists, the majority consented to a phone call by the investigator. Of the 60 women referred to the investigator, 51 agreed to participate at the time of the initial contact and all completed the interview. Five of the ten who did not agree to participate were referred by someone other than their therapist. The data for one woman who completed the interview were later discarded as the characteristics of her sexual assault did not meet the established criteria.

CHAPTER 3

RESULTS

Relevant Background Data for Participants. The mean age at which a sexual trauma first occurred was 11.5 years. The range was between two and 39 years. The mean number of years since the last sexual trauma occurred was 11.5. The range was between six months and 39 years. Table 2 summarizes other characteristics of the sexual traumas experienced by the participants and provides comparative data for single and multiple victimizations. Chi square analyses of the relevant variables revealed that women who were sexually traumatized more than once were more likely to have been abused before the age of 12 years than women who were traumatized only one time [$\chi^2(2, N = 50) = 25.01, p < .001$]. Multiple victims were also more likely to have been abused more than ten years since the time of the study than the group of acute victims [$\chi^2(3, N = 50) = 12.05, p < .01$]. The groups did not differ on the type of sexual trauma performed (e.g., fondling, fellatio, coitus, etc.) when sexual assaults were categorized according to the most intrusive act, i.e., penetration versus external contact. By definition, single victimizations involved only one perpetrator. However, the perpetrator was more likely to have been a stranger in this case and a non-stranger (i.e., uncle, grandfather, father, stepfather, brother and/or an acquaintance) in the case of multiple victims [$\chi^2(1, N = 50) = 8.25, p < .05$]. Because many of the multiple victims were assaulted by more than one of the above, chi square analyses were conducted only for the stranger category.

Table 3 shows the familial problems and the socioeconomic background and parental constellations within the family of origin for

TABLE 2
 Characteristics of Assault
 By Single and Multiple Victimizations

	SINGLE (n=18)	MULTIPLE (n=32)	TOTAL*
<u>Age of First Assault^{b,c}</u>			
<12 Years	4 (22.2%)	29 (90.6%)	33 (66.0%)
12 to 18 Years	4 (22.2%)	2 (6.2%)	6 (12.0%)
>18 Years	10 (55.6%)	1 (3.1%)	11 (22.0%)
<u>Age at Last Assault^d</u>			
<12 Years	3 (16.7%)	8 (25.0%)	11 (22.0%)
12 to 18 Years	8 (44.4%)	18 (56.2%)	26 (52.0%)
>18 Years	7 (38.9%)	6 (18.8%)	13 (26.0%)
<u>Time Since Last Assault^e</u>			
6 Months to One Year	3 (16.7%)	1 (3.1%)	4 (8.0%)
One to Five Years	5 (27.8%)	0 (0.0%)	5 (10.0%)
Five to Ten Years	0 (0.0%)	0 (0.0%)	0 (0.0%)
>Ten Years	10 (55.6%)	31 (96.9%)	41 (82.0%)
<u>Type of Assault^{e,f}</u>			
Fondling Only	1 (5.6%)	4 (12.5%)	5 (10.0%)
Oral Penetration	1 (5.6%)	7 (21.9%)	8 (16.0%)
Coitus	16 (88.9%)	21 (65.6%)	37 (74.0%)
<u>Perpetrator^{g,h}</u>			
Stranger	9 (50.0%)	2 (5.0%)	11 (19.0%)
Acquaintance	6 (33.3%)	10 (25.0%)	16 (27.6%)
Relative	1 (5.6%)	6 (15.0%)	7 (12.1%)
Brother	0 (0.0%)	7 (17.5%)	7 (12.1%)
Boyfriend	0 (0.0%)	2 (5.0%)	2 (3.4%)
Stepfather	1 (5.6%)	4 (33.3%)	5 (8.6%)
Father	1 (5.6%)	9 (90.0%)	10 (17.2%)

*Percentage of total sample.

^bPercentage of column.

^c $\chi^2(2, N = 50) = 25.01; p < .01$. (Multiple victims were younger).

^dNo significant difference.

^e $\chi^2(3, N = 50) = 12.05; p < .01$. (Multiple victims were assaulted more than 10 years ago.)

^fVictimizations were categorized based on the most intrusive sexual assault.

^gOnly Strangers were significantly different [$\chi^2(2, N = 50) = 9.49; p < .01$].

^hFigures do not total 50; multiple victims were assaulted by more than one type of perpetrator.

TABLE 3

Demographic and Family Histories
In Single and Multiple Victimizations

	SINGLE (n=18)	MULTIPLE (n=32)	TOTAL
<u>Physical Abuse^{a,b}</u>			
Yes	14 (77.8%)	19 (59.4%)	33 (66.0%)
No	4 (22.2%)	13 (40.6%)	7 (34.0%)
<u>Alcohol/Drug Abuse^b</u>			
Yes	6 (33.3%)	19 (59.4%)	25 (50.0%)
No	12 (66.7%)	13 (40.6%)	25 (50.0%)
<u>Mental Disorder^c</u>			
Yes	3 (16.7%)	17 (53.1%)	20 (40.0%)
No	15 (83.3%)	15 (46.9%)	30 (60.0%)
<u>Arrest/Jail^b</u>			
Yes	9 (50.0%)	20 (62.5%)	29 (58.0%)
No	9 (50.0%)	12 (37.5%)	21 (42.0%)
<u>Family Socioeconomic Standing^b</u>			
Poor	2 (11.1%)	9 (28.1%)	11 (22.0%)
Average	11 (61.1%)	17 (53.1%)	28 (56.0%)
Above Average	5 (27.8%)	3 (9.4%)	8 (16.0%)
Well-To-Do	0 (0.0%)	3 (100.0%)	3 (6.0%)
<u>Living Situation (Child)^b</u>			
Biological Parents	11 (61.1%)	25 (78.1%)	36 (72.0%)
Biological Mother	3 (16.7%)	4 (12.5%)	7 (14.0%)
Biological Father	2 (11.1%)	3 (9.4%)	5 (10.0%)
Adoptive/Foster Parents	2 (11.1%)	0 (0.0%)	2 (4.0%)
<u>Living Situation (Adolescent)^b</u>			
Biological Parents	11 (61.1%)	20 (62.5%)	31 (62.0%)
Biological Mother	4 (22.2%)	9 (28.1%)	13 (26.0%)
Biological Father	2 (11.1%)	3 (9.4%)	5 (10.0%)
Adoptive/Foster Parents	1 (5.6%)	0 (0.0%)	1 (2.0%)

^aPercentage of column.^bNo significant difference.^c $\chi^2(1, N = 50) = 6.38; p < .05.$

both single and multiple victims. Overall, more than half of the victims came from backgrounds in which alcohol and drug abuse, some form of mental disorder or a history of legal intervention was present. In addition, physical abuse was reported in two-thirds of the victim's households. However, chi square analyses revealed that the two groups differed only on one variable: multiple victims were more likely to report that a household member suffered from some kind of mental disorder [$\chi^2 (1, N = 50) = 6.38, p < .05$]. (The type or extent of mental distress was not elaborated in the questionnaire.) Otherwise, the two groups were similar with regard to socioeconomic standing and parental constellation, and whether physical abuse, drug or alcohol abuse, or legal difficulties occurred in the household. Twenty-two percent of the participants were first-born; 44% were middle children; and 30% were the youngest of their siblings. One woman was an only child. Nineteen of the women did not live with their biological parents, during childhood or adolescence, because they were adopted at birth (n=3); one or both of their parents died (n=2); their parents separated or divorced (n=11); or they were sent to live elsewhere (n=3). Forty-four percent of the mothers or stepmothers were primarily caretakers within the home; 30% were unskilled laborers; 10% worked as skilled laborers; and 16% were professionals.

Diagnostic Information on Participants. Victims were assessed for the presence of PTSD, based on DSM-III-R criteria (APA, 1987): one or more intrusive symptoms, three or more avoidant symptoms, and two or more hyperarousal symptoms. Of the 50 women interviewed, 23 (46%) met the criteria for current PTSD, while 44 (88%) met the criteria for PTSD at some point in their lives. Overall, 40 participants (80%) were

currently experiencing at least one symptom of the intrusion criteria; 30 (60%) were experiencing at least three symptoms of the avoidant/denial criteria; and/or 30 (60%) were experiencing at least two symptoms of the hyperarousal criteria. Ninety percent of the victims reported that for at least three avoidant symptoms during their lifetime; 92% reported at least one intrusive symptom during their lifetime; and 96% reported at least two hyperarousal symptoms during their lifetime.

The reliability of the current diagnoses was reported earlier in the methods section. Because reliability coefficients are not available for lifetime PTSD using the SCID, statistical analyses will focus on the current PTSD diagnosis as the dependent variable. There was a moderate correlation between the PTSD diagnosis obtained from the SCID and the PTSD diagnosis reported by the participant's therapist, which approached significance ($r_{pb1\tau} = .35$; $p=.08$). There was a zero correlation between the borderline personality diagnosis obtained from the PDQ and that reported by the therapist.

Table 4 shows the point biserial correlations between the IES means and the criteria of PTSD. Overall, IES scores for the fifty women ranged from 0 to 72; the overall mean was 33.84 (S.D.=18.40). The mean for the IES intrusion subscale was 15.26 (S.D.=9.46), while the mean for the avoidance subscale was 18.78 (S.D.=10.66). The IES sum was significantly correlated with the PTSD diagnosis ($r_{pb1\tau} = .32$; $p<.05$) and the PTSD criteria of intrusion, avoidance and hyperarousal. In addition, the IES intrusion subscale was significantly correlated with the diagnosis of PTSD ($r_{pb1\tau} = .29$; $p<.05$), the intrusion criteria of PTSD ($r_{pb1\tau} = .30$; $p<.05$), and the avoidant criteria of PTSD ($r_{pb1\tau} =$

TABLE 4

Point Biserial Correlations
Between IES Means and PTSD Criteria

	<u>IES</u>		
	Full Scale	Avoidant Subscale	Intrusion Subscale
PTSD Diagnosis	.32 (p<.05)	.25 (N.S.)	.29 (p<.05)
Intrusion	.32 (p<.05)	.20 (N.S.)	.30 (p<.05)
Avoidance	.40 (p<.01)	.30 (p<.01)	.38 (p<.05)
Hyperarousal	.28 (p<.05)	.21 (N.S.)	.25 (N.S.)

.38; $p < .01$). The IES avoidant subscale was significantly correlated with the avoidant criteria of PTSD ($r_{pbis} = .30$; $p < .01$), but there was no significant relationship between the avoidant subscale and the diagnosis of PTSD or intrusion criterion. Neither of IES subscales were significantly correlated with the hyperarousal criterion of PTSD.

Despite the large number of women reporting symptoms of PTSD and elevated scores on the IES, referring therapists and counselors more frequently reported depression (42%) and relationship difficulties (54%) as their client's presenting problems. Anxiety as a primary presenting symptom was reported by only 16% of the therapists or counselors. In addition, anxiety, sleep disorders, fears, panic attacks, hostility, and jumpiness were identified as secondary or tertiary problems in less than five percent of the sample.

Only therapists from Family Services of the Cincinnati Area and Vernon Psychological and Sex Therapy Center reported diagnostic information on participants. Of the 33 participants for whom such information was provided, 15 were diagnosed with PTSD, eight of whom had an additional diagnosis of either borderline personality disorder ($n=6$): major depression ($n=1$); or generalized anxiety disorder ($n=1$). Twelve women were diagnosed as having borderline personality disorder, two of whom had an additional diagnosis of dysthymia or major depression. Two women were diagnosed depressed only; 3 were diagnosed dysthymic only. The remainder were diagnosed with generalized anxiety disorder; alcohol abuse; narcissistic personality disorder; or adjustment disorder. As mentioned previously, the PTSD and borderline personality diagnoses did not correspond to the SCID or PDQ in the present study.

Hypothesis #1: Those women assaulted more than once would be more

likely to meet the criteria for PTSD and obtain higher scores on the IES than those women assaulted only once. This hypothesis was partially confirmed.

As predicted, multiple victims were more frequently diagnosed with current PTSD than women who were victimized once [$\chi^2(1, N = 50) = 4.99, p < .05$]. This distinction was also true with regard to a lifetime diagnosis of PTSD [$\chi^2(1, N = 50) = 4.99, p < .05$]. Comparisons between symptoms reported in single versus multiple victims are presented in Table 5. Additional analyses revealed that multiple victims were more likely to meet the hyperarousal criteria than women who experienced one victimization [$\chi^2(1, N = 50) = 3.94, (p < .05)$]. However, there were no significant differences in the reporting of intrusive and avoidant symptomatology. As Table 5 shows, forty (80%) of the women reported at least one intrusive symptom; many reported more. The most frequently endorsed symptom occurring in victims was distress at reminders of the event ($n=30$). Flashbacks were rarely reported. Thirty (60%) of the women reported at least three avoidant symptoms. Within the avoidant domain, the two most often reported symptoms were avoidance of thoughts about the incident(s) ($n=31$) and avoidance of situations which were similar to the original incident(s) ($n=31$). Multiple victims more often reported the former, while single-episode victims more often reported the latter, although there was no significant difference between the two. Multiple victims were also two times more likely than the single-episode victims to report numbing and about one-and-a-half times more likely to report amnesia for the event(s) and emotional distancing from others. Again, neither of these differences was statistically significant. Finally, 30 (60%) of the participants reported at least

TABLE 5

Frequencies for Individual Symptoms
of Current Post-Traumatic Stress Disorder
by Victimization^a

	<u>SINGLE (n=18)</u>	<u>MULTIPLE (n=32)</u>
Recurrent Images	6 (33.3%)	15 (46.9%)
Nightmares	6 (33.3%)	12 (37.5%)
Flashbacks	1 (5.6%)	0 (0.0%)
Distress at Reminders	11 (61.1%)	19 (59.4%)
<hr/> INTRUSIVE CRITERIA	14 (77.8%)	26 (81.3%)
Avoid Thoughts	9 (50.0%)	22 (68.8%)
Avoid Situations	10 (55.6%)	21 (65.6%)
Amnesia	7 (38.9%)	16 (50.0%)
Loss of Interest	4 (22.2%)	5 (15.6%)
Distant From Others	7 (38.9%)	19 (59.4%)
Numb	5 (27.8%)	18 (56.2%)
Disillusioned with Future	2 (11.1%)	6 (18.8%)
<hr/> AVOIDANT CRITERIA	9 (50.0%)	21 (65.6%)
Sleep Problems	3 (16.7%)	16 (50.0%)
Anger	3 (16.7%)	10 (31.3%)
Concentration Problems	3 (16.7%)	10 (31.3%)
Hypervigilant	8 (44.4%)	15 (46.9%)
Startle Reactions	5 (27.8%)	13 (40.6%)
Physiological Reactivity	8 (44.4%)	16 (50.0%)
<hr/> HYPERAROUSAL CRITERIA ^b	7 (38.9%)	23 (71.9%)
<hr/> DIAGNOSTIC CRITERIA ^c	4 (22.2%)	19 (59.4%)

^aPercentage of each group.

