Post-Traumatic Stress Disorder (PTSD)

Its Biopsychobehavioral Aspects and Management

ERWIN RANDOLPH PARSON, PhD

Anxiety and Related Disorders

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PTSD, "a dark and dismal subject ”

—Sigmund Freud

POPULARITY, CONTROVERSY, CLINICAL UTILITY, AND RATIONALE FOR THE DIAGNOSIS

Post-traumatic stress disorder (PTSD) (APA, 1987) is a complex psychiatric disorder, conceptualized in the present contribution as a *tripartite* clinical entity based upon an emerging body of clinical and empirical evidence. PTSD impacts the total self: its *biological*—central (CNS), peripheral sympathetic (SNS), and neuroendocrine systems; *psychological*—endopsychic processing of trauma elements, to include cognitive, affective and control devices; and *behavioral*—implied in abnormalities seen in disturbed

interpersonal and social-ecologic transactions. The tripartite model used here intends to increase conceptual acumen, and to guide formulation, assessment, and interventions of greater efficacy with trauma victims who endured human-engineered, natural, and technological catastrophes.

PTSD has a controversal history: Some people believe that untoward events in life are to be overcome by sheer will and personal strength. When will and character do not suffice and the individual becomes overwhelmed then the causative factors are believed to have originated in childhood. Others held that an event can be so overwhelming that most people will succumb to it and break down. This controversy is still begin debated, though many issues have been resolved empirically. PTSD, as conceptualized in the DSM-III-R, is ahistorical and atheoretical: it's a disorder that relies neither on childhood etiology nor on a specific theory.

Post-traumatic stress disorder is a condition of great clinical and cultural interest; however, as Kardiner (1959) aptly pointed out, the disorder "alternates between being the urgent topic of the times and being completely and utterly neglected" (p. 242). He maintained that PTSD may be caused by war and "peacetime" traumatic experiences, which are too often "swallowed up in oblivion" (p. 245). But why recognize, study, assess, and treat PTSD, a psychiatric disorder that Freud himself referred to as "the dark and dismal subject"? With the explosion of violence around the world, and the increasing

number of patients seeking assistance for traumatic stress syndromes, the topic continues to be one of importance.

PTSD is a major public health problem (Helzer, Robins, & McEnvoy, 1987; Kulka et al., 1988; Parson, 1990d). The public health threat derives from the brutalization of rape, the fastest growing crime in America; increase in child physical and sexual abuse; incest; aircraft accidents; railroad mishaps; natural disasters; drug-instigated violence and witnessing of terror, death, and annihilation by black and Hispanic children in urban neighborhoods (Parson, 1993), and other traumatizing events.

Though worldwide estimates of PTSD are unknown, there is evidence to suggest that the disorder is also a world health problem. Many people have been exposed to the ubiquity of human catastrophic misery and "global traumatic stress" (Parson, 1992) from mass violence and horrors of Cambodian genocide (Lee & Lu, 1989; Mollica, 1988); governmental sexual torture (Agger, 1989); political persecution and repression as in South Africa (Simpson, 1993); violent street and residential crime (Resnick, 1989); and children traumatized by Central American warfare (Arroyo & Eth, 1985), or by a school bus accident in Israel (Milgram, Toubiana, Klingman, Raviv, & Goldstein, 1988). Since 1980, "PTSD [has been regarded] as a diagnosis that spans national and cultural boundaries" (Weisaeth & Eitinger, 1992). But current world use is technically unofficial until the World Health Organization

(WHO) adopts the diagnosis in its Tenth Edition of *International Classification of Diseases* (ICD) to be published in the near future. This would "promote systematic use of the term" (Weisaeth & Eitinger, 1992).

In addition, PTSD is probably the only disorder in contemporary nosological systems that features: (1) an etiological link to specific external-ecologic stimuli (e.g., floods, war, rape) as opposed to problematic childhood experiences with parental figures; (2) an intensity dimension of the etiologic agent; that is, extraordinary stressors (e.g., disasters) versus mundane stressors (e.g., financial losses, death of a loved one, family illness); (3) a latency (asymptomatic) period during which time a "meaningful" trauma-associated stimuli can trigger the full-blown psychiatric disorder (i.e., PTSD). The fact that an external stressor is both necessary and sufficient for PTSD and that childhood traumas are not necessary for the condition. This position has added fuel to the controversial nature of PTSD, as argued by Breslau and Davis (1987) and Horowitz (1983), who maintain that non-extraordinary stressors may be "traumatic" to certain individuals.

PTSD can occur at (1) any age or stage in the life cycle; (2) may not get better over time, but may become more debilitating and even irreversible with age. Treatment of PTSD requires an interdisciplinary model that integrates contributions from psychology, psychiatry, psychoanalysis, social welfare, psychiatric and nursing science, general medicine, rehabilitation

medicine, military medicine, neurology, law enforcement, emergency rescue services—to name a few.

Despite this interdisciplinary appeal, PTSD is perhaps the clinical entity for which there is least consensus among the professional and scientific disciplines. Kardiner's (1969) 40 years of experience in the traumatic neuroses foreshadowed contemporary developments when he noted that, although "a vast store of data [was] available," it was "hard to find a province of psychiatry in which there is less discipline than this one [PTSD]." Noting the lack of consensus and continuity in the field, Kardiner also remarked that "There is practically no continuity to be found anywhere, and the literature can only be characterized as anarchic." He continued, "every author has his own frame of reference— lengthy bibliographies notwithstanding" (p. 245).

Boulanger (1990) has written about this "state of anarchy," and bring attention to sociocultural and structural problems that "institutionalize" this anarchic state of affairs, despite the long-recorded history of the concept of PTSD (Boulanger, 1985; Brende & Parson, 1986; Breuer & Freud, 1893/1895; Trimble, 1981).

Despite its controversial nature, PTSD continues to have great appeal to the mass media, the public, and the U.S. government. The mass appeal of PTSD is a cultural phenomenon with rational and irrational aspects. Popular

talk shows highlight the irrational (unconscious) aspects as hosts and studio audiences create a popular culture of victims and victimization—the "televictims" (Parson, 1989, 1992). Talk shows thrive on the victim's dramatic revelations about trauma, victimization, and the most dramatic symptoms of PTSD. Thus, in many ways the popularity of PTSD may say as much about the post-traumatic sequelae in victims as it does about society itself.

PTSD is becoming a field of study in its own right. According to Figley (1988), the professional and scientific developments nationally and internationally over the past decade meet the essential criteria for a legitimate field of study. Greater understanding of PTSD may also contribute to early detection, recognition, and prevention of the development of chronic, maldaptive behavioral patterns, inhibitions, and symptomatology; and, at the same time, prevent intergenerational transmission of traumatopathology that also ruin the lives of victims' children.