^b $\chi^2 (1, N = 50) = 3.94, p < .05$. (Multiple victims were more likely to meet hyperarousal criteria.)

^c $\chi^2 (1, N = 50) = 4.99, p < .05$.

one symptom of hyperarousal. The most frequently reported symptom by both single and multiple victims was physiological reactivity at reminders of the original trauma (44.4% and 50%, respectively). Women who experienced only one assault also reported hypervigilance (44%), while women who experienced more than one assault victims reported frequent sleep disturbances (50%).

Although there was no quantitative difference between single and multiple victims in their reports of intrusive symptomatology, a review of the structured interviews suggests a qualitative difference between the two groups. Women who were abused once reported memories, dreams, etc., which were more specifically and consciously linked to the original stimulus, e.g., a particular location in which the assault occurred; nightmares in which the actual event was re-created; and specific characteristics of the perpetrator which, when recognized in any one else, aroused considerable anxiety and fear. On the other hand, women who were chronically abused reported images and/or dreams which were more diffuse and pervasive. For example, many women with PTSD who were chronically abused reported violent nightmares from which they awoke screaming, without having any recollection of the nightmare's contents. These women also reported high levels of distress when in the presence of family members who were not necessarily the perpetrator but who were familiar with the perpetrator and/or who did not believe their initial reports of the abuse; difficulty receiving physical affection, whether or not such acts were perceived by the victim to be sexually motivated; more intense emotional reactions to images which re-appeared to them while sexually intimate with another person; and, in general, more fear and anxiety when in the presence of any unfamiliar man.

Despite the lack of quantitative differences, the avoidant symptomatology, like the intrusive symptomatology, differed qualitatively within the women experiencing single versus multiple assaults. Women who were chronically assaulted reported much longer periods of denial and avoidance and a greater hesitancy to explore the effects of such trauma. These differences will be discussed in greater detail in Chapter 4.

The findings regarding hyperarousal symptomatology are somewhat mitigated by the low reliability obtained among raters for this particular criterion. However, because differences between the two groups of victims were observed, it may be helpful to explore these further. Overall, the two groups differed significantly on the number and type of hyperarousal symptomatology reported. Multiple victims were more likely to meet the criteria for hyperarousal and were more likely to experience sleep disturbances than single-episode victims. Although the differences were not significant, multiple victims were also two times more likely to report anger and concentration problems and one-and-a-half times more likely to report startle responses. These observed differences in hyperarousal symptomatology will also be discussed in greater detail in Chapter 4.

There were no significant differences on the IES or IES subscales for the single versus multiple victims, although multiple victims scored somewhat higher on each scale. Women who were victimized once had means of 14.5 (S.D.=9.98) and 16.17 (S.D.=10.71) for the intrusion and avoidant subscales, respectively, while women who were multiply victimized had a mean of 16.62 (S.D.=8.73) on the intrusive subscale and a mean of 21.52 (S.D.=9.79) on the avoidant subscale. Figure 3 provides

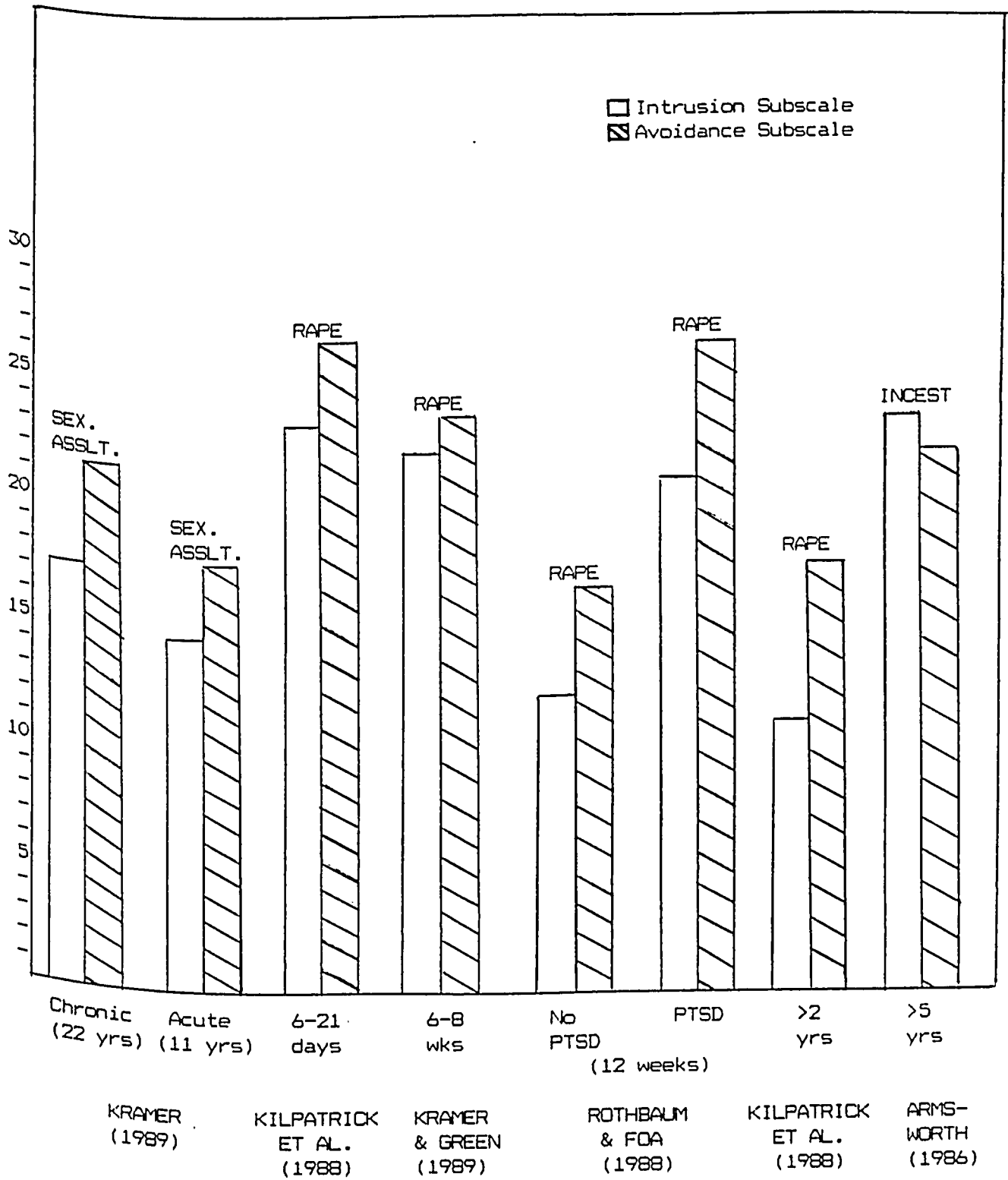


Figure 3. Impact of Event Scale (IES) means on intrusion and avoidance subscales for various sexual assault samples.

a comparison of IES means obtained in the present study and those reported by other researchers investigating sexual assault. It can be seen in this diagram that regardless of years since the assault or type of sample, i.e., treatment versus non-treatment, IES scores continue to be high. The present sample corresponds most closely to the treatment groups of Armsworth (1986) and Rothbaum & Foa (1988).

Hypothesis #2: Multiple victims would score significantly higher than single-assault victims on the MMPI scales of 2 (Depression), 7 (Psychasthenia), and 8 (Schizophrenia). Multiple victims would also be more likely to score above the norm (T-score \geq 70) on one or more MMPI scales than women assaulted only once. Hypothesis #2 was partially confirmed.

The means for individual MMPI scales with and without K-corrections are presented by victimization history in Figures 4 and 5, respectively. One profile was eliminated due to questionable validity, i.e., Scale F was greater than a T-score of 90. The K-correction, based on scores obtained on the K scale, is used proportionally with Scales 1 (Hypochondriasis), 4 (Psychopathic Deviate), 7 (Psychasthenia), 8 (Schizophrenia), and 9 (Mania) to enhance the MMPI's validity in non-clinical settings. Because the MMPI was normed on a non-clinical sample, the K-correction was developed to enhance the ability of these five scales to discriminate between their respective criterion groups and other respondents. While Butcher & Tellegen (1978) have recommended that most research computations include non-K-corrected scores, they also suggest that a parallel set of analyses using K-correct scores be conducted for comparisons with other studies. In addition, personality correlates of individual scales and high-point pairs have been

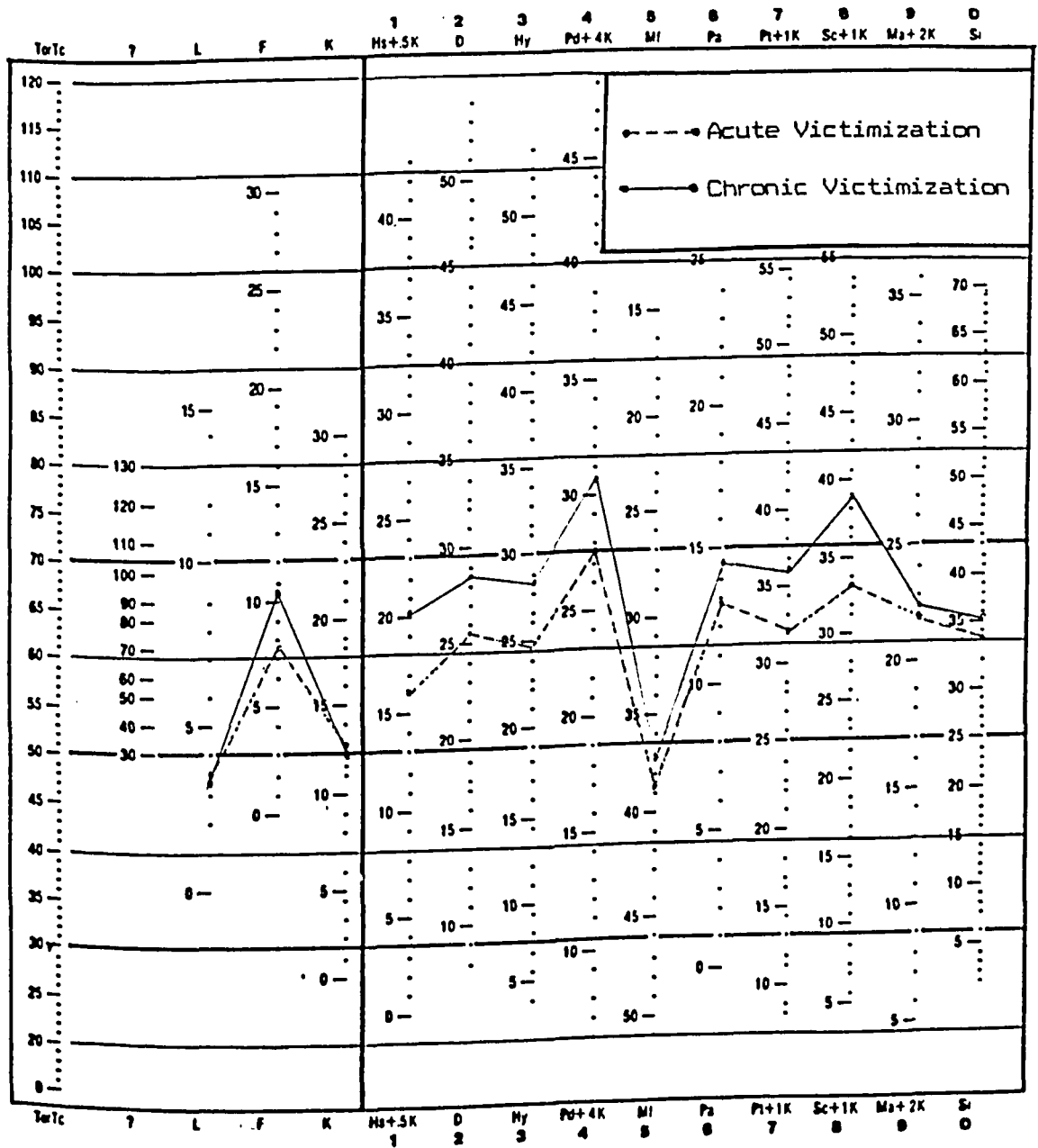


FIGURE 4. K-Corrected means on MMPI scales for acute (single) victimization and chronic (multiple) victimization.

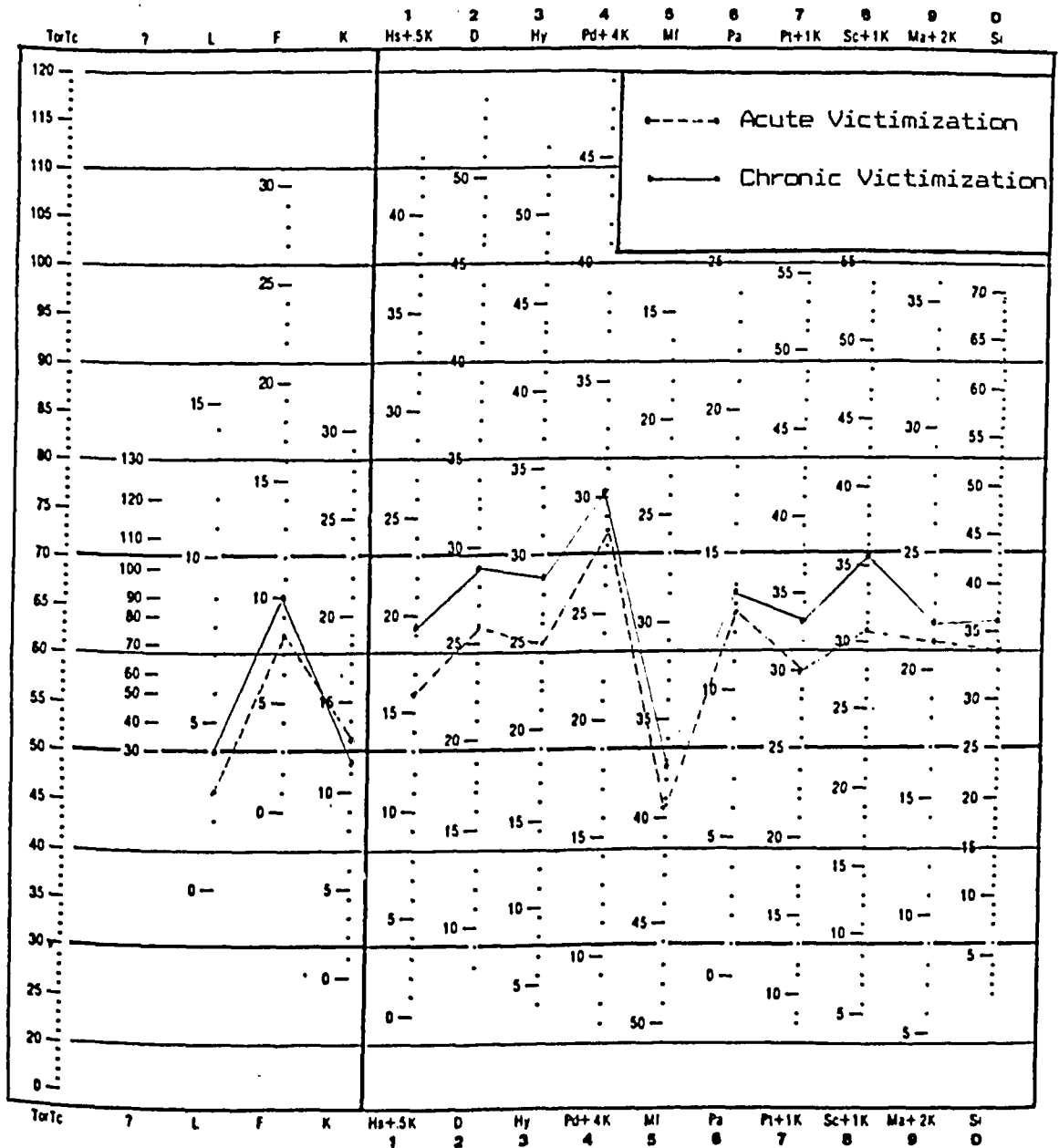


FIGURE 5. Non-K-Corrected means using adult conversion tables (Greene, 1980) on MMPI scales for acute (single) victimization and chronic (multiple) victimization.

empirically determined using K-corrections. Therefore, interpretations about psychological or behavioral characteristics associated with various profiles are valid only if the K-corrected scales are used.

Overall, there is a trend for multiple victims to score higher on all scales of the MMPI. Table 6 shows the individual means for each scale, with K-corrections, and the significant differences between groups. As hypothesized, the multiple victims scored significantly higher on Scale 8 [$t(47) = 2.10, p < .05$]. However, there were no significant differences between groups on the K-corrected scores of Scales 2 or 7. Multiple victims scored above the norm on K-corrected Scales 4 (Psychopathic Deviate) and 8, while single-episode victims scored slightly above the norm only on Scale 4.

Post hoc t-tests revealed significant differences on three other scales of the MMPI: multiple victims scored higher than victims experiencing a single assault on Scale F [$t(47) = 2.02, p < .05$]; Scale 1 [$t(47) = 2.19, p < .05$]; and Scale 3 [$t(47) = 2.32, p < .05$]. (Scale F is one of the validity scales; Scales 1 and 3 are also referred to as Hypochondriacal and Hysteria scales, respectively.) Additional analyses on the non-K-corrected scores for each scale upheld these significance levels for Scales F, 1, 3, and 8.

Post hoc analyses revealed other differences in the MMPI profiles of single versus multiple victims when they were categorized into more homogeneous age groups. For these purposes, only women who were chronically assaulted before the age of twelve years ($n=29$) and women assaulted once after twelve years ($n=14$) were included in these statistical comparisons. As Figure 6 shows, with these conditions the two groups differed on Scale 4 [$t(40) = 2.36, p < .05$]; Scale 6 (Paranoia)

TABLE 6

K-Corrected MMPI Scale Means
and Standard Deviations By Victimization History

	<u>SINGLE VICTIMIZATION</u> (n=18)	<u>MULTIPLE VICTIMIZATION</u> (n=31)
Scale L (Validity)	3.4 (2.5)	3.7 (2.0)
Scale F (Validity)	7.7 (5.2)	10.4 (4.3) *
Scale K (Validity)	12.9 (5.5)	12.4 (3.8)
Scale 1 (Hypochondriasis)	16.1 (5.9)	20.1 (6.4) *
Scale 2 (Depression)	25.6 (5.5)	28.6 (5.7) ^b
Scale 3 (Hysteria)	24.8 (4.6)	28.6 (6.1) *
Scale 4 (Psycho. Deviate)	27.9 (3.9)	30.4 (4.8)
Scale 5 (Masc./Femin.)	38.7 (4.4)	37.1 (4.4)
Scale 6 (Paranoia)	12.9 (4.2)	14.4 (3.7)
Scale 7 (Psychasthenia)	32.2 (9.0)	35.9 (6.4) ^b
Scale 8 (Schizophrenia)	33.3 (10.4)	39.1 (8.7) ** ^b
Scale 9 (Hypomania)	21.9 (3.9)	22.5 (3.8)
Scale 0 (Social Introv.)	33.2 (13.0)	36.2 (8.5)

* $p < .05$ by t-test.^bScales which were hypothesized to differ between single versus multiple victimizations.

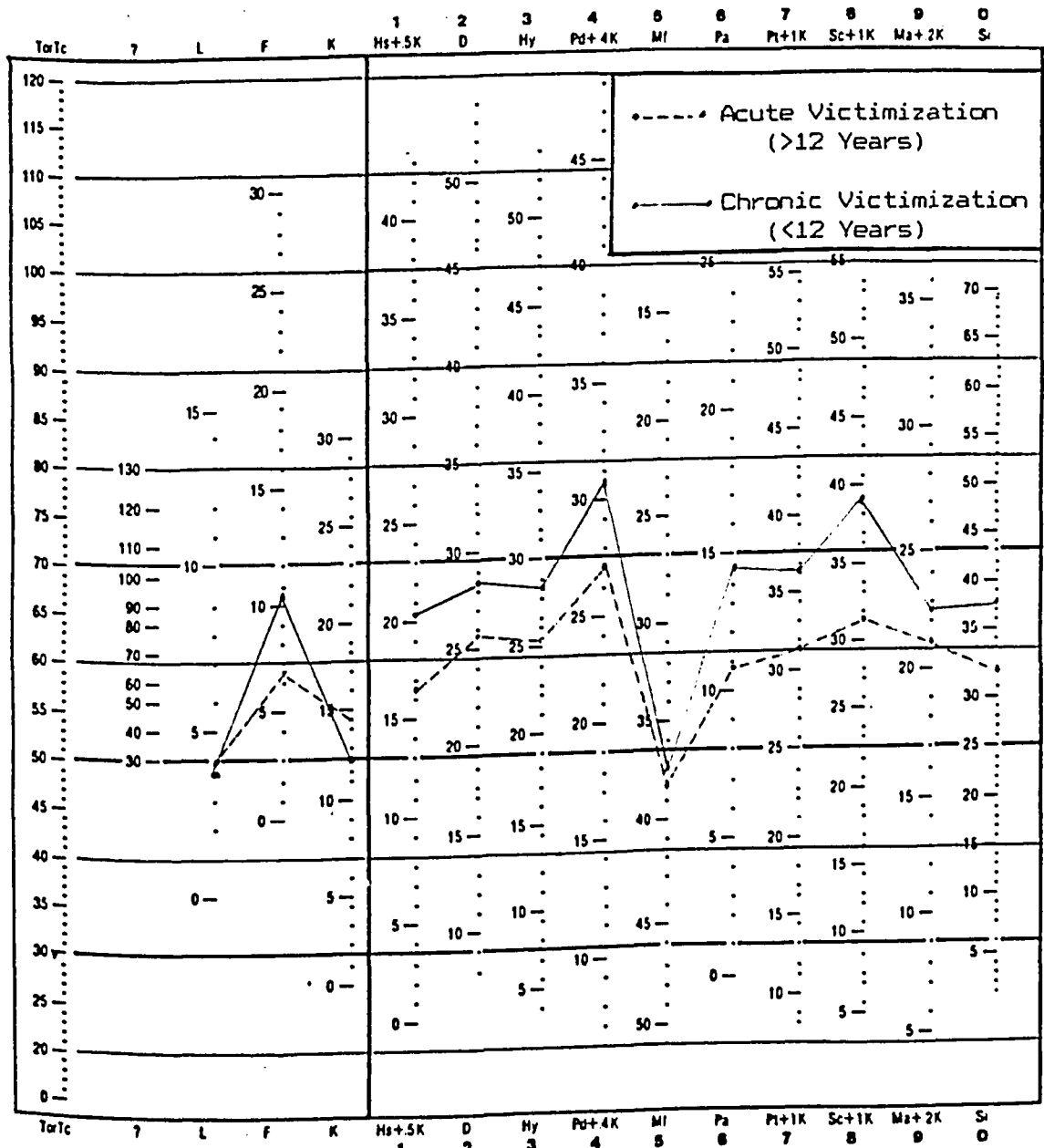


FIGURE 6. K-Corrected means on MMPI scales for acute victimizations after the age of 12 years and chronic victimizations beginning before the age of 12 years.

[$t(40) = 2.41, p < .05$]; Scale 7 [$t(40) = 2.14, p < .05$]; and Scale 8 [$t(40) = 2.63, p < .05$].

Hypothesis #3: Multiple victims would report more borderline traits than single-episode victims and would be more likely to meet the diagnostic criteria for borderline personality disorder (BPD) than single-episode victims. Hypothesis #3 was not confirmed.

Within the group of 50, a majority of the women endorsed items indicative of borderline personality disorder, including past suicidal attempts (62%); impulsive, self-destructive behaviors, such as substance abuse, shoplifting, sexual acting out and bingeing (66%); relationship problems (72%); affective instability (67%); ongoing boredom and feelings of emptiness (54%); and identity disturbances (58%). Other symptoms endorsed were poor anger control (17%) and intense efforts to avoid abandonment (17%). Thirty-seven (74%) of the women reported enough symptoms (five or more of the above) to qualify for the diagnosis of borderline personality disorder, according to criteria established in DSM-III-R (APA, 1987).

Table 7 shows the type and frequency of borderline traits reported by single versus multiple victims. Overall, women who were abused once were equally as likely as women who were abused more than once to meet the full criteria for borderline personality disorder, as assessed by chi square analysis.

However, post hoc analyses revealed significant differences in single versus multiple victims when the groups consisted of women assaulted as adolescents or adults, and women assaulted as children, respectively. As Table 8 shows, women who were chronically abused before the age of 12 years were more likely to meet the criteria for

TABLE 7

Individual Symptoms of Borderline Personality Disorder
For Single and Multiple Victimizations
Regardless of Age At Which Assault Occurred

	<u>SINGLE (n=18)</u>	<u>MULTIPLE (n=32)</u>
"My feelings towards another person can often change drastically." (TRUE)	12 (66.7%)	22 (68.6%)
"People that I have worshipped have often ended up disappointing me." (TRUE)	11 (61.1%)	23 (71.9%)
"I am a moody person." (TRUE)	11 (61.1%)	25 (78.1%)
"I rarely get so angry that I lose control." (FALSE)	5 (27.8%)	10 (31.2%)
"I've gotten into more real physical fights than most people." (TRUE)	1 (5.6%)	3 (9.4%)
"I have never threatened to kill myself." (FALSE)	8 (44.4%)	23 (71.9%)
"I often hurt myself accidentally." (TRUE)	2 (11.1%)	5 (15.6%)
"My friends, my goals or my beliefs are always changing." (TRUE)	7 (38.9%)	13 (40.6%)
"I've had more than my share of identity crises." (TRUE)	7 (38.9%)	22 (68.8%)
"I feel empty or bored much of the time." (TRUE)	8 (44.4%)	19 (59.4%)
"If I know a relationship is going to end, I'll let it end peacefully." (FALSE)	4 (22.2%)	13 (40.6%)
TWO OR MORE IMPULSIVE BEHAVIORS:	13 (72.2%)	20 (62.5%)
Spending money impulsively	11 (61.1%)	20 (62.5%)
Anonymous sex	11 (61.1%)	20 (62.5%)
Alcohol abuse	10 (55.6%)	15 (46.9%)
Drug abuse	6 (33.3%)	9 (28.1%)
Eating binges	11 (61.1%)	21 (65.6%)
Shoplifting	1 (5.6%)	3 (9.4%)
<u>DIAGNOSIS:</u>	11 (61.1%)	26 (81.3%)

TABLE 8

Individual Symptoms of Borderline Personality Disorder
In Single Versus Multiple Victimizations With Age Restricted

	<u>SINGLE (>12 Years)</u> (n=14)	<u>MULTIPLE (<12 Years)</u> (n=29)
"My feelings towards another person can often change drastically." (TRUE)	8 (57.1%)	21 (72.4%)
"People that I have worshipped have often ended up disappointing me." (TRUE)	8 (57.1%)	22 (75.0%)
"I am a moody person." (TRUE)	8 (57.1%)	20 (69.0%)
"I rarely get so angry that I lose control." (FALSE)	3 (21.4%)	10 (34.5%)
"I've gotten into more real physical fights than most people." (TRUE)	1 (7.14%)	3 (10.3%)
"I have never threatened to kill myself." (FALSE)	6 (42.8%)	19 (65.5%)
"I often hurt myself accidentally." (TRUE)	1 (7.1%)	3 (10.3%)
"My friends, my goals or my beliefs are always changing." (TRUE)	3 (21.4%)	12 (41.4%)
"I've had more than my share of identity crises." (TRUE)	4 (28.6%)	21 (72.4%)
"I feel empty or bored much of the time." (TRUE)	5 (17.2%)	17 (58.6%)
"If I know a relationship is going to end, I'll let it end peacefully." (FALSE)	4 (28.6%)	12 (41.4%)
TWO OR MORE IMPULSIVE BEHAVIORS:	10 (71.4%)	18 (62.1%)
Spending money impulsively	8 (57.1%)	18 (62.1%)
Anonymous sex	2 (14.3%)	9 (31.0%)
Alcohol abuse	6 (42.8%)	15 (51.7%)
Drug abuse	3 (21.4%)	8 (27.6%)
Eating binges	9 (64.3%)	19 (65.5%)
Shoplifting	1 (7.1%)	3 (10.3%)
<u>DIAGNOSIS:</u>	7 (50.0%)	24 (82.8%)

borderline personality disorder than women assaulted once in adolescence or adulthood [$\chi^2(2, N = 50) = 10.62, p < .01$]. In addition, women who were assaulted prior to the age of 12 years, regardless of whether multiple victimization occurred, were also more likely than women assaulted in adolescence or adulthood to meet the criteria for borderline personality disorder [$\chi^2(1, N = 50) = 4.74, p < .05$]. Age at which the trauma first occurred was not, however, significantly correlated with a diagnosis of PTSD. The diagnosis of borderline personality disorder was also not significantly correlated with a positive family history of welfare dependence or lower socioeconomic status, physical abuse, chronic physical or mental illness, physical handicap(s), alcohol and/or drug abuse, or arrest or incarceration of a family member.

Hypothesis #4: Current PTSD diagnosis would be correlated with elevations on Scales 2 (Depression), 6 (Paranoid), 7 (Psychasthenia), and 8 (Schizophrenia) on the MMPI. Hypothesis #4 was partially confirmed.