This chapter presents a comprehensive understanding of psychological traumatization. It begins with an historical background to place contemporary concepts and findings in perspective, and then provides definitions, etiological models, course of the disorder, diagnosis, co-morbidity, and a flexible interconceptual model for treating PTSD, to include cognitive, behavioral, psychodynamic, and pharmacological approaches.

HISTORY OF TRAUMATIC NEUROSIS

The psychiatric nosological entity, post-traumatic stress disorder (PTSD), is a new term for an old condition with a long history. It was first listed in the third edition of DSM-III (APA, 1980), and is in the evolutionary line of several sociocultural and clinical entities used to describe post-traumatic reactions for decades.

In addition to war, the world has subjected its inhabitants to severe traumatic incidents throughout history, including bubonic plagues, volcanic eruptions, toxic gas seepage, typhoons, earthquakes, tidal waves, industrial accidents, and destructive hurricanes. Perhaps the earliest account of war is to be found in the writings of Herodotus, who wrote about the wars between the Greeks and the Persians.

Ellis (1984) discusses Homer's account of a "case of hysterical blindness" during the Battle of Marathon in 490 B.C. The valiant soldier, Epizelus, had been exposed to extreme levels of war stress; the blindness had occurred "though wounded in no part of his body . . . [and persisted] for the rest of his life" (p. 168). This soldier, like many contemporary combatants, had experienced "adaptive biopsychic responses" to avoid witnessing and participating in further devastation of human life, probably motivated by guilt-driven defenses and a need for punishment.

Daly (1983) reported on the traumatic experiences of Samuel Pepys during the Great Fire of London on September 2, 1666. As first-hand witness to horror, Pepys gazed at this formidable, raging inferno which became indelibly imprinted or internalized, and etched upon his memory. As a now permanent aspect of his psychological functioning, Pepys was flooded by vivid images in the daytime and, at night, traumatic dream imagery. Many people who witnessed the fire ended their personal torment by committing suicide. Pepys' symptoms reached criteria for post-traumatic stress disorder.

During the American Civil War, soldiers fell prey to the effects of war stress in large numbers, and were called nostalgics, suffering from "irritable heart" (Da Costa in Skerritt, 1919), while accidents caused by the explosion of machines and transportation systems during the Industrial Revolution produced "accident neurosis" (Kelly, 1981; Leader, 1961). A new litigious climate and suspicion about the legitimacy of victims' claims for compensation created the cynical medicolegal term "greenback neurosis" (Schroeder, 1961). The term "traumatic neurosis" was coined by Oppenheim and Thompson in 1800 (Trimble, 1981), and along with "shell shock" (Mott, 1919) and "traumatic war neurosis" (Brill, 1967) was used during World War I by psychoanalysts and the medical community.

Clinical and field studies of disastrous fires, floods, tragedies at sea, and other mishaps affecting large numbers of people, led to the inclusion of the

term “gross stress reaction” in the first edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-I) in 1952. This condition was distinguished from neurosis and psychosis by its clinical course, transience, and reversibility. Having acknowledged that victims of overwhelming, catastrophic events may have no “apparent underlying mental disorders” (APA, 1968, p. 49), the editors of the DSM-II advanced the term “transient situational disturbances” in 1968, while ironically deleting “stress” from the new diagnostic category.

THE STRESS-RESPONSE SPECTRUM

Historically, war has always given impetus to concerns about post-traumatic syndromes. In 1980, the lingering effects of the Vietnam War led to the diagnosis of post-traumatic stress disorder being entered in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III). The term *stress* was originally used in engineering, architecture, and physics to describe the effects of an external force exerting pressure or physical strain upon an inanimate object, structure, or system. Later, stress had been generalized to mean forces exerting pressure on the human organism, leading to physical or mental ill health.

The stress spectrum consists of three-dimensional intensities of the stress response, which range from “instrumental stress” (positive) at the

beginning, and "biopsychobehavioral stress" (mostly negative) at the toxic end of the spectrum. The intermediate level of stress is called "detrimental stress." Can each of these three stressor intensities produce PTSD? The issue of the stressor criterion for PTSD is still controversial (Breslau & Davis, 1987; Horowitz, 1983; Solomon & Canino, 1990).

Instrumental stress promotes vital bodily processes; it contributes to individual efficiency, concentration, and peak performance. It achieves positive outcomes congruent with the individual's sense of well-being. Detrimental or negative stress, on the other hand, is the stress that makes people physically and mentally ill, first described by Hans Selye in the 1930s, and first measured systematically by Holmes and Rache (1967) with the Social Readjustment Scale. Negative stress is characterized by tension, muscle stiffness, and soaring heart rate and blood pressure. These responses are linked to physical problems such as tension headaches, back pain, ulcers, smoking, drug and alcohol abuse, high blood pressure, heart attack and, in general, to problems between the nervous and immune systems.

The third kind of stress response is biopsychobehavioral stress (or biopsychic stress). It refers to the condition commonly called "psychological trauma," "stress response syndrome" (Horowitz, 1976), and PTSD (Horowitz, Wilmer, & Kaltreider, 1980) in the stress literature. The concept of biopsychobehavioral stress is a more comprehensive term capturing the

pervasive disturbance in not only the psychological sphere, but also in biological and behavioral organizations of the total self.

PTSD AS A BIOPSYCHOBEHAVIORAL DISORDER

Clinical observation and advanced technology, knowledge, and measurement sophistication in the behavioral and social sciences, in laboratory physiological techniques, and in the neurosciences offer convincing evidence that PTSD is a multidimensional disorder, requiring biological, psychological, and behavioral approaches to conceptualization and intervention.

Phenomenology and Clinical Symptomatology

Biopsychic stress results in post-traumatic stress disorder. Phenomenologically, survivors of trauma experience a disturbance in the sense of self now weakened and rendered "unable to hold the pieces together." Multiple, intense and overwhelming stimuli stretch, strain, and ultimately overwhelm an otherwise integrated and well-functioning ego (Freud, 1920).

During the immediate moments after the trauma, the victim is caught up in a phenomenophysiological experience: the victim "experiences his or her life as being threatened and responds with fear, helplessness, and an

accompanying physiological 'fight-flight' activation of pulse, blood pressure, perspiration, and muscle activity" (Brende & Parson, 1986). Intrusive ideas, emotions, and memories of the frightening event constantly remind victims that the structure of life before the event is perhaps gone forever, eclipsed by a new "reality principle" born of the new realization that "the mind is wax to receive impressions, but marble to retain them" (Shatan, 1982).

For whereas in the past the victim had a relatively stable identity, offering predictability and inner security, the victim now faces "automatic dyscontrol," which essentially undermines a sense of self, self-sameness, continuity, and personal sociohistory. The predictability of life has been eclipsed by a perpetual "fear of [psychic] breakdown" and related "primitive agonies" (Winnicott, 1970), as the emotional context of trauma continues to exert its disorganizing power. This "down under self experience" is a feeling of suffocation, of being stripped of control and of being buried alive.

Post-traumatic deja vu is the sudden experience of having been over the same mental-experiential terrain at some time in the past. Victims' daytime experiences eclipses nighttime experiences, but altered conscious mental states resemble dreams of trauma. Incursive phenomena (intrusive ideation, feelings, and memories) induce in victims the feeling of being under "intrapsychic seige," as illusions, hallucinations, and dissociative reenactments emerge as mediums for processing and mastering the trauma.

Pierre Janet spoke of how famous personalities "of olden days drew attention to the way in which certain happenings (that is, traumatic incidents) would leave indelible and distressing memories—memories to which the sufferer was continually returning, and by which he was tormented by day and night (Janet, 1925). Incursive ideation and memory remind the victim of the images and symbols of fear, anxiety, helplessness, loss of control, and of continuing threat—threat of the "return of the dissociated" (Parson, 1984).

Many victims are tainted by a traumatic history of destruction, violation, annihilation, breakdown, and death. The victim, moreover, experiences what Kierkegaard has called "dread" and that "sickness unto death." As an unconscious design on mastering the trauma, reenactment takes many forms to include reliving terror, loss, violation, destruction, death-image and death anxiety. The victim may be preoccupied over the personal meaning of having come so close to "premature and unacceptable dying" (Lifton, 1982, p. 1014).

Psychological Immunocompetence

On the person-environment level, the main problem of adaptation (Hartmann, 1939; Kardiner & Ovesey, 1950) after psychological trauma is to stave off intrusion (Parson, 1985). In many cases, this is achieved through relentless internal battles to fight back or ward off "invading armies of noxious ideas and affects" which threaten to overrun the victim's inner

defenses and sense of safety and regulated control. This defensive-protective action is metaphorically akin to the immunologic system's function of discriminating between self and nonself (Calabrese, Kling, & Gold, 1987).

Psychological immunocompetence derives from the field of immunology, applied to the psychological domain. The victim's struggle here is to make the mind immune to tormenting thoughts, memories, and emotions. It may range from successful adaptive forms to failed, regressive destabilized forms. It refers to the person's capacity to protect existing homeostatically stable inner structures against regressive enfeeblement. Chronic failure to meet the "antigenic challenge" posed by intrusive symptoms of PTSD is a case of failed psychic immunocompetence which may often induce a sense of learned helplessness, generalized sense of failure, low self-esteem, narcissistic mortification, depression, and identity fragmentation. Additionally, failed immunologic mental controls leads to maladaptive or pathological behavioral forms as in psychic numbing and denial.

Since it is beyond the capacity of most human beings to endure the intense, intrusive-repetitive pangs of unrelieved anxiety for a long period of time, a desperate desire to end the torment emerges. This relief comes from numbing oneself to feelings, from denying that the traumatic event's intrinsic power to end one's life has meaningful relevance, or from avoiding ideas, people, places, or things that resemble the traumatic past. But for many

victims or survivors, numbing brings dubious results, and so itself may become the problem. Intimacy, feelings of love, and sexual desire are adversely affected by this defensive-protective mental device.

Numbing is intrapsychically too close to the terror-generated paralysis associated with the original trauma-response. Moreover, it has the unconscious equivalents of additional trauma and death. This is in part because the unconscious now equates quiescence and sense of "stability" with the potential for "violent traumatic eruptions." After trauma, victims are no longer confident that another trauma will not reoccur—either "deployed within the mind" (as in intrusive thoughts and images) or coming from the social and physical environments.

To bolster psychic survival, some victims strangle spontaneous emotions and inner vitality, embark on a "wandering lifestyle," while "settling for dullness" (Lipkin, Blank, Parson, & Smith, 1982), and find themselves trapped in the sense of nothingness. Survivors of massive trauma may seek relief through other death-equivalents in their post-traumatic adaptations. For example, through chronic depressions and self-loathing, self-defeating behaviors, alcohol and drug abuse, and other addictions including sexual promiscuity.

Though avoidance and numbing used for short periods of time after the

event offers the victim some reassurance of psychological survival, avoidance as a way of life is very detrimental over time. But since most forms of chronic avoidance are maladaptive and fail to bolster self-esteem and a stable sense of self, they are bound to soon fail because of intrinsic fragility of related defenses. When failures occur, intrusive breakthroughs occur, creating a new "round" of anxious arousal, irritability, anger, fears, and potential explosiveness.

In chronic forms of traumatic stress, the biphasic nature of PTSD— that is, of intrusion-reliving and numbing-denying—shapes a biopsychic flashpoint for post-traumatic burnout, as helplessness deepens and narcissistic rage rises (Parson, 1981). Post-traumatic burnout comes from the vicious cycle of intrusion and numbing, and often produces radical personality change in which ego processes are constricted and a coarctated adaptational lifestyle eclipses pre-traumatic adaptational forms. The unpredictable nature of the trauma and the "meaning-shattering" context it generated in its wake, induces the sense of an absence-of-meaning-in-life (Parson, 1986).

Therapy with victims achieves working through the trauma not only by exploration and analysis of trauma-associated memories or situational elements and associated shame and guilt, but also by addressing intrapsychic conflicts on the symbolic level of personal meaning. Early intervention with

victims may prevent immediate trauma reactions from becoming chronic, leading to post-traumatic personality disorders. When left untreated, these problems develop into patterns of irritability, explosiveness, paranoid rage, and schizoid emotional isolation.

PTSD-generating stress may be experienced alone (as in rape, incest, some assaults) or in groups (as in natural and technological disasters like dangerous nuclear incidents in Chernobyl and Three Mile Island, or in the chemical disaster in Bhopal, India, or the American and Israeli school bus accidents). The disorder is said to be severer and longer lasting in the context of human-induced victimization (rape, sexual torture, other violent assaults) than in "Acts of God" disasters. Children and the elderly tend to be at higher risk for PTSD than younger adults due to biopsychological developmental vulnerabilities.