The PTSD diagnosis was significantly correlated with scores on Scale 1 (Hysteria), Scale 2 (Depression), Scale 3 (Hypochondriasis), Scale 7 (Psychasthenia) and Scale 0 (Social Introversion). The diagnosis was not correlated with Scale 6 (Paranoia) or Scale 8 (Schizophrenia) as hypothesized. (See Table 9 for a list of correlations and alpha levels). Furthermore, a number of scales were also associated with the individual criteria of PTSD, i.e., intrusion, avoidant and hyperarousal symptomatology. (See Table 10 for a complete list.) By comparison, the borderline personality disorder was significantly correlated with MMPI elevations on Scale 6 (Paranoia), Scale 7 (Psychasthenia), Scale 8

TABLE 9

Point Biserial Correlations of MMPI Scales
with Post-Traumatic Stress Disorder (PTSD)
and Borderline Personality Disorder (BPD)

	<u>PTSD</u>	<u>BPD</u>
<u>CLINICAL SCALES</u>		
Scale 1 (Hysteria)	.32 ($p < .05$)	N.S.
Scale 2 (Depression)	.41 ($p < .01$)	N.S.
Scale 3 (Hypochondriasis)	.30 ($p < .05$)	N.S.
Scale 4 (Psychopathic Deviate)	N.S.	.39 ($p < .01$)
Scale 5 (Masculinity/Femininity)	N.S.	N.S.
Scale 6 (Paranoia)	N.S.	.29 ($p < .05$)
Scale 7 (Psychasthenia)	.37 ($p = .01$)	.47 ($p = .001$)
Scale 8 (Schizophrenia)	N.S.	.37 ($p < .01$)
Scale 9 (Hypomania)	N.S.	.34 ($p < .05$)
Scale 0 (Social Introversion)	.32 ($p < .05$)	N.S.

TABLE 10

Point Biserial Correlations
Between PTSD Criteria
and Individual MMPI Scales

	<u>INTRUSION</u>	<u>AVOIDANCE</u>	<u>HYPERAROUSAL</u>
<u>CLINICAL SCALES</u>			
Scale 1 (Hysteria)	N.S.	N.S.	.43 (p<.01)
Scale 2 (Depression)	.36 (p<.05)	.42 (p<.01)	.44 (p<.001)
Scale 3 (Hypochondriasis)	N.S.	N.S.	.40 (p<.01)
Scale 4 (Psychopathic Deviate)	N.S.	.31 (p<.05)	.32 (p<.05)
Scale 5 (Masculinity/Femininity)	N.S.	-.37 (p<.01)	N.S.
Scale 6 (Paranoia)	N.S.	N.S.	N.S.
Scale 7 (Psychasthenia)	.40 (p<.01)	.42 (p<.01)	.29 (p<.05)
Scale 8 (Schizophrenia)	N.S.	.31 (p<.05)	.32 (p<.05)
Scale 9 (Hypomania)	N.S.	N.S.	N.S.
Scale 0 (Social Introversion)	.38 (p<.01)	.47 (p<.001)	N.S.

(Schizophrenia) and Scale 9 (Mania). The diagnoses of post-traumatic stress disorder and borderline personality disorder share a significant correlation only on Scale 7 (Psychasthenia).

Means on K-corrected scores of the MMPI are presented in Figure 7 for the following four groups: (1) women who did not meet the criteria for PTSD or borderline personality disorder (n=10); (2) women who met the criteria for PTSD only (n=4); (3) women who met the criteria for borderline personality disorder only (n=16); and (4) women who met the criteria for PTSD and borderline personality disorder (n=20). (Of the ten women without a diagnosis of PTSD or borderline personality disorder, four were chronically assaulted and six were assaulted only once. Of the four with PTSD only, three were chronically abused, while one was assaulted only once.)

The profile shows a general trend for each group to score higher on individual clinical scales as the diagnostic categorization becomes more complex. Table 11 shows the means obtained for each diagnostic grouping and significant differences among groups when applicable. An analysis of variance among the four groups on each scale revealed significant differences on Scale 2 ($F(3,45) = 28.54, p < .05$); Scale 4 ($F(3,45) = 4.02, p < .05$); Scale 7 ($F(3,45) = 6.53, p < .05$); and Scale 8 ($F(3,45) = 3.66, p < .05$). On each of these scales, the dual diagnosis group (borderline personality disorder and PTSD) scored highest. In addition, the groups differed significantly on the validity scales of L ($F(3,45) = 3.45, p < .05$) and K ($F(3,45) = 5.03, p < .01$). On these two scales, the group without either diagnosis scored higher, but within validity limits.

Exploratory Analyses: A number of variables in addition to those

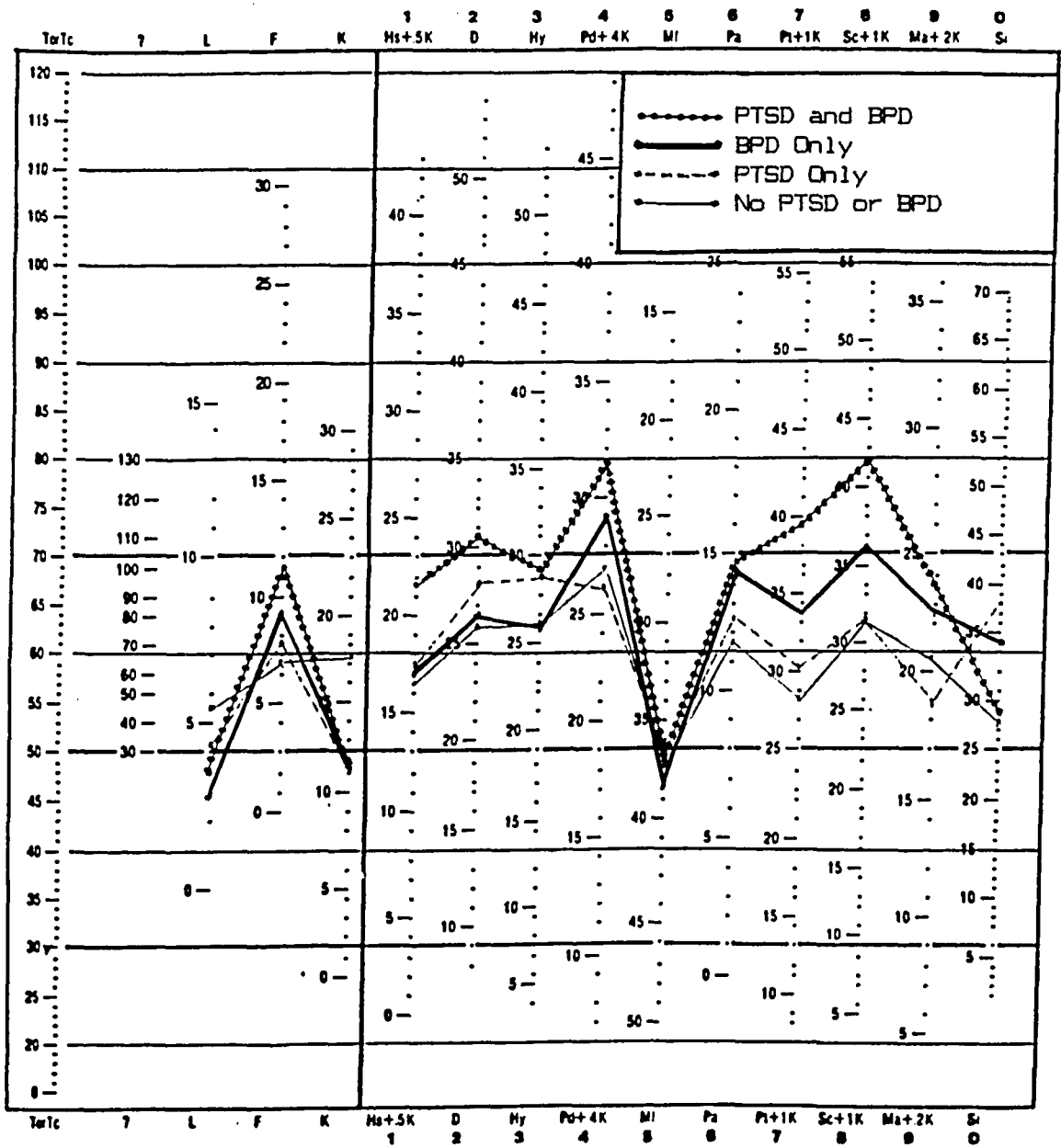


FIGURE 7. K-Corrected means on MMPI scales for post-traumatic stress disorder (PTSD) and borderline personality disorder (BPD).

TABLE 11

MMPI Scale Means and Standard Deviations
for PTSD and Borderline Personality Disorder (BPD)

	<u>NO PTSD/NO BPD</u>	<u>PTSD ONLY</u>	<u>BPD ONLY</u>	<u>PTSD AND BPD</u>
Scale L (Validity)	5.4 (2.6)	4.2 (1.2)	2.9 (1.8)	3.4 (2.0)*
Scale F (Validity)	6.8 (4.5)	7.8 (1.0)	9.2 (5.8)	11.4 (4.8)
Scale K (Validity)	17.2 (4.4)	11.8 (3.5)	11.3 (4.0)	11.7 (4.4) ^b
Scale 1 (Hypochondriasis)	16.4 (4.8)	17.5 (5.2)	17.0 (6.8)	21.7 (6.2)
Scale 2 (Depression)	25.9 (4.6)	28.2 (2.2)	25.5 (5.6)	30.6 (5.7)*
Scale 3 (Hysteria)	26.2 (5.8)	29.0 (5.4)	25.4 (5.1)	29.2 (6.5)
Scale 4 (Psycho. Deviate)	27.0 (4.1)	26.0 (3.9)	29.0 (5.0)	31.9 (3.3)*
Scale 5 (Masc./Femin.)	37.2 (3.9)	36.8 (3.3)	38.3 (4.6)	37.4 (5.0)
Scale 6 (Paranoia)	11.8 (3.4)	12.5 (5.4)	14.5 (4.6)	14.6 (2.9)
Scale 7 (Psychasthenia)	28.6 (8.6)	30.2 (2.1)	33.6 (7.2)	39.4 (5.0) ^b
Scale 8 (Schizophrenia)	31.3 (10.2)	31.5 (6.1)	36.0 (9.7)	42.0 (7.9)*
Scale 9 (Hypomania)	20.8 (2.9)	18.8 (5.1)	22.8 (4.1)	23.4 (3.3)
Scale 0 (Social Introv.)	27.9 (10.2)	38.2 (5.2)	34.0 (10.0)	29.0 (10.1)

* $p < .05$ by ANOVA. (See text for F values.)^b $p < .01$ by ANOVA. (See text for F values.)

included in the initial hypotheses were assessed for their contribution to either PTSD or borderline personality disorder. These analyses were exploratory, as they were not pre-planned and were, admittedly, conducted on a small sample size.

First, point biserial correlations on each of the family history items included in Table 3 revealed no significant relationship between these variables and the diagnosis of PTSD or borderline personality disorder. In other words, neither PTSD nor borderline personality disorder was significantly correlated with physical abuse between parents or between parents and children; mental disorders or legal problems in the family of origin; or socioeconomic status of the family of origin. In addition, neither diagnosis was related to the duration of time which had elapsed since the last assault had occurred. While a current diagnosis of PTSD negatively correlated with the duration of treatment engaged in by the participant ($r_{pbis} = -.31$; $p < .05$), length of treatment had no significant relationship to the diagnosis of borderline personality disorder.

A stepwise regression analysis was also performed with PTSD as the dependent variable. The following dichotomous variables were entered into the regression equation: relationship of the perpetrator to the victim (father, stepfather, brother, other relative, acquaintance, or stranger), type of assault which was most intrusive to the victim (vaginal, oral, anal penetration or genital fondling), and victimization history (chronic or acute). Age at which the first assault occurred was also included as an independent variable. Of these 12 variables, victimization history was the only factor which contributed significantly to PTSD ($r = .36$; $p < .01$), i.e., a history of chronic

assaults was the only variable which contributed significantly to a current diagnosis of PTSD, accounting for 13% of the variance.

A similar stepwise analysis with the diagnosis of borderline personality disorder as a dependent variable resulted in two of the 12 variables contributing to the diagnosis: age at which the trauma began was negatively correlated with the diagnosis, while the occurrence of intercourse was positively correlated with the diagnosis. Together, these two variables accounted for 20.6% of the variance in the borderline personality diagnosis.

CHAPTER 4

DISCUSSION

There is general agreement among researchers that, regardless of age, sexual assault can dramatically affect a victim's psychological functioning and may interfere with his or her social, interpersonal and emotional tasks of life. The results of this study support this view for women, suggesting that such assaults are not only harmful, but may have even more deleterious consequences for those women abused more than once and/or those women abused before the age of 12 years.

Forty-six percent of the women in this study met the diagnostic criteria of PTSD, regardless of how many years had elapsed since their last assault. Furthermore, 84% of the women interviewed retrospectively reported the occurrence of enough symptoms in any monthly period since the assault to meet the criteria for a diagnosis of PTSD at least once in their lifetime. These prevalence rates are higher than those found in community samples (Helzer et al., 1987; Kilpatrick et al., 1987), but are similar to the rates obtained in other treatment groups (c.f., Donaldson & Gardner, 1987; Rothbaum & Foa, 1988).

Review of PTSD Criteria. The sample as a whole reported a wide range of sexual traumas with subsequent symptoms of varying degree and duration. As hypothesized, the multiple victims were more likely to meet the criteria for PTSD and to report more PTSD symptoms overall, regardless of family history or assault variables. This finding is consistent with other studies which have shown an association between chronic victimization and more severe pathology (c.f., Ellis, Atkeson & Calhoun, 1982). Kramer & Green (1989) also found that women with a previous history of sexual assault were more likely to report symptoms

of PTSD six to eight weeks following rape than women who had not experienced a prior sexual assault.

In order to more fully understand the meaning of these differences, it is helpful to examine the quantitative and qualitative differences in the symptom manifestation and expression of PTSD within each group.

(A) Stressor Criterion. From a thorough review of questions concerning the stressor event, it appears that each sexual assault contained idiographic components differentiating it from all others, despite efforts to operationalize and categorize what each woman experienced. (See Chapter Two for the definition of multiple versus single sexual victimizations.) In other words, women were assaulted in different ways, at different ages, by different perpetrators, such that no two experiences were exactly alike. While the classification of assaults into multiple and single subtypes facilitated hypotheses testing, it is important to note that such distinctions often masked the diversity and complexity of sexual trauma. In each case, the trauma was "outside the range of usual human experience," as delineated by DSM-III-R (page 248).