Victims with PTSD often suffer allied conditions like anxiety, depression, sporadic explosions of aggressive behavior, impulsive behavior, memory deficits, problems in concentrating, emotional lability, headaches, and vertigo. The disorder can occur at any stage of the life cycle: in children and adolescents (Doyle & Bauer, 1989; Eth & Pynoos, 1985; Parson, 1993; Terr, 1983a,b), and in adults, to include the senior years (Danieli, 1981; Kahana, Harel, & Kahana, 1988).

Victims with PTSD may suffer mild to severe impairment in some or most areas of their lives; for example, in interpersonal relationships, work, and in the capacity for regulated spontaneous behavior. Person-defeating behavior unconsciously aimed at self-punishment due to guilt may be present, as well as suicidal ideation, plan, and action; shame, substance abuse disorders, and exacerbated character reactions, may prove complicating factors. In cases of severe physical assault and accidents in which head injury has occurred, an organic mental disorder may be an accompanying diagnosis, as well as other conditions such as anxiety, depression, phobias, and post-traumatic character disorders.

The Diagnosis of Post-Traumatic Stress Disorder (PTSD)

While the basic descriptive symptom configurations remain the same between the DSM-III and the DSM-III-R (APA, 1980, 1987), changes are significant enough to warrant discussion. The revised (DSM-III-R) operational criteria for the diagnosis of PTSD appears in Table 13.1.

In general, DSM-III-R sharpened the diagnostic criteria in a number of areas; for example, (1) it provides greater clarity on the stressor; (2) it provides greater understanding of primary and secondary reactions and symptoms of the disorder; (3) it expands victim populations to include children; (4) it increases behavioral specificity for avoidance symptoms

("numbing was basically replaced by "avoidance"; (5) it specifies and clarifies symptoms of physiological reactivity; (6) it eliminates "survivor guilt"; and (7) it includes unconscious symbolic meaning associated with increased psychological distress and physiologic (autonomic) reactivity when encountering intrapsychic and environmental/sociologic reminders of the trauma.

The diagnosis of PTSD consists of five kinds of events and responses. These five criteria are: (1) the *stressor* (Criterion A), (2) *intrusive-reexperiencing* (Criterion B); *avoidance* (Criterion C), *arousal* (autonomic; Criterion D), and the *temporality* factor which requires that Criteria B, C, and D be present for at least a month. If the trauma-response occurs at least six months after the catastrophic event, "delayed onset" is entered as part of the diagnostic decision. Each Criterion is discussed in detail.

TABLE 13.1. Operational Criteria for Post-Traumatic Stress Disorder (DSM-III-R, 1987)

A. The victim/survivor has experienced an event that is outside the range of usual human experience and that would be markedly distressing to almost anyone, e.g., serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse, or other close relatives and friends; sudden destruction of one's home or community; or seeing another person who has recently been, or is being, seriously injured or killed as the result of an accident or physical

violence.

B. The traumatic event is persistently re-experienced in at least one of the following ways:

1) Recurrent and intrusive distressing recollections of the event (in young children, repetitive play in which themes or aspects of the trauma are expressed)

2) Recurrent distressing dreams of the event

3) Sudden acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative [flashback] episodes, even those that occur upon awakening or when intoxicated)

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

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

1) Efforts to avoid thoughts or feelings associated with the trauma

2) Efforts to avoid activities or situations that arouse recollections of the trauma

3) Inability to recall an important aspect of the trauma (psychogenic amnesia)

4) Markedly diminished interest in significant activities (in young children, loss of recently acquired developmental skills such as toilet training or language skills)

5) Feeling of detachment or estrangement from others

6) Restricted range of affect, e.g., unable to have loving feelings

7) Sense of a foreshortened future, e.g., does not expect to have a career, marriage, or children, or a long life.

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

1) Difficulty falling or staying asleep

2) Irritability or outbursts of anger

3) Difficulty concentrating

4) Hypervigilance

5) Exaggerated startle response

6) Physiologic reactivity upon exposure to events that symbolize or resemble an aspect of the traumatic event (e.g., a woman who was raped in an elevator

breaks out in a sweat when entering any elevator).

Requisite Stressor Toxicity: Threats to Self, Family, Home, and Community

The stressor criterion in DSM-III-R is more stringent than DSM-III, and achieves greater specifity in that it highlights threat or harm to self, family, home, community, as well as "eye-witness" exposure. Examples of stressors reaching criteria for PTSD are: serious threat to one's life or physical integrity; serious threat or harm to one's children, spouse; sudden destruction of one's home or community; or seeing another person who has recently been or is being, seriously injured or killed as a result of an accident or physical violence (APA, 1987).

The trauma-response is a consequence of events (stressors) that overwhelm the biopsychological organization of the victim's personality by sudden, toxic stimuli. Recovery from traumatic disorganization and integration of personality fragmentation which attends PTSD, requires efficient endopsychic cognitive-affective processing of traumatic internal stimuli and information. However, when this process is obstructed (due to ego weakness and structural damage, maladaptive characterological defenses, or to a negative post-trauma socioecology), traumatic ego decline occurs.

Empirical studies and clinical theories on the etiology of PTSD have found that the best predictor of PTSD is exposure to an overwhelming event

or stressor. These studies produced two explanatory etiological models. These are: the "historicogenic" theory of traumatogenesis (based on individual differences); and the "situogenic" theory (based on situational impact).

Freud's (Freud, Ferenczi, Abraham, Simmel, & Jones, 1921) view of the traumatic and war neuroses (or PTSD) was consistent with the historicogenic view on etiology which he had applied to all forms of neuroses. The psychoanalytic position expected people exposed to traumatic events, regardless of intensity and duration, to speedily rebound symptom-free to pre-exposure levels (referred to as the "stress evaporation" theory) (Borus, 1973a,b; Figley, 1978).

If symptoms persisted far beyond the traumatic occurrence ("residual stress" theory) (Figley, 1978), the conclusion was that premorbid vulnerability was operative. Psychoanalysis began with the study of psychological trauma, which Freud (Breuer & Freud, 1895/1955) first saw as a basic disturbance of memory, due to a breakdown of repressive barriers against inner dangers caused by the overstimulation of trauma.

Freud (1896/1962) held that all psychopathology was caused by an *actual* traumatic event. So convinced was he at first (Freud, 1896/1962) that external events (not internal fantasy) were the chief etiologic agent in trauma

that he was led to state that "the ultimate cause of hysteria always is the sexual seduction of a child by an adult." He maintained this position on etiology for many years; however, this view was later changed in his *Introductory Lectures* (Freud, 1916-1917), and he argued that it was not real events (of seduction, genital stimulation, incest, or rape) that caused trauma, but rather the reality-distorting imaginal processes of the child related to Oedipal and primal scene-related dynamics.