In addition to the objective criteria established for sexual assault, all women in the study subjectively regarded the incident(s) as traumatic, primarily because of the significant impact it had on later development. Regardless of other events in their lives, the women identified the sexual trauma as a "turning point" which altered their behavior, occupied their thoughts and/or influenced their relationships with others and with themselves. Women who were victimized once were able to discriminate more clearly than chronic victims how the assault changed their lives: from dropping out of school to decreasing outside

interests, hobbies and activities. For the most part, women who were assaulted more than once reported that the traumatic impact of the victimization was not realized immediately, but over a period of years, as they compared their own development with that of their peers. In other words, the experience was not always one which immediately aroused fear, terror and helplessness in victims at the time it occurred, which is another of the characteristics emphasized in DSM-III-R.

(B) Intrusion Criterion. To some extent, the memories of victims assaulted only once resembled those reported by survivors of natural and man-made disasters and to some extent combat veterans. That is, the imagery was more contained and situation specific (though this does not imply that such imagery is any less arousing). The memories of multiple victims, like those of abused children, contained fewer details and were more difficult to evoke. This finding is similar to that of Murphy et al. (1988), who reported that generalized anxiety not attached to specific stimuli and vague feelings of threat were more typical of adult reactions to childhood sexual abuse, while specific phobias more accurately described the responses of adult victims. This phenomenon may be an artifact of age, i.e., multiple victims, who were assaulted at much earlier ages than those women assaulted once, may have more difficulty in recalling details of events which occurred five to ten years ago. On the other hand, the recall of multiple victims for such events may be incomplete, because the details were encoded differentially, depending on the victim's age and developmental level. Both hypotheses are supported by extensive literature on learning which demonstrates that cognitive abilities proceed in stages with the acquisition of skills and complexity of mental processes increasing with

age (c.f., Levin & Allen, 1976). (The issue of how trauma may impair learning in general will be discussed in a subsequent section.) It may also be that in the case of multiple victimization, the details differed from one incident to another so that there was a greater and more diverse amount of information to recall and any detail would be less likely to trigger intrusive memories or recollections of the trauma.

(C) Avoidant Criterion. Women who were assaulted more than once reported much longer periods of denial and avoidance and a greater hesitancy to explore the effects of such trauma. This tendency to deny and avoid their experiences is consistent with the higher scores obtained by the chronic group on the MMPI scales of 1 (Hypochondriasis) and 3 (Hysteria). When elevated together, these two scales typically reflect a tendency to deny the psychological components of problems and to either somaticize or externalize blame for difficulties encountered in their lives (Greene, 1980).

The amnesia for such events may also be attributed to the length of time since the assault, as discussed above. That is, victims assaulted more than one time may differ in their ability to remember certain aspects of their victimization or, given their age at the time of abuse onset, were less capable of processing the details of each incident.

Additional insights on the processes of denial and numbing of affect are provided by the literature on dissociation. As Horowitz (1976) has written: "Dissociation of traumatic memories, alternating with uncontrollable actual or symbolic repetitions, are fundamental features of the trauma response." Recently, investigators have discussed the phenomenon of dissociation following traumatic experiences and the subsequent contribution of dissociation to the psychopathology

of PTSD (Putnam, 1985). Dissociation has been defined as:

"a discernible alteration in a person's thoughts, feelings, or actions, so that for a period of time certain information is not associated or integrated with other information as it normally or logically would be (West, 1967, page 890).

Recently, Bernstein & Putnam (1986) have demonstrated a relationship between dissociative states and PTSD. In a study comparing a variety of groups with and without various psychiatric disorders, the PTSD sample scored higher on questions assessing disturbance of identity, memory, awareness, cognition and feelings of derealization or depersonalization than adult normals, adult alcoholics and adults diagnosed as phobic, agoraphobic and schizophrenic. The groups with PTSD scored lower than normal adolescents and individuals diagnosed with multiple personality disorder. The authors emphasized that the scores of the PTSD subjects were consistent with other descriptions of dissociative symptomatology in such individuals (Blank, 1985; Kolb, 1986, as cited by Bernstein & Putnam, 1986) and may constitute enough evidence to suggest that dissociation plays a major role in the development of this disorder. In their recently published book on trauma, Ulman & Brothers (1988) argue that PTSD should be re-conceptualized as a dissociative disorder, rather than an anxiety disorder, which is its current placement in DSM-III-R.

(D) Hyperarousal Criterion. Given the situational components most often reported by multiple victims, the differences in symptoms seem appropriate to the trauma. First, the majority of multiple victimizations occurred in the evening or at night when the victim was

preparing for or already in bed. Therefore, sleep may have become associated with the trauma, along with the affective responses of helplessness, vulnerability and fear. Secondly, chronic abuse more often has occurred in what are considered by most individuals to be "safe" places within the home, i.e., the bedroom and the bathroom. Increased physiological reactivity indoors may have developed as a conditioned response to such assaults.

These hypotheses would be consistent with the cognitive-behavioral model proposed by Kilpatrick et al. (in press) and the psychobiological model discussed by van der Kolk (1987). The former theory, as discussed in Chapter 1, postulates that fear or anxiety originally aroused by the trauma can become conditioned to stimuli associated with the trauma. Thus, any reminder of the event can acquire the capacity to evoke anxiety or fear. Examples would include reminders of the assault location, characteristics of the perpetrator, weapons which were present or events which occurred immediately prior to the assault. Additionally, "second-order conditioning" can occur in which other stimuli, paired with the original fear-arousing stimuli, can also acquire the ability to elicit fear or anxiety in the same individual. This process is often represented in the case where a patient develops anxiety in response to therapy which focuses on discussing and affectively working-through the original trauma. Often, with the passage of time, extinction of this fear response will occur as the emotionally-charged stimuli are presented without the traumatic consequences. However, if a second assault occurs, or if the sexual trauma is chronic in nature, the conditioned fear response may be revived, perhaps intensified, and may become more resistant to change.

In addition to this model of classical conditioning, Kilpatrick et al. (in press) propose a second factor associated with the avoidant behaviors often seen in victims. This second factor involves instrumental post-rape behaviors, such as avoiding reminders of the event or decreasing activities outside the home altogether. By avoiding reminders, a victim not only reduces her anxiety about the original assault, but may also control her fears about re-victimization. Unfortunately these behaviors maintain symptomatic responses and impinge on a victim's long-term recovery. (See Mowrer, 1966, for a more general review of this two-factor learning paradigm, which has been adapted by Kilpatrick et al., in press, to describe the post-traumatic response.) It is also important to point out that although a woman's cognitions about sexual assault may initially mediate her responses, e.g., she may externalize blame, deny future vulnerability, and resist societal stigmatization, continued trauma may have the capacity to impinge on whatever coping skills she attempts to develop. Trauma which occurs repeatedly within the home by someone known to the victim may further exacerbate conditioned anxiety and impede behavioral or cognitive coping mechanisms.

By comparison, van der Kolk (1987) discusses the physiological responses to trauma in more global terms. He proposes that chronic abuse contributes to a dysfunction in the stress response, which continues even after the initial trauma dissipates. Normally, when trauma occurs, an individual responds with autonomic arousal (e.g., increased heart rate, accelerated respiration, etc.), which eventually decreases as the threat is resolved or as the individual is able to escape the situation. However, if trauma persists or is repeated for an

extended period of time, as in the case of chronic sexual abuse, van der Kolk hypothesizes that biochemical changes occur which maintain the autonomic arousal beyond what is adaptive. (He compares this phenomenon to that of electrical kindling, described earlier by Goddard, McIntyre & Leech, 1969.) As a result of this hyperarousal, van der Kolk proposes that the individual not only experiences greater physiological reactivity in response to stress, but he or she may also overreact to even minor stressors in the environment, due to an autonomic sensitivity. Future research is necessary to more fully assess this physiological reactivity in individuals who experience trauma and, more specifically, to differentiate the responses associated with multiple versus single victimizations. It may be that while individuals victimized once physiologically respond to stimuli associated with the event (as proposed by Kilpatrick et al., in press), individuals victimized multiple times develop a more global hyper-reactivity which is not only in response to reminders of the trauma, but persists even in the sleep cycle.

It is interesting that the hyperarousal criteria of PTSD were significantly correlated with elevations on Scales 1 (Hypochondriasis) and 3 (Hysteria) on the MMPI. These two scales also differentiated the women who experienced multiple abuse from those who experienced a single episode of abuse. When combined, both scales assess the tendency of individuals to somaticize their problems and localize difficulties outside themselves. Scale 1, in particular, taps a number of vague and non-specific concerns about bodily functions, while Scale 3 also measures specific somatic complaints, along with a tendency to repress or deny psychological problems. Together, these two scales may, in

fact, parallel several of the hyperarousal symptoms of PTSD, including physiological reactivity, sleep problems and diffuse symptoms of anxiety. Several hypotheses might be developed concerning the tendency of multiple victims to report more somatic complaints. First, the physical problems reported may relate specifically to the trauma endured chronically by victims, including stomach cramping, muscle aches, lower back pain, etc. Secondly, because multiple victims were more likely to be assaulted at a young age, they may also be more aware of and preoccupied with their bodily functioning. Early stimulation of the genitalia and painful intercourse may have contributed to bodily malfunctions in the young girl which she attended to in ways which have persisted throughout adulthood. Finally, the somatization may represent a defensive response to not only the sexual abuse, but also the psychological trauma endured at such an early age. By focusing on the physical distress associated with traumatization, a victim is able to avoid the more emotionally painful aspects of her experience.

The difference in concentration abilities is also consistent with the hypothesis that, given chronic stressors, the capacity of individuals to assimilate and recall information may be compromised. In response to this question, several of the multiple victims reported academic difficulties beginning in elementary school which were overlooked by teachers and parents as signs of possible abuse. Problems in maintaining attention, finishing projects and undertaking complex tasks continued into adulthood and were often cited by these women as reasons for their inability to continue their education or pursue a more rewarding profession. Although research in this area has been minimal, Fish-Murray, Koby, & van der Kolk (1987) cite several studies which

suggest that children who are abused show cognitive, language and motor skill delays and deficiencies in auditory and visual reception and verbal reception and expression. Although many of the studies to date lack proper control groups, follow-up and adequate instrumentation, they do suggest some directions for future research in this area.

Finally, the women who had been abused chronically were more likely to report difficulties in controlling their anger or expressing their anger through appropriate channels. This difference, though not statistically significant, is consistent with reports of Vietnam veterans with PTSD (c.f., Shatan, 1978). This tendency is also consistent with the chronic group's elevations above the norm on Scales 4 (Psychopathic Deviate) and 8 (Schizophrenia) of the MMPI. Individuals with this high-point pair have been characterized as having difficulty and dissatisfaction with close emotional relationships and as being distrustful of others, socially withdrawn and angry (Greene, 1980). (Profiles of the multiple victims will also be discussed in further detail in the section on MMPI results.)

These reported variations in hyperarousal symptomatology may also partially explain why the IES failed to discriminate women experiencing single versus multiple victimizations, as hypothesized. The IES consists of intrusive and avoidant symptoms which resemble those of PTSD. (See Appendix A for a list of items.) However, the IES does not contain any items which would assess the hyperarousal symptomatology of PTSD. Consequently, the IES failed to show differences between the two groups, just as the quantitative analyses on the intrusive and avoidant criteria of PTSD failed to reveal any significant differences.

In summary, the results of this study suggest that PTSD in sexually

assaulted women constitutes a complex amalgamation of symptoms which interact with one another and may become less susceptible to extinction as victimization re-occurs. As Figure 8 shows, the symptoms of PTSD become associated with the original trauma, e.g., specific dreams or images of the assault, and may provide a way of coping with real or imagined threats in the environment, e.g., avoiding situations which evoke memories of the original event, or avoiding situations which may actually be dangerous, given the likelihood an assault will re-occur. Whether hypervigilance, sleep disturbances, physiological reactivity to reminders, etc., become defenses against further traumatization or represent impaired functioning of the response system, or both, is unknown. What is important, however, is how chronic victimization affects personality development as the symptoms of PTSD and the resulting coping mechanisms become more integrated into an individual's life.

Review of MMPI Differences. The MMPI provides data on distinguishable patterns of behavior which have been empirically derived from various control and psychiatric groups (Greene, 1980). By examining scores on each of the validity and clinical scales, comparisons can be made between individuals and groups of individuals and hypotheses developed regarding their respective personality traits. (See Appendix B for a description of each MMPI scale.)

In general, the profiles of the single and multiple assault groups are similar, with elevated scores on Scales 4 (Psychopathic Deviate), 6 (Paranoia), and 8 (Schizophrenia) and depressed scores on Scale 5 (Masculinity-Femininity). The configuration of Scales 4, 5, and 6, often referred to as the "Scarlett O'Hara V," is pronounced within both

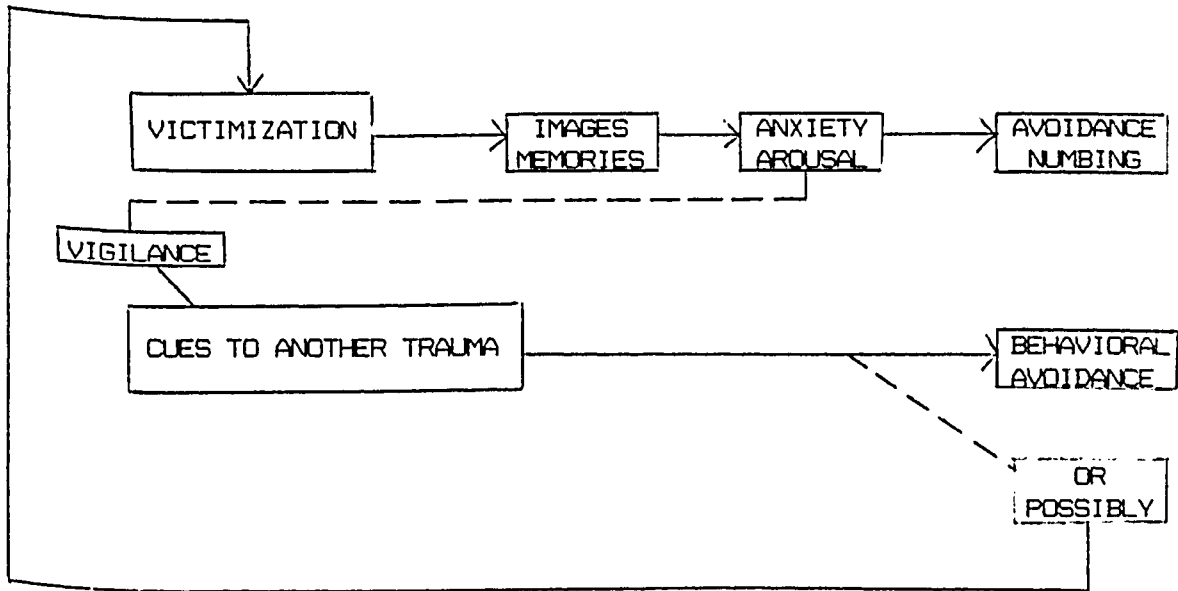


FIGURE 8. Model exploring the relationship between victimization and PTSD symptoms associated with the assault and generalized to other situations.

groups. Greene (1980) characterized women with such a profile as hostile and angry, but unable to express such feelings directly. He described them as passive, dependent, and needy for affection, but also irritating to others because of their demandingness. Scott & Stone (1986a, 1986b) documented this profile in adult women who experienced childhood sexual abuse; however, no study to date has reported similar scores in women who were assaulted once. In addition, Scott & Stone failed to interpret their results within the context of previous research on the MMPI and what personality attributes have been associated with this particular profile. It may be that the characteristics reported in these women are related to a victimization history. Because of their vulnerability to previous abuse, these women may be more susceptible to adopting a "stereotypically feminine role," in which learned helplessness is a predominant feature, passivity an adaptive coping mechanism, and need for affection a consequence of the traumatization. Future research would elucidate whether this was, in fact, a victim profile or a profile which is more representative of a general clinical sample. Additional assessments of non-clinical samples of women with and without histories of victimization would also provide further information on this profile trend.

Elevations on Scales 4 (Psychopathic Deviate) and 8 (Schizophrenia) have also been noted in studies of women who were sexually assaulted as children (Roland et al., 1987; Scott & Stone, 1986a, 1986b). In this particular study, it is interesting that multiple victims scored in the pathological range ($T > 70$) on both scales and differed significantly from the single episode victims on Scale 8. Neither Scale 4 nor Scale 8 was elevated above the norm for women assaulted once, although these two

scales were elevated above all other clinical scales in this group. Scale 8 assesses bizarre thought processes and peculiar perceptions, social alienation, poor familial relationships, difficulties in concentration and impulse control, lack of fulfilling interests, disturbing questions of self-worth and identity and sexual difficulties. Scale 8 also contains a number of items which assess unusual sexual practices or experiences, which may partially account for the elevations on this scale among chronic victims.

When combined with elevations on Scale 4, the profile suggests a number of interpersonal problems. Scott & Stone (1986a, 1986b) discussed the 4-8 profile obtained in their study and emphasized the identity confusion, interpersonal alienation, blocked or distorted resentments related to intense feelings of vulnerability and distrust often exhibited in individuals with such scores. Scott & Stone (1986a) also reported that such individuals have learned to protect themselves by emotional withdrawal and by displaced acting out, anger and rebellion.

In the present study, it was hypothesized that multiple victims would score higher than acute victims on the MMPI scales of 2 (Depression) 7 (Psychasthenia) and 8 (Schizophrenia), given earlier studies of Vietnam veterans with PTSD. This hypothesis was only partially confirmed. Multiple victims scored higher on Scale 8, which assesses bizarre thoughts and sensations, social alienation and identity disturbances, but they also scored higher than acute victims on Scales 1 (Hypochondriasis) and 3 (Hysteria). Roland et al. (1987) found that in a sample of out-patients with a history of early sexual assault, the majority showed elevations on Scales 1 and 3; however the authors

offered no interpretation as to why this group may have scored higher on such scales when compared to a control group of 25 women without histories of childhood abuse or how the elevations of such scales might reflect personality factors.

As mentioned previously, Scales 1 and 3 combined assess the tendency of individuals to somaticize their problems and localize difficulties outside themselves. More specifically, Scale 1 assesses vague and non-specific concerns about bodily functions, focusing on the abdomen and back, and is considered a crude index of psychological mindedness or sophistication, with high scorers lacking these attributes. Scale 3 taps two general categories of items: those reflecting specific somatic complaints and those which demonstrate that an individual considers him- or herself well adjusted. Although these two areas appear to be unrelated, in persons whose personality revolves around hysteric dynamics, these traits are simultaneously present. Such persons generally maintain a facade of superior adjustment and only when they are under stress does their proneness to somaticize appear as a means of resolving conflict and responsibility. The defenses of denial and repression seen in these women may have developed over time in response to the significant and chronic stress they endured, and may become a distinct part of their personalities. Additional research is needed to further assess how Scales 1, 3, and 8 may interact and whether such differences manifest overtly.

The diagnosis of PTSD was also associated with elevations on Scales 1 (Hypochondriasis), 3 (Hysteria), and 0 (Social Introversion), along with Scales 2 and 7 as hypothesized. Based on these findings, it is suggested that PTSD in sexual assault victims may be associated with

somatic complaints (Scale 1), repression and denial (Scale 3), interpersonal inhibition and avoidance (0), depressive symptomatology (Scale 2) and anxiety and ruminative thinking (Scale 7). The relationship between somatic complaints and the criteria of hyperarousal have already been discussed in an earlier section.

The relationship between depression and PTSD has been discussed quite frequently in the literature on Vietnam veterans and crime victims (Fairbank, Keane, & Malloy, 1983; Green et al., 1989; Helzer et al., 1987; Kilpatrick et al., in press; Sierles, et al., 1983; Silver & Iacono, 1984). As a result, controversy exists whether depression, per se, should be considered an associated feature of PTSD or a major component of the disorder. While depression is not one of the specific criterion of PTSD, there are a number of symptoms included in the diagnosis which are indicative of depression, including restriction of affect, withdrawal from others, sleep disturbance, and concentration difficulties. Green et al. (1989) propose that while depression may be in response to the trauma (or specific characteristics of the trauma), it may also be part of a more complex, chronic response to the psychological strain of living with the primary illness of PTSD. The authors cite Lindy and Titchener (1983) who described a potential spiral of post-traumatic decline, in which attempts to numb or ward off intrusive phenomena may lead to additional negative life events (e.g., divorce, unemployment, etc.), which may in turn further influence efforts to regain psychological equilibrium. It is important to recall that in the present study, participants' primary presenting problem to counselors and therapists was depression, rather than symptoms of PTSD.

The relationship between Scale 7 (Psychasthenia) and PTSD also deserves further attention. Scale 7 assesses a number of symptoms associated with anxiety, including ruminations, obsessive-compulsive behaviors, and overconcern with daily events and problems. In general, obsessive-compulsive symptoms have also been found in individuals with PTSD who have experienced combat and criminal victimization (Green et al., in press; Helzer et al., 1987; Kilpatrick et al., in press). Intuitively, this relationship between PTSD and obsessive-compulsive tendencies makes sense, given the anxiety following trauma, the repetitive, intrusive images which persist, and continued attempts to control or ward off anxiety or re-traumatization.

Finally, the correlation between the diagnosis of PTSD and elevated scores on Scale 0 (Social Introversiveness) validates the isolation and alienation often experienced by victims of sexual assault as they attempt to prevent further traumatization by avoiding situations or people they perceive as high-risk (Kilpatrick, Veronen & Best, 1985). Victims' reduced involvement with others, one of the criterion of PTSD, may also be a symptom of the depression discussed earlier. Interestingly, therapists reported that 54% of the participants initially presented for counseling with problems in relationships.

Review of Borderline Personality Traits and Overlap of PTSD and Borderline Personality Disorder. The hypothesis that multiple victimization would be associated with borderline personality disorder was based on theoretical propositions by van der Kolk (1987) and others that this particular diagnostic category resembled post-traumatic stress disorder in its features and etiology. However, the findings of the present study contradict both these assertions. First, the features of

borderline personality disorder diverge significantly from PTSD when each diagnostic category is correlated with the ten clinical scales of the MMPI. Secondly, borderline personality disorder appears to be developmentally derived, such that early trauma, regardless of its chronicity, may be the more pertinent etiological factor.

Much debate has surrounded the concept of borderline personality disorder since the early 1940's (Lloyd, Overall, Kimsey, & Click, 1983). Various labels have been used to describe this group of individuals, as reported by Lloyd et al., including ambulatory schizophrenia (Zilboorg, 1941); the "as if" patient (Deutsch, 1942); the pseudoneurotic schizophrenia (Hoch & Polatin, 1949); borderline state (Knight, 1953); psychotic character (Frosch, 1964); and borderline personality organization (Kernberg, 1967). Writers have often been distinguished by whether they provide structured, intrapersonal descriptions of the disorder (c.f., Kernberg, 1967) or behavioral symptoms exhibited in persons with the disorder (c.f., Gunderson & Singer, 1975).

More recently, investigators have attempted to more rigorously assess the characteristics of borderline personality disorder, which has resulted in more accurate descriptions of individuals with the disorder and differential criteria for distinguishing these individuals from those with other diagnoses. For example, Grinker, Werble & Dryer (1968) described borderline patients (all of whom have anger as the primary affect, with depression as a secondary affect) as impaired in interpersonal relations and lacking in a consistent self-identity. He divided borderlines into four subtypes: psychotic (divergent reality testing and self identity, negativism, and expressed anger and depression); core syndrome (chaotic interpersonal relationships. poor

self-identity, depression and tendency to act-out); "as if" (inappropriate behavior and engagement in complementary relationships, but with constricted affect and rigid intellectualization); and borderline with neurosis (more functional with a tendency toward depression, anxiety and a multitude of neurotic and narcissistic features.) More recently, Spitzer, Endicott & Gibbon (1979) divided borderline personality disorder into two subtypes: schizotypal and unstable. Schizotypal borderlines were characterized by social isolation; odd, but not psychotic, communication; ideas of reference; suspiciousness; recurrent illusions; magical thinking; poor rapport; social anxiety or hypersensitivity. Unstable borderline personality types were characterized as having identity disturbances, unstable and intense interpersonal relationships, impulsivity, inappropriate and intense anger, self-damaging acts, below-average work and school history, affective instability, chronic feelings of emptiness or boredom; and problems tolerating being alone. The latter symptomatology became the foundation for DSM-III-R's borderline personality disorder, while the former was used to develop DSM-III-R's diagnosis of schizotypal personality disorder.

Several investigators have studied the MMPI profiles and scale elevations of those individuals diagnosed with borderline personality disorder. In these studies, borderlines demonstrated elevated scores on the F validity scale and the clinical scales of 4 (Psychopathic Deviate), 6 (Paranoia), and 8 (Schizophrenia) (Conte, Plutchik, Karasu, & Jerrett, 1980; Kroll, Carey, Sines, & Roth, 1982; Kroll, Sines, & Martin, 1981; Lloyd et al, 1983). Other scales found to be elevated included 2 (Depression), 7 (Psychasthenia) and 0 (Social Introversion)

(Conte et al., 1980; Kroll et al., 1981). The K validity scale has also been found to be lower in borderline groups (Kroll et al., 1981; Lloyd et al., 1983). These results demonstrate an association between borderline psychopathology and hostility, impulsiveness, exploitive interpersonal relationships, interpersonal distrust and unusual thoughts or behavior, which are characteristics very similar to those discussed above by clinicians (Lloyd et al., 1983).

The present study replicated these findings to some extent. Borderline personality disorder was significantly correlated with elevations on the validity scale of F and the clinical scales of 4 (Psychopathic Deviate), 6 (Paranoia), 7 (Psychasthenia), 8 (Schizophrenia), and 9 (Hypomania). Elevations on the clinical scales of 6, 7, and 8 are indicative of more chronic and severe symptomatology than elevations on Scales 1, 2, and 3. While the latter are often considered the "neurotic triad" (Greene, 1980) the former three scales assess psychotic symptoms such as suspiciousness, distrust of others and delusions of a paranoid type (6); obsessive-compulsive symptoms and a preoccupation with daily concerns (7); and social alienation, bizarre thoughts and poor self-identity (8). Scale 4 (Psychopathic Deviate) primarily taps interpersonal conflicts and struggles with authority. Scale 9 (Hypomania) measures impulsive behaviors and a tendency toward hypomanic activities.

Interestingly, the group of participants diagnosed with both PTSD and borderline personality disorder most closely matches this profile, with elevations seen on Scales 4, 7, and 8. Overall, the group diagnosed with only borderline personality disorder did not differ from the group diagnosed with only PTSD or without PTSD or borderline

personality disorder. The difference between these two groups (borderline personality and PTSD, and borderline personality only) leads one to speculate on the comorbidity of borderline personality disorder and PTSD. It may be that women with PTSD and borderline personality disorder exhibit more pathology than women with only borderline personality disorder (or PTSD, for that matter). However, the two disorders appear to be distinct diagnostic categories with quite different symptomatology. In essence, PTSD seems to be associated more strongly with depression, somatic complaints, externalization of blame, and social introversion, while borderline personality disorder is more highly correlated with suspiciousness and distrust, bizarre thoughts and alienation, hypomanic behaviors and impulsivity, and interpersonal conflict. These characteristics are very similar to DSM-III-R's borderline personality disorder criteria.

Etiological factors influencing borderline personality have not been addressed in the literature, except in reference to the failure of the young child to develop appropriate self-object representations and intrapsychic differentiation from the mother, based on psychoanalytic theory. Pathological mother-child interactions are often cited as contributing to the developmental arrest which fuels borderline pathology (Mahler, Pine & Bergman, 1975). However, few empirically-based studies have examined borderline personality development in conjunction with specific childhood events, with the exception of those described in the first chapter of this manuscript. "Curiously, the role of actual parental abuse in the development of this disorder has never been systematically investigated," states van der Kolk (1987).

Within the present study, a number of borderline symptoms were

reported by both women victimized once and more than once, to the extent that there was no difference between the groups in meeting the full diagnostic criteria. There was, however, a relationship between borderline personality disorder and age at which the assault was experienced, with younger victims reporting more symptoms indicative of the disorder. As mentioned earlier, this finding concurs with the developmental perspective of borderline syndrome. Trauma at an early age may be involved in the disturbances in affect regulation, interpersonal relationships and reality testing often seen in borderline patients and may constitute a disruption of the normal developmental process. Excessive stimulation and encroachment on personal boundaries by adults may significantly interfere with a child's ability to moderate emotions, establish a sense of self and personal competency, and trust the motives of other individuals. Consequently, a child who is a survivor of sexual assault, particularly that which is chronic in nature, develops a distorted view of others and herself, which remains unarticulated and therefore split off from awareness. These feelings can become overwhelming, and in times of stress, can reach psychotic proportions, resulting in many of the symptoms observed in individuals diagnosed with borderline personality disorder. Interestingly, many of the victims in the present study did not associate their psychological symptoms with their history of abuse until they sought treatment, at which time they began to understand how sexual trauma may have contributed to their suspiciousness and distrust of others, their difficulty in maintaining control of their emotions, their anger and feelings of entitlement, and their lack of identity and self esteem. They perceived their problems as uncontrollable and abnormal, arising

from personal inadequacy, rather than deficiencies in early childhood. In addition, the conflicting fears of abandonment and engulfment which arise in individuals with borderline personality disorder may symbolize the conflicts experienced in the environment of the young victim, i.e., a home in which she was unprotected from and consumed by abuse. This particular hypothesis would be consistent with the predominance of borderline personality disorder in women, who are victims of sexual abuse two to three times more often than men (c.f., Burnam et al., 1988).