The situogenic theory is implied in Abraham Kardiner's (1941) expanding view of etiology. He believed that a situation could be sufficiently overwhelming to overrun even the healthy personality. Shatan (1977) echoed this observation over three decades later through clinical studies of concentration camp survivors and Vietnam war veterans. He thus maintained that psychic structure may not be as immutable as we once believed.

In contrast to the psychoanalytic model is the behavioral paradigm on etiology. PTSD may be said to originate in a "traumatic mental imprinting," as implied in Pavlov's classical theory of trauma. He had found that repeated dosages of overwhelming excitation over time mobilized the organism's innate reflexive responses (or defensive reaction). He believed primary responses were then associatively linked to cues (conditioned stimuli) in the traumatizing environment. This association potentiates the conditioned stimuli to elicit the primary defensive responses by itself (conditioned

response).

Borrowing from Stampfl and Levi's adaptation of Morwer's two-factor theory, Keane, Fairbank, Caddell, Zimering, and Bender (1985) explain the etiology and maintenance of PTSD for all trauma victims' groups. The authors advance the classical conditioning paradigm (in which a fear response is acquired through associative learning), while in operant conditioning (in which victims avoid classically conditioned anxiety-inducing cues) as essential constructs in understanding the immediate and long-term effects of PTSD. For example, a victim of a tidal wave or flood may experience the pangs of fear upon hearing or seeing thunder and lightning (associatively learned), and then employ avoidant behaviors (operant learning) to manage affective arousal (anxiety and fear).

Empirical studies have found both premorbid or vulnerability factors (historicogenic) and traumatic event-specific factors (situogenic) to be essential in predicting post-traumatic stress disorder. However, the empirical findings have been inconsistent. The most clinically useful view of research findings is that etiology is a complex, multidimensional factor. This is because a multiplicity of issues related to pre-trauma personality factors, current coping capacity, degree of exposure, nature of the post trauma recuperative milieu, and the victim's personal meaning (mostly unconscious) of the event are all operative and interactive. Espousing this multifactorial view based

upon extensive review of veterans studies on etiology, Foy, Carroll, and Donahue (1987) write: "The basic issue is: What are the relative contributions of premilitary adjustment, military adjustment, and combat exposure toward predicting PTSD?" (p. 24).

Disaster Stress

Fulfilling this criterion are also traumatizing stimuli like the Coconut Grove Supper Club fire (Adler, 1943; Lindemann, 1944); the Andrea Doria disaster (Friedman & Lin, 1957); Buffalo Creek Dam collapse (Titchener & Kapp, 1976); and the Beverly Hills Supper Club fire (Green, Grace, Titchener, & Lindy, 1983). Communal traumatic stressors found in technological disasters such as the Buffalo Creek Dam collapse can lead to a "loss of communality" and the related struggle for progress from "chaos to responsibility" (Erikson, 1976; Stern, 1976). Leopold and Dillon (1963) conducted a four-year follow up of 27 seamen who experienced a tragic accident involving a tanker-freighter collision in the Delaware River. The authors found that 70% of the survivors had significant post-traumatic psychiatric conditions. The South Australian bushfires reported by McFarlane (1984) is another example of requisite criterian for a PTSD stressor.

Hiroshima: A-Bomb Stress

Lifton (1967) found symptoms of the traumatic syndrome among

survivors of the A-bomb in Hiroshima after World War II. The syndrome he identified included a sense of permanent contamination and helplessness, death imprint, the anticipation of intergenerational defilement of their offspring, and identification with the dead.

Traumatic Witnessing in Children

Etiologic factors in children succumbing to PTSD are basically the same as for adults (Parson, 1993; Eth & Pynoos, 1985; Terr, 1983a,b, 1989). Black, other minorities, and white indigent children are at risk for PTSD from both witnessing violence and being the object of it in the home, streets, parks, and other recreational locations in the communities. Numbed existence is a way of life for many inner city black and minority children of trauma. For example, recently in Baltimore a young man was shot at point-blank range, resulting in a large cavity in the victim's head. A number of black children living in the community had witnessed the shooting. Instead of responding with terror, fear, anxiety, tremulous withdrawing, or tearfully losing control over emotions, these children began playing a game using imaginary guns in their hands as they chantingly said, "Bang, bang; you're dead!"

They played gleefully as though nothing out of the ordinary had happened, as though they had been through such events before. The children appeared totally devoid of feelings for the victim. But the play was marked by

agitation, and a quiet uneasiness, characterized as a "numbed furtive awareness." Through shooting imaginary guns, the children engaged in "traumatic reenactments-in-play," a repetitive-compulsive mechanism to aid endopsychic processing of the event, and master the internal, menacing representations of the trauma (Parson, 1993).

In addition to witnessing, studies on biopsychic trauma in children involve the stressors of physical abuse, sexual assault, and collective trauma through kidnapping (Terr, 1979). A four-year follow-up report on the 26 children buried in a vehicle in Chowchilla, California, showed a range of post-traumatic symptomatology, to include trauma-originating dreams, post-traumatic play, sense of vulnerability, and other emotional distress (Terr, 1983a,b).

Frederick (1985) found that 77% of children he studied with histories of surviving disasters, physical abuse, and molestation suffered from PTSD. He also found that in a sample of 300 children who were molested, PTSD was clearly manifested in the behavior of children over the age of six. Biopsychologically traumatized children suffer secondary conditions like sleep disturbance, disturbed attachment behavior, conduct disturbance, hyperactivity, concentration and attending deficits, cognitive and academic dysfunctions (e.g., learning disability and pseudo imbecility, pseudolearning disability), self-doubts, phobias, helplessness, depression, and low self-

esteem.

Rape: Violent Transgression of the Self

Rape is perhaps the crime with the most damaging impact on the self organization of the victim. This is in part because the victim is "not only deprived of autonomy and control, experiencing manipulation and often injury to the envelope of the self, but also intrusion of inner space, the most sacred and private repository of the self" (Bard & Ellison, 1974). So overwhelming is this experience that empirical studies and clinical experience show that rape predicts the development of PTSD (Kilpatrick et al., 1989).

The rape trauma syndrome was first identified and described by Burgess and Holstrom (1974) in a two-phase recovery process (acute disorganization phase and long-term reorganization phase), characterized by three basic types of post-rape reactions: impact, somatic, and emotional responses. Katz and Mazur (1978) have also contributed to understanding and intervening with rape victims.