By contrast, trauma at a later age in fairly healthy individuals may lead to symptoms of PTSD, without concurrent personality disturbance. This may be attributed to the presence of an environment in childhood which promoted trust, consistent and appropriate interpersonal boundaries, and communication of emotions in a positive manner. Within such a supportive environment, an individual would theoretically develop a more integrated sense of self and possess a greater variety of resources to cope with trauma. Furthermore, trauma occurring later in life to someone with borderline personality disorder may act to decompensate an already vulnerable sense of self. In this case, borderline personality disorder would not be specifically linked to early sexual assault, but may be dependent on other factors present in the environment. Other childhood events not assessed in the present study may also contribute to this personality disorganization.

Summary. The findings of the present study suggest that sexual trauma is associated with symptoms of PTSD. Women victimized once and more than once did not differ quantitatively in their reporting of intrusive and avoidant symptoms, but may differ in the content of dreams

and memories or in the severity or prevalence of denial, avoidant behaviors and other dissociative phenomenon. However, measurable differences did exist in hyperarousal symptomatology. Victims also showed similar profiles on the MMPI, with elevations on Scales 4 (Psychopathic Deviate), 6 (Paranoia), and 8 (Schizophrenia). However, multiple victims scored significantly higher than acute victims on Scales 1 (Hypochondriasis), 3 (Hysteria), and 8 (Schizophrenia). This 1-3-8 profile indicates a tendency to somaticize and deny psychological problems, and to report difficulties in interpersonal relationships; unusual thoughts and sexual practices; and problems in concentrating, controlling impulses and maintaining self-identity.

In addition, a majority of victims reported borderline traits. While the borderline personality disorder was not associated with the type of victimization, i.e., single versus multiple, it was more likely to occur in women who experienced early abuse. Furthermore, while PTSD and borderline personality disorder may co-exist, they appear to be two separate and distinct diagnostic categories with etiological and symptomatic differences.

Limitations of the Present Study. Obviously, causal statements about the effects of victimization can not be made, given the retrospective nature of this study and the limitations of correlational methods. It is unknown whether symptomatology was present prior to the assault, particularly in the case of single victimizations, or whether symptomatology developed after the assault, but not as a direct result of it. Differences in symptoms in women experiencing single versus multiple victimizations may also be present due to a variety of other factors, such as early family history, recall of events and

interpretation of those events, characteristics of the recovery environment, etc. Although some effort was made to control for potential confounds (e.g., alcohol abuse or violence in the family of origin), other more subtle and less definable factors may have influenced the woman's development.

It is also important to emphasize the extent to which multiple victimization often included incest. Of the 32 women who were victims of multiple abuse, a majority were assaulted by a brother, uncle, stepfather, or grandfather. Several were also abused multiple times by a close friend of the family who was trusted by the victim's caretakers. This additional variable may confound the results: chronic abuse by individuals who are trusted by the victim and her caretakers, who have unlimited access to the victim, and, who, for the most part, are never reported or tried, may lead to more global and permanent psychological damage than chronic abuse by strangers in unrelated circumstances. Due to the small number of victims in the latter category, the present study was unable to assess these effects.

The findings of the present study are also limited in generalizability due to the small sample size and the fact that all participants were in treatment at the time of the interview. It is unknown whether similar symptoms and personality patterns would be observed in women with a history of abuse who have never sought or have previously been engaged in treatment. And, because no comparison group was included, it is unknown whether the symptoms reported by participants would be more or less similar to those reported by women in a general clinical population.

This study is also limited by the instruments and screening methods

presently available to assess for PTSD and borderline personality disorder. Although the SCID has been widely used in studies of PTSD and is accepted as the most current interview available for evaluating PTSD according to DSM-III-R criteria, its validity and reliability have not been well documented. Efforts to do so in the present study resulted in only moderate reliability. Among individuals trained to assess PTSD, there was variability in their ability to diagnose participants based on tape-recordings of interviews. This was particularly true with regard to the hyperarousal criterion. In addition, the external validity of the SCID was only moderate, given that therapist diagnoses of PTSD did not always match those of the investigator. Currently, it is unknown whether this finding indicates weaknesses in the SCID or inconsistencies in diagnostic procedures of therapists. It is thought that therapists probably did not use structured interviews to insure the presence of all symptoms and adherence to the number of symptoms required to meet the PTSD criteria. However, there were no data collected to support this view. In addition, because the diagnostic criteria of borderline personality disorder has been so widely disputed (structured, personality organization versus behaviorally observed symptoms), reliable and valid methods to assess this diagnosis are also difficult to obtain. Although the measure used in the present study was the most accurate and adequate to date, the authors have acknowledged its weakness in detecting some symptoms, e.g., identity disturbance and affective instability. Furthermore, the IES does not appear to be a valid instrument for assessing the full criteria of PTSD, particularly the hyperarousal symptomatology, and should not be used as the only instrument for defining the disorder.

Clinical Implications and Directions for Future Research. These findings are relevant for the assessment and treatment of women who have been sexually traumatized. First, clinical assessments should include a victimization history which focuses on specific sexual experiences other than those stereotypically perceived as "rape." There were several participants in the present study who initially discussed only one "rape" experience with the investigator, but upon further questioning also disclosed an additional childhood sexual trauma. Because chronic victimization appears to be associated with later difficulties in adjustment, such trauma should not be ruled out only on the basis of a client's initial presenting problem. In addition, symptoms of PTSD should be assessed in cases where previous sexual traumatization has occurred, using the SCID as a guideline. The MMPI may also be used as a screening instrument to assess for borderline traits. If elevations in Scales 6, 7, and 8 are detected, then additional evaluations regarding personality functioning and potential childhood abuse are indicated.

Treatment planning and course may differ depending on whether acute or chronic victimization has occurred and the comorbidity of personality problems. In working with individuals diagnosed with only PTSD, therapy may focus primarily on issues related to the sexual trauma and a woman's affective, cognitive and behavioral responses to such an experience. On the other hand, women who have experienced chronic victimization may need to work through more interpersonal issues, e.g., trust and avoidance of others, before attending to and resolving specific conflicts related to their abuse.

Finally, the results of the present study raise further questions which need to be confirmed through future research. While the present

study focused on the effects of abuse on women in treatment, the findings may also pertain to the sexual victimization of men in treatment, which would be an appropriate area for further study. In addition, it is unknown whether the symptoms of PTSD or borderline personality disorder would be associated with sexual trauma in a general population or what percentage of individuals who meet the criteria for either diagnosis would also report a history of sexual abuse.

Additional questions raised by the present study include:

- (1) Does childhood sexual abuse impair or alter cognitive development?
- (2) Are there two borderline typologies, one of which occurs with PTSD, the other without, and if so, how do the subtypes differ in etiology and characterological organization?
- (3) What, if any, are the individual differences in victims (e.g., coping styles, cognitive restructuring, etc.) who do not develop PTSD following sexual assault, versus those who do?
- (4) What, if any, are the physiological correlates of single versus multiple victimization, and how does PTSD relate to somatization tendencies in victims?
- (5) How well do individual scales and profiles of the MMPI discriminate victims from non-victims, e.g., the 4-5-6 configuration of the "Scarlett O'Hara V," and is it possible to develop a new subscale for screening victims with PTSD as other researchers have done for the Vietnam veteran?
- (6) What are other relevant characteristics of the family in addition to sexual abuse which may contribute to the development of the borderline personality syndrome?

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APPENDIX A

ASSAULT CHARACTERISTICS

AGE OF FIRST SEXUAL ASSAULT _____

AGE OF LAST SEXUAL ASSAULT _____

OFFENDER (Indicate period of time abuse continued, frequency, etc., if participant can recall or discuss.)

- | | |
|-------------------|---------------------------------|
| _____ Father | _____ Husband |
| _____ Stepfather | _____ Boyfriend or ex-boyfriend |
| _____ Uncle | _____ Friend, acquaintance |
| _____ Brother | _____ Stranger |
| _____ Grandfather | _____ Other (_____) |

VICTIM'S RESIDENCE AT TIME OF ASSAULT

- _____ Living with parent(s)
- _____ Living alone
- _____ Living with roommate
- _____ Living with husband/boyfriend
- _____ Other

LOCATION OF ASSAULT

- _____ Street or out of doors
- _____ Home
- _____ Other residence
- _____ Public facility
- _____ Other

TYPE OF ASSAULT (All that apply)

- | | |
|----------------|----------------|
| _____ Coitus | _____ Sodomy |
| _____ Fellatio | _____ Other |
| _____ Fondling | _____ Multiple |

TYPE OF THREAT

- | | |
|----------------------|-------------------------|
| _____ Verbal | _____ Ropes, gags, etc. |
| _____ Body restraint | _____ Knife |
| _____ Physical abuse | _____ Gun |

PARTICIPANT NUMBER _____

DEMOGRAPHICS

AGE _____

RACE _____

EDUCATION

_____ Some high school
_____ High school grad
_____ Vocational school

_____ Some college
_____ College grad
_____ Graduate level

SOCIOECONOMIC STANDING

_____ ADC, Welfare
_____ Disability
_____ Income <\$5,000

_____ Income \$5-10,000
_____ Income \$10-20,000
_____ Income >\$20,000

FAMILY CONSTELLATION (PRE-ADOLESCENT)

_____ Biological parents
_____ Biological mother/stepfather
_____ Biological father/stepmother
_____ Biological mother
_____ Biological father
_____ Foster parents, other guardian

FAMILY CONSTELLATION (POST-ADOLESCENT)

_____ Biological parents
_____ Biological mother/stepfather
_____ Biological father/stepmother
_____ Biological mother
_____ Biological father
_____ Foster parents, other guardian

BIRTH ORDER _____

IF YOU DID NOT LIVE WITH YOUR NATURAL PARENTS, WHY?

- I was adopted
- My parents never married
- My parent(s) died (Mother, Father, Both?)
- My parents separated
- My parents were divorced
- I was sent to live with someone else
- I left home, ran away
- Other _____

IF YOUR MOTHER OR FATHER DIED, OR WERE SEPARATED OR DIVORCED, WHAT AGE WERE YOU WHEN THIS OCCURRED?

WHAT WAS YOUR FATHER'S (OR STEPFATHER'S) MAIN OCCUPATION?

WAS YOUR FATHER (OR STEPFATHER) EVER OUT OF WORK FOR LONGER THAN THREE MONTHS?

WHAT WAS YOUR MOTHER'S (OR STEPMOTHER'S) MAIN OCCUPATION?

WAS YOUR MOTHER (OR STEPMOTHER) EVER OUT OF WORK FOR LONGER THAN THREE MONTHS?

IF BOTH PARENTS WORKED, WHO TOOK CARE OF YOU WHEN YOU WEREN'T IN SCHOOL?

WOULD YOU SAY YOUR FAMILY WAS WELL TO DO, ABOVE AVERAGE, AVERAGE, OR POOR?

DID YOUR FAMILY RECEIVE ANY KIND OF WELFARE OR CHARITY? YES NO

DID YOUR PARENTS EVER HIT ONE ANOTHER? YES NO

DID YOUR PARENTS OR ANYONE IN THE HOUSEHOLD EVER HAVE A SERIOUS ILLNESS THAT RESULTED IN HOSPITALIZATION OR UNEMPLOYMENT LONGER THAN SIX MONTHS? YES NO

WAS ANYONE IN THE HOME CRIPPLED OR PHYSICALLY OR MENTALLY HANDICAPPED FOR SIX MONTHS OR MORE? (Circle which one) YES NO

DID ANYONE IN THE FAMILY DRINK SO MUCH THAT IT BECAME A PROBLEM? (E.G., FIGHTING WITH OTHERS, DIFFICULTY HOLDING A JOB, ETC.)?	YES	NO
DID ANYONE IN THE FAMILY USE HARD DRUGS SUCH AS HEROIN, COCAINE OR UPPERS AND DOWNERS OR HAVE A DRUG PROBLEM?	YES	NO
DID ANYONE IN THE FAMILY HAVE A MENTAL OR NERVOUS DISORDER OR WAS ANYONE THOUGHT OF AS MENTALLY ILL?	YES	NO
WAS ANYONE IN THE FAMILY HOSPITALIZED FOR A MENTAL OR EMOTIONAL PROBLEM OR PROBLEMS WITH DRINKING OR TAKING DRUGS?	YES	NO
WAS ANYONE IN THE FAMILY EVER ARRESTED?	YES	NO
DID ANYONE EVER SERVE TIME IN JAIL?	YES	NO
WAS ANYONE IN THE FAMILY EVER PHYSICALLY ASSAULTED?	YES	NO

The purpose of this questionnaire is for you to describe the kind of person you are. When answering the questions, think about how you have tended to feel, think and act over the past several years. To remind you of this, you will find the statement: "Over the past several years..."

T (True) means that the statement is generally true for you.

F (False) means that the statement is generally not true for you.

Even if you are not entirely sure about the answer, indicate "T" or "F" for every question. For example, for the question:

xx. I tend to be stubborn. T F

If, in fact you have been stubborn in many situations over many years, you would answer true by circling T. If this was not true at all for you, or if you had been stubborn only in one or two situations, such as while working at a particular job, you would answer false by circling F.

You may take as much time as you wish.

Over the past several years...

My feelings towards another person can often change drastically. T F

People that I have worshipped have often ended up disappointing me. T F

I am a moody person. T F

I rarely get so angry that I lose control. T F

I've gotten into more real physical fights than most people. T F

I have never threatened to kill myself. T F

I often hurt myself accidentally. T F

My friends, my goals or my beliefs are always changing. T F

I've had more than my share of identity crises. T F

I feel empty or bored much of the time. T F

If I know a relationship is going to end I'll let it end peacefully. T F

I have done things on impulse (such as those below) that can get me into trouble.

T F

Check all those that apply to you:

- a. Spending more money than I have. _____
- b. Having sex with people I hardly know. _____
- c. Drinking too much. _____
- d. Taking drugs. _____
- e. Eating binges. _____
- f. Shoplifting. _____

Impact of Event Scale

INSTRUCTIONS

Below is a list of comments made by people after stressful life events. I would like you to fill it out with regard to the sexual trauma which you experienced. Please circle the number under the correct response for each item, indicating how frequently these comments were true for you DURING THE PAST SEVEN DAYS. If they did not occur during that time, circle 0. Please answer EACH item.

	NOT AT ALL	RARELY	SOME- TIMES	OFTEN
1. I thought about it when I didn't mean to.	0	1	3	5
2. I avoided letting myself get upset when I thought about it or was reminded of it.	0	1	3	5
3. I tried to remove it from memory.	0	1	3	5
4. I had trouble falling asleep or staying asleep, because of pictures or thoughts about it that came into my mind.	0	1	3	5
5. I had waves of strong feelings about it.	0	1	3	5
6. I had dreams about it.	0	1	3	5
7. I stayed away from reminders of it.	0	1	3	5
8. I felt as if it hadn't happened or it wasn't real.	0	1	3	5
9. I tried not to talk about it.	0	1	3	5
10. Pictures about it popped into my mind.	0	1	3	5
11. Other things kept making me think about it.	0	1	3	5
12. I was aware that I still had a lot of feelings about it, but I didn't deal with them.	0	1	3	5
13. I tried not to think about it.	0	1	3	5
14. Any reminder brought back feelings about it.	0	1	3	5
15. My feelings about it were kind of numb.	0	1	3	5

illusions, hallucinations, and dissociative (flashback) episodes, even those that occur upon awakening or when intoxicated]

IF YES: Can you tell more about those?

...Did you feel a lot worse when you were in a situation that reminded you of the traumatic event?

(4) Intense psychological distress at exposure to events that symbolize or resemble an aspect of the traumatic event (including anniversaries of the event)

A. Life
DK 01 02 03

B. Current
DK 01 02 03

IF YES: Can you tell more about that?

Criterion Summary:
AT LEAST ONE "B" SX
IS CODED "03"

A. Life
DK 01 02 03

B. Current
DK 01 02 03

C. Persistent avoidance of stimuli associated with the distressing event or numbing of responsiveness (not present before the trauma), as indicated by at least three of the following:

Since the trauma...

...Did you make a special effort to avoid thinking about what happened or getting upset about it?

(1) Deliberate efforts to avoid thoughts or feelings associated with the event

A. Life
DK 01 02 03

B. Current
DK 01 02 03

DK=INADEQUATE INFO. 01=ABSENT 02=SUBTHRESHOLD 03=THRESHOLD

IF YES: Identify events avoided.

...Did you stay away from things that would remind you of the trauma?	(2) Deliberate efforts to avoid activities or situations that arouse recollections of the event	A. Life DK 01 02 03 B. Current DK 01 02 03
---	---	---

IF YES: Identify events avoided.

...Did you have trouble remembering some important part of what happened?	(3) Inability to recall an important aspect of the event (psychogenic amnesia)	A. Life DK 01 02 03 B. Current DK 01 02 03
---	--	---

IF YES: Can you discuss this further?

...Were you much less interested in things that used to be important to you, like sports, hobbies, social activities?	(4) Markedly diminished interest in significant activities	A. Life DK 01 02 03 B. Current DK 01 02 03
---	--	---

IF YES: Describe...

...Did you feel distant cut off from others?	(5) Feeling of detachment or estrangement from others	A. Life or DK 01 02 03 B. Current DK 01 02 03
--	---	--

IF YES: Describe...

...Did you no longer feel strongly about	(6) Restricted range of affect,	A. Life DK 01 02 03
--	---------------------------------	------------------------

DK-INADEQUATE INFO. 01=ABSENT 02=SUBTHRESHOLD 03=THRESHOLD

things, or feel "numb," or feel that you were not able to have loving feelings for people close to you?

"numbing;" unable to have loving feelings

B. Current
DK 01 02 03

IF YES, describe...

...Did you feel your future was limited, that maybe you would not accomplish what you had once intended to?

(7) Sense of a fore-shortened future, child does not expect to have a career, marriage, children or a long life

A. Life
DK 01 02 03

B. Current
DK 01 02 03

IF YES, describe...

Criterion Summary:
AT LEAST 3 "C" SX5
ARE CODED "03"

A. Life
DK 01 02 03

B. Current
DK 01 02 03

Since the trauma...

D. Persistent symptoms of increased arousal (not present before the trauma) as indicated by at least two of the following:

...Did you have trouble sleeping? (What kind of trouble?)

(1) Difficulty falling or staying asleep

A. Life
DK 01 02 03

B. Current
DK 01 02 03

...Were you unusually irritable? What about outbursts of anger? (Describe)

(2) Irritability or outbursts of anger

A. Life
DK 01 02 03

B. Current
DK 01 02 03

...Did you have trouble concen-

(3) Difficulty concentrating

A. Life
DK 01 02 03

DK-INADEQUATE INFO. 01=ABSENT 02=SUBTHRESHOLD 03=THRESHOLD

trating? (Describe)

B. Current
DK 01 02 03

...Were you watch-
ful or on guard even
when there was no
reason to be? (Describe)

(4) Hypervigi-
lance

A. Life
DK 01 02 03

B. Current
DK 01 02 03

...Were you jumpy or
easily startled, like
by sudden noises?
(Describe)

(5) Exaggerated
startle response

A. Life
DK 01 02 03

B. Current
DK 01 02 03

...Have you ever
found yourself react-
ing to things that
reminded you of the
trauma---like break-
ing out in a sweat,
breathing heavily or
irregularly, or your
heart pounding or
racing? (Which)

(6) Physiological
reactivity to events
that symbolize or
resemble an aspect
of the event (e.g.,
woman who was raped
in an elevator breaks
out in a sweat when
entering any eleva-
tor)

A. Life
DK 01 02 03

B. Current
DK 01 02 03

Criterion Summary:
AT LEAST TWO "D"
SXS ARE CODED "03"

A. Life
DK 01 02 03

B. *Current*
DK 01 02 03

About how long did
these problems last?

E. Duration of the
disturbance of at
least one month

01 03

POST-TRAUMATIC STRESS
DISORDER CRITERIA A, B,
C, D, AND E ARE CODED
"03"

A. Life
01 03

B. Current
01 03

DK-INADEQUATE INFO. 01=ABSENT 02=SUBTHRESHOLD 03=THRESHOLD

APPENDIX B

DESCRIPTION OF MMPI SCALES

(Greene, 1980)

SCALE 1 (Hypochondriasis)

Vague and nonspecific complaints about bodily functioning are tapped by Scale 1, focusing on the abdomen and back. These complaints persist despite medical reassurances, suggesting a neurotic preoccupation with physical symptoms. This scale is also a crude index of psychological mindedness or sophistication, with high scorers lacking these attributes.

SCALE 2 (Depression)

This scale measures symptomatic depression, characterized by poor morale, hopelessness, and general dissatisfaction with life. General areas included in this scale are (1) lack of interest in activities and general apathy, (2) physical symptoms including sleep and gastrointestinal problems, and (3) over-sensitivity and lack of sociability.

SCALE 3 (Hysteria)

The items on this scale consist of two types: somatic complaints and subjective feelings of adjustment and sociability. Although in most individuals these items are unrelated, in persons whose personality revolves around hysteric dynamics they are closely associated. Such individuals generally maintain a facade of superior adjustment, except when under stress. At those time, such individuals are prone to develop conversion-type symptoms to resolve conflict and avoid responsibility.

SCALE 4 (Psychopathic Deviate)

Complaints about family and authority figures in general and self and social alienation and boredom are tapped on this scale, which measures general social maladjustment and the absence of strongly pleasant experiences. Harris and Lingoes (1955) Subscales for Scale 4 include familial discord, authority conflict, social imperturbability, social alienation, self alienation and an alienation score which combines the latter two subscales. High scorers on Scale 4 are usually described as angry, impulsive, emotionally shallow, unpredictable, socially nonconforming and resentful toward authority figures. While an antisocial history is often associated with high scorers, hostility turned inward toward the self may also be apparent.

SCALE 5 (Masculinity-Femininity)

Content areas assessed on Scale 5 include interests in vocations and hobbies, aesthetic and religious preferences active versus passive behaviors, and personal sensitivity. This scale was originally designed to screen for stereotypically masculine and feminine characteristics, with low scorers identifying with the more traditional roles of each sex.

SCALE 6 (Paranoia)

This scale taps interpersonal sensitivity, moral self-righteousness and suspiciousness. High scorers are usually described as being suspicious, hostile, guarded, and argumentative and may express their hostility overtly, while rationalizing that their anger is justified as

a result of what others have done to them.

SCALE 7 (Psychasthenia)

This scale assess the neurotic syndrome of psychasthenia, which is characterized by the person's inability to resist specific actions or thoughts regardless of their maladaptive nature. Such persons are now diagnosed as having obsessive-compulsive reactions. This scale also taps abnormal fears, self-criticism, difficulties in concentration and guilt feelings. The anxiety assessed by this scale is often of a long-term nature or trait anxiety.

SCALE 8 (Schizophrenia)

The items on this scale tap bizarre thought processes and unusual perceptions, social alienation, poor familial relationships, difficulties in concentration and impulse control, lack of deep interest, disturbing questions of self-worth and self-identity, and sexual difficulties. Although the scale was originally developed to identify schizophrenic individuals, research has not consistently validated this use. High-scorers may also be undergoing acute psychotic reactions or be under severe and prolonged stress.

SCALE 9 (Hypomania)

Milder forms of manic excitement, including an elated but unstable mood, psychomotor excitement, cognitive overactivity, grandiosity and egocentricity, and irritability are assessed in this scale. High scorers are often conceptualized as having the energy to activate the qualities identified by other elevated clinical scales.

SCALE 0 (Social Introversion)

The items on this scale assess interpersonal comfort, personal rigidity and hypersensitivity, distrust, and overall social skills. High scorers are described as socially introverted, shy, withdrawn and self-deprecating about their social ineptness. Such individuals may avoid significant others, which further exacerbates their problems.

APPENDIX C

THERAPISTS:

Please complete the attached form and place it into the envelope, with the copy of your client's MMPI.

The attached form is to be completed by you regarding your client. You will find a copy of the consent form signed by your client permitting you to disclose this information.

Do not put her name on the form, only her participant number which is _____. Remove the consent form and keep it in your client's file for future reference.

In addition, please place the copy of your client's MMPI into the envelope after you have removed her name and any other identifying information. Only her participant number _____ should appear on the MMPI.

Please drop this envelope into my box no later than _____ . I thank you sincerely for your cooperation.

Terry Kramer

PARTICIPANT NUMBER _____

TREATMENT DATA (TO BE COMPLETED BY THERAPIST/COUNSELOR)

REASON FOR INITIALLY SEEKING TREATMENT:

(Please list only three and rank primary (1), secondary (2), and tertiary (3) if more than one apply.)

<input type="checkbox"/> Depressed; felt blue	<input type="checkbox"/> Anxiety
<input type="checkbox"/> Problems sleeping	<input type="checkbox"/> Alcohol abuse
<input type="checkbox"/> Suicidal feelings	<input type="checkbox"/> Relationship problems
<input type="checkbox"/> Fear of going out	<input type="checkbox"/> Sexual difficulties
<input type="checkbox"/> Drug use	<input type="checkbox"/> Nightmares
<input type="checkbox"/> Problems at work	<input type="checkbox"/> Temper outbursts
<input type="checkbox"/> Physical problems (headache, stomach pain, etc.)	<input type="checkbox"/> Disinterested
<input type="checkbox"/> Panic attacks	<input type="checkbox"/> Felt jumpy, nervous
<input type="checkbox"/> Felt hostile	<input type="checkbox"/> Low self esteem
<input type="checkbox"/> Lonely, few friends	
<input type="checkbox"/> Other _____	

DURATION OF TREATMENT:

Treatment began:

Frequency of sessions:

TYPE OF TREATMENT:

Individual treatment
 Group treatment
 Combination

PRIMARY DIAGNOSIS (IF APPLICABLE):

Bipolar Disorder
 Cyclothymic Disorder
 Major Depression
 Dysthymic Disorder
 Agoraphobia
 Social Phobia
 Simple Phobia
 Panic Disorder
 Generalized anxiety disorder
 Post-traumatic Stress Disorder
 Schizoid Personality Disorder
 Avoidant Personality Disorder
 Antisocial Personality Disorder
 Passive-Aggressive Personality Disorder
 Borderline Personality Disorder
 Other _____

SECONDARY DIAGNOSIS: PLEASE PLACE A "2" NEXT TO THE DIAGNOSIS LISTED ABOVE, IF APPLICABLE.

APPENDIX D

CONSENT FORM TO CONTACT

Dear Client:

Our agency is presently cooperating in a study which examines how sexual traumas affect women. Based on what I know about you from our work together, you are eligible to participate in this study.

If you are willing to participate, the interview will take approximately two hours of your time; a small reimbursement of \$10 will be offered to you to cover any expenses you may have had in making an additional trip to the agency.

It is important for you to understand that there will be only one interviewer for this project, to maximize your right to confidentiality and privacy. Only first names will be used for contact purposes.

This is not a consent to participate, but a consent for the investigator, Terry Kramer, to contact you. Once you talk with her, you may decide whether to participate, based on how comfortable you feel about it. Your therapy will in no way be affected by your decision about participation.

I, _____(CLIENT), consent to
_____(COUNSELOR/THERAPIST), releasing
my first name and phone number to Terry Kramer, solely for
the purposes of conducting research on sexual assault. I
understand that I have the right to not participate and to
end participation at any time.

(Client's signature)

(Therapist's signature)

(Date)

TO BE GIVEN TO TERRY KRAMER:

(Client's first name)

(Client's phone number)

CONSENT TO PARTICIPATE

Before agreeing to participate in this study, it is important that the following explanation of the proposed procedures be read and understood. It describes the purpose, procedures, benefits, risks and discomforts, and precautions of the study. It also describes the alternative procedures available and the right to withdraw from the study at any time. It is important to understand that refusal to participate will not effect your treatment.

I, _____, agree to participate in a research study, the purpose of which is to assess the long-term effects of sexual assault on women.

PROCEDURE: I will be requested to complete a series of questionnaires which will ask me about my family history, my feelings and thoughts now about the sexual trauma I experienced, and other symptoms of distress I may be experiencing. I understand this will take approximately an hour and a half, unless I have already taken the MMPI within the last year. If so, I permit my therapist to release a copy of this, which will decrease the time required to fill out these forms to 30 minutes. In addition, I will be interviewed for approximately 30 minutes by Terry Kramer, the investigator, who will ask me about additional symptoms I may have experienced in response to the sexual trauma. I will also be asked several questions regarding the trauma. I also understand that in signing this consent form, I agree to allow my therapist to answer several questions about my treatment here: what symptoms I told her or him I was experiencing when I came to _____, the type and length of therapy I've had, and if applicable, my diagnosis. This information will be identified only with a code number so that no one can trace it to me.

RISKS AND PRECAUTIONS: This study involves no known risks. It is possible that answering some of the research questions may cause some discomfort due to thinking about the incident, however, I understand Ms. Kramer will make every attempt to prevent this. If I feel a further need to talk about the experience, I know that I can contact my therapist at _____. Any questions that I may have concerning any aspect of this study will be answered by Terry Kramer, who can be reached _____.

I understand that my participation is on a ~~first~~-name basis and that none of the records will have my name associated with them. I also understand that Ms. Kramer is ethically bound to not disclose to anyone my identity as a participant.

I am free to withdraw from this investigation at any time. Should I wish to withdraw I have been assured that my treatment at _____; _____ will continue as before. Upon completion of the interview, I shall receive \$10.

(Participant's signature)

(Date)

(Investigator's signature)

(Date)