Rape victims often suffer a variety of biological, psychological, and behavioral symptoms to include physiological responses such as trembling, shaking, nausea, muscle tension, rapid breathing, feelings of shock, anxiety, physical pain and general discomfort, muscular tension, genitourinary

symptoms, hyperarousal, anxiety, humiliation, shame, disrupted sexual patterns and dysfunctions of desire, a sense of personal contamination, and social stigma.

Victims also experience intense fear, rage-toward-self, blaming of self, guilt, guilt over sexual arousal, depression, suicidal ideation and action, rage-toward-men, need for revenge, accidental pregnancy, need to right the wrong, rage-toward-society, poor general social functioning.

Incest: The Ultimate Violation

Childhood sexual experiences with adults is particularly stressful and devastating to young victims. This stressor often occurs in the context of severely overt and covert dysfunctional family systems. Victims experience a shattering of normal fantasies of self-integrity and well-being. They experience depression, sexual problems, prostitution, self-hate, and personality disturbances. The most deleterious and long-term effect on the incest victim is a devastated, damaged self-image—the sense of being unworthy and incompetent. Symptoms of PTSD often appear.

Sexual abuse is a profound assault on the child's evolving personality, which may result in disorders of the self and later vulnerability to psychiatric illness, such as schizophrenia, paranoid schizophrenia, bipolar illness, and other conditions, such as substance abuse disorders, eating disorders,

multiple personality disorders, borderline personality disorders, and somatic disorders, eating disorders, anxiety disorders, and depressive disorders.

Stressor Dimensionalization

Traumatic events (such as combat and disasters) are often seen as unitary, undifferentiated occurrences; however, closer observation reveals they have multiple divergent features, each of which may produce its own brand of post-traumatic symptomatology. The dimensionalizing of the "stressor universe" of a generalized traumatizing environment has important implications for assessment and therapy (Table 13.2).

TABLE 13.2. Stressors Intrinsic to Indochinese Mass Violence

- Governmental torture and victimization
- Sexual torture and rape
- Brutal physical harm and injury
- Vicious attacks by bandits
- "Autogenocide" by Pol Pot
- Witnessing disembowelments
- Witnessing violent deaths of relatives and friends

- Wholesale loss and destruction of communality
- The Thai border camp experiences
- Kampuchean labor camp experiences
- Reeducation camps in Vietnam and other places
- Effects of war on civilian populations

As Yehuda et al. (1992) note, "Differentiating subgroups of PTSD patients by type of stress exposure or symptom profile may explain why certain patients are amenable to some forms of therapeutic interventions, while other remain treatment refractory" (p. 333). Years earlier, Laufer (Laufer, Brett, & Gallops, 1985a) had written that "Allowing that there are multiple ways of responding to trauma, it is likely that different traumatic experiences will produce different types of symptom responses" (p. 539). Dimensionalizing occurs along the range of stressor intensity and stressor typology. Traumatic occurrences, then, are probably not undifferentiated events.

Dimensionalizing War Stress

The generalized traumatizing environment of war and natural disasters contain stressor specificities. In war, for example, there is the general exposure to fighting, killing enemy soldiers, being wounded, participating in

and witnessing atrocities, and serving two or more tours. Each of these reach operational criteria for the diagnosis of PTSD.

Levels of Life-Threat

Scientific studies have shown that severity of the traumatic situation predicts the development of PTSD. Each level of life-threat was associated with specific aspects of post-traumatic symptomatology.

Violation of Inner Moral Agency

Laufer, Brett, et al. (1985a,b) investigated the relationship of combat, witnessing atrocities, and participation in atrocities to symptoms of PTSD. Findings showed combat was associated most strongly with intrusive imagery, secondly to hyperarousal, and thirdly to numbing, while participation was associated most strongly with cognitive disruption. Yehuda et al. (1992) also found combat and atrocity stressors to be related to intrusive symptoms.

Combat Job, Subjectivity, Injury, and Death

Table 13.3 shows the types of events that qualify as stressors for PTSD. Included are the experiences of a 25-year-old gunner in a B-24 during World War II. He had sought clinical assistance for depression, physical exhaustion,

anxiety, suicidal thoughts, homicidal ideas, and intense intolerance for his dysfunctional state (Grinker & Speigel, 1945). Wilson noted a relationship between war zone roles and soldiers' subjective assessment of the stressor, and the specific traumatic stimuli. He reported that the stressor or "injury/death" strongly predicted all dimensions of PTSD: depression, physical symptoms, stigmatization, sensation-seeking, anger, intrusive imagery, and intimacy conflict (Wilson & Kraus, 1985).

TABLE 13.3. Example of War-Related Stressors Qualifying for DSM-III-R's Criterion A

An Army Air Corps soldier during 27 months had experienced:

- Two crashes in the United States
- Two combat-related crashes in Europe
- Fired upon by a German battleship
- Shells screamed past his plane
- Flying at 27,000 feet, engines of bomber failed; plane fell 25,000 feet before engines restarted
- Plane was hit on his 23rd mission
- He was knocked out of turret by explosion

- The co-pilot, the bombadier, and the radioman were killed.

Post-Traumatic Socioecology

What happens in the aftermath of trauma is also predictive of PTSD. For example, Wilson and Kraus (1985) found that the variable "psychological isolation" was the best predictor of PTSD. This factor involved feelings of isolation and rejection by family and community; and cynicism, distrust, and anger toward authority figures. Though positive social-supportive environments are facilitative of post-traumatic recovery (Figley, 1988; Lazarus & Folkman, 1984), negative socioecologic responses, such as absence of medical care in natural disasters, societal rejection and blaming of Vietnam veterans, and "second wound" infliction on rape victims by law enforcement officials, may aggravate the victim's problems, and significantly undermine recovery. Parson (1988a) has used the term, "sanctuarial traumatic stress" to highlight the self-experience of betrayal and narcissistic wounding due to unanticipated institutional neglect, insensitivity, and disrespect in settings victims expect succorance.

Dimensionalizing Holocaust Stress

Many of the survivors of the Holocaust developed post-traumatic symptomatology and character changes deeply rooted in the "psychotic culture" of the death camps (Danieli, 1981; Krystal, 1968; Wilson, Harel, &

Kahana, 1988). Kuch and Cox's (1992) recent study of Holocaust survivors found that 46% of the sample had DSM-III-R PTSD.

Having observed that no recent scientific study had explored the full spectrum of symptoms among Jewish Holocaust survivors, Kuch and Cox reviewed the German files of 145 survivors and selected 124 for the study. In the sample, 63% had been in concentration camps, and 78% of their relatives were killed. The subjects were divided into three groups: those with concentration camp experience, a subgroup consisting of 20 Auschwitz survivors with tattooed identification numbers on their left forearms with numbers beginning with the letter "A" (a group with well-documented exposure to terror, violence, atrocities, and death), and a group with no concentration camp experience.

Dimensionalizing the stressor environment of the death camps revealed that tattooed Auschwitz survivors had significantly more symptoms and were three times more likely to have PTSD than survivors with no tattoos. Like findings with war veterans, this study's conclusion was that atrocity-exposed survivors were at greater risk for chronic PTSD.

Person Dimensionalization

Vulnerability to PTSD is a critical variable often neglected in the scientific and clinical literature (McFarlane, 1990; Parson, 1984, 1987).

Person variables such as previctimization personality (motives, beliefs, values, ego strengths/coping capacities, and defensive-adaptive organization), genetic, developmental, chronic life stress, and family psychiatric history are essential to prediction and treatment outcome. This view integrates the historicogenic and situogenic perspectives. McFarlane's (1986) study of survivors of a communal disaster substantiates the role of vulnerability factors in assessment and treatment of PTSD.

Child, Adolescent, and Senior Vulnerability

The developmental phase of the victim is an important etiologic consideration. Children have been regarded as particularly vulnerable to extreme stress; for example, in Central American warfare (Arroyo & Eth, 1985), physical and sexual abuse (Green et al., 1983; Findelhor, 1984); and a school bus kidnapping event (Terr, 1983a,b). Adolescents are also vulnerable to traumatic stress (Eth & Pynoos, 1985). Van der Kolk's (1985) study found adolescence predicted PTSD among war veterans. Etiologic vulnerability is also found in individuals in their senior years, due chiefly to inflexible biopsychological adaptive mechanisms.

The Structure of Meaning: Role of Ethnocultural Factors

The etiologic role of individual meaning is essential in assessment and treatment. The role of race, ethnicity, and culture in the development and

maintenance of PTSD (Allen, 1987; Brende & Parson, 1985; Laufer, Brett, & Gallops, 1984; Parson, 1985; Wilson, 1989). These shape the subjective appraisal and meaning of the trauma (Parson, 1985), and gives the event its particular traumatizing character (McFarlane, 1990; Parson, 1984; Ulman & Brothers, 1988). Parson (1984) thus theorized that a "structure of meaning" was the critical variable in post-traumatic developments in black veterans.

Emotional bonding, based on shared minority status with the Vietnamese, created chronic guilt in black and other minority soldiers who killed and harmed the Vietnamese. These experiences were later correlated with chronic post-war psychopathology (Brende & Parson, 1986; CDC, 1988; Green et al., 1990; Laufer et al., 1984; Laufer & Parson, 1985). Race and ethnocultural differences in rates of PTSD were observed by Kulka et al. (1988). Black and Hispanic veterans suffered the disorder at the rate of 20.6 and 27.9%, respectively, compared with 13.7% for veterans classified as "white/other."

Incursive Phenomena: States of Altered Consciousness

According to DSM-III-R, the victim experiences recurrent intrusive recollections of the event, such as distressing dreams, sudden behavior, and emotions as if the trauma were recurring. Incursive symptoms are also connected with intense psychological distress when the person is exposed to

events that unconsciously symbolize or resemble an aspect of the trauma. DSM-III-R adds greater specificity here as well; for example, it includes illusions, hallucinations, and dissociative [flashbacks] episodes, during the waking state and intoxication, as well as anniversary reoccurrences of the trauma, and repetitive play behavior in young children.

Recurrent Distressing Ideation, Emotions, and Memories. Re-experiencing phenomena which are a cardinal feature of PTSD have greater salience than most other symptoms and disorder indicators. Clinical experiences show a number of stress ideation, emotions, and memories:

- Attacks of anxious arousal.
- Fear of losing control over impulses, affects, and drives.
- Fear over loss of bowel and bladder control.
- Fear that painful intrusive elements of the trauma will not cease.
- Fear that grief will result in ceaseless crying and uncontrollable emotional turbulence.
- Fear of total breakdown.
- Guilt over being alive.
- Guilt over specific behaviors enacted during event.

- Guilt over specific actions done during event.
- Concerns whether intrusive symptoms constitute condemnation tofuture life of punishment.
- Narcissistic rage reaction over inability to control intrusive thoughts (narcissistic mortification).
- Delayed awareness of the implications of the life threat.
- Anger/rage toward authorities, persons, and institutions blamed for the mishap.
- Guilt over presumed lost opportunity to effect a less tragic outcome.

Recurrent Distressing Dreams. Traumatic dreams and nightmares are "nocturnal torments" (Parson, 1986), a form of post-traumatic incursive (or reliving) experience. Traumatic dreams and nightmares are also central markers for PTSD. They are best described as "dreams of incomplete, unconsummated action," requiring endopsychic processing in order to gain mastery over the powerful, disorganizing affects. Mastery leads to adaptive trauma-completing devices. The impact of the traumatic onslaught renders inoperative the survivor's integrative actional systems. Kardiner (1959) saw traumatic dreams as "the most universal earmark of the traumatic syndrome. These often recurrent dreams of the failure to consummate successful actions are, in fact, the key to the actual trauma-topathology" (p. 249). Whereas Freud used dreamwork to discover meaning in the neurotic dream that he saw as

the royal road to the unconscious, Parson (1986, 1988a) used traumawork to decipher the meaning, sequence, actions and inactions in traumatic dreams and saw these dreams as "the royal road to the traumatic events." Thus, these dreams may unfold into a vital guide toward resolution and adaptive control.

Symptoms, reactions, and themes pertaining to traumatic dreams are:

- Inability to complete an important action that would facilitate survival at the moment.
- Sense of being fettered and totally frozen by fear and catastrophic expectations.
- Pervasive sense of vulnerability due to threats of disintegrative or annihilation anxieties.
- Images of self as dead.
- Specific family member or friend "targeted" for violence in the dream.
- Self as victim of dangerous, menacing forces with tenacious intent to do harm.
- Attempts to escape from menacing pursuing force is foiled by feet growing roots into the ground.
- In combat, weapons that do not fire.

- In rape, the victim finds herself or himself unable to run from assailant or to a place of safety.

Extensive post-traumatic dreamwork analysis had led this author to classify nightmares or traumatic dreams on a continuum, from "experience-near" to "experience-distant." The dream continuum begins with relative simplicity (concrete, nonsymbolic) and progresses to utter complexity (mostly symbolic).

1. Frightening nocturnal imagery depicting all or most of the traumatic reality (most of dream tells what really happened).

2. Frightening nocturnal imagery that replicated some discrete and recognizable feature of the traumatic reality (dream tells what

3. really happened, but only partially; it also has images not directly related to the event).

4. Frightening nocturnal imagery that relate ambiguously to traumatic reality (dream tells of events which may or may not have occurred in reality).

5. Frightening nocturnal imagery with no recognizable associated feature to traumatic reality (dream tells of events and experiences that did not occur in relation to the trauma).

Wilmer (1982) has a similar classification of traumatic dreams he

developed with Vietnam combat veterans. Brockway (1987) reported themes of helplessness in 78% of post-trauma dreams analyzed, and that 72% of recurrent nightmares were markedly reduced through specialized group therapy. Starker (1974, 1984) reported that persons with chronic nightmares were high on measures of anxiety-distraction, guilt-dysphoria, and guilt-fear of failure during the waking hours. Ross, Fall, Sullivan, Stanley, and Caroff (1989) view disturbed dreaming as the hallmark of PTSD.

Post-Traumatic Dissociation: Illusions, Hallucinations, and Flashbacks. The term "dissociation" was created by Pierre Janet, whose early work records the biopsychic mechanisms of post-traumatopathology (Ellenberger, 1970; Janet, 1925, 1919; van der Kolk, Brown, & van der Hart, 1989). Dissociation is a disjunctive biopsychic defense against walled off terror which results in discontinuities among the various aspects of self—memory, perceptual, sensory, affective, and somatic realities. Psychodynamically, this lack of coordinated functioning is related to a breakdown in normal synthetic-integrative ego functions. Dissociation reduces effective adaptation as it reinforces what Shatan (1985) calls a "traumatic sense of reality."

Freud (1936) saw traumatic neurosis as forming a dissociative split in the ego. In discussing dissociative mechanisms in PTSD, Parson (1981) notes that biopsychic trauma "forms an autonomous split-off mental organization . .

. that participate in the . . . personality ... in a nonintegrated, non-ego coordinated fashion (hence, the split-off, dissociated phenomenon of flashbacks and other incursive, automatic ideas and feelings)" (p. 15).

Unlike the previous forms of reliving experiences mentioned above, dissociative symptoms (such as illusions, hallucinations, and flashbacks) in general have a much lower clinical and epidemiological incidence. Brende (1987) found that in a sample of hospitalized veterans 88% reported "flashback-related aggressive outbursts—feeling as if they were fighting for survival." Guilt, a very neglected topic in clinical writings and research, was associated with certain dissociative experiences like "blackouts" (p. 79).

Rose (1986) found that some rape victims dissociate during the victimizing experience by mentally hovering above the victim's body, while experiencing feelings of sorrow and anguish for the victim. Moreover, Burstein (1984) reported a flashback prevalence rate of 8 to 13% among victim/survivors of assault, motor vehicle or industrial accidents, while Brett and Mangine (1985) found that 24% of their sample reported dissociative episodes. Additionally, using a cutoff score of 30 on the Dissociative Experience Scale, Bremner et al. (1992) found that PTSD patients had scores that were almost double those of non-PTSD patients (27.7 versus 13.7).

Massive traumatic stress may lead to extreme forms of dissociation

producing “traumatic identity splintering”—the etiologic roots of multiple personality disorder (MPD). Brende (1987) notes that patients with MPD are often diagnosed as suffering from PTSD and borderline syndromes, and notes that studies have reported as much as 97% of adult patients with MPD had suffered from childhood trauma.

Characteristics of post-traumatic dissociative phenomena are as follows:

- Inner sense of fragmentation—of things crumbling and falling apart.
- States of amnesic disorientation.
- Derealization.
- Feelings of depersonalization.
- “Double conscience” and “split personality” (Freud, 1936).
- Disturbance in the sense of self.
- Psychogenic fugues states.
- “Recurring hysteri-form twightlight” responses (Jaffe in Ulman and Brothers, 1988).
- Walled-off fear and rage.
- “Automatic ideas and feelings” (Parson, 1984).

• The “killer-self” versus the “victim-self” (Brende, 1983).

Increased Distress upon Exposure to Trauma-Symbolic Stimuli. The power of unconscious “traumatized structures” induce distress in victims merely by encountering situations, objects, people, and atmospheric conditions. This response has been given more prominence in DSM-III-R than in the DSM-III. Table 13.4 presents a number of events that precipitate emergency distress in victims of trauma and war veterans. These precipitating stimuli come from cognitive, affective, somatic-sensory, and socioecologic areas of victim’s experiences.

TABLE 13.4. Triggering Events Symbolizing Original Trauma in Victims

Class of Symbolizing Agent	Specific Triggering Agents	Biopsychic Responses of PTSD
Intrapsychic ideational and affective	Unconscious guilt, survivor guilt, grief, shame, and feelings of terror	Emotional agitation, depression, anxiety, suicidal ideation, withdrawal, and sense of “falling apart”
Cognitive circularity and memory	Anniversary dates: reliving traumatic distress on specific dates of the rape, disaster, war event	Emotional agitation, affective turbulence, suicidal feelings, depression, grief, rage, anxiety, separation anxiety
Loss and threats of separation	Death of relatives, children, and friends; serious illness; lost love; divorce	Withdrawal, grief, rage, suicidal thoughts and attempts (with and without executive plans)
Authority persons/institutions	Sense of betrayal, “put down,” humiliated, shamed, and forced to “surrender” to authority persons/institutions perceived as blameworthy for rape, disaster, or war	Reactivation of “fragging” impulses, homicidal impulses, need for revenge, and narcissistic mortification, absence

		of sexual desire
Somatopsychic flashbacks	Sensory activation: A rainy or hot day, smell of fuel, olfactory stimuli reminiscent of burnt human flesh for veterans, aspects of intimacy and sexual contact for some rape victims	Anxiety, agitation, physiological arousal, physiological reliving, fear and trepidation over "return of the dissociated"
Socioecologic	Sociocommunicational event: viewing "televictims" of rape on electronic media and while reading accounts of fellow victims of rape or disaster; return of hostages held in Iraq, war with Iraq, and "rumors of wars"	Murderous rage, need for revenge, homicidal, fratricidal (peers unaffected by the trauma and who appear uncaring or judgmental), and "androphobic" reactions

Cognitobehavioral Avoidance

Cognitive avoidance in survivors of Australian bushfires may be the best predictor of acute post-traumatic symptomatology (McFarlane, 1988). Avoidance symptoms differentiated experimental from control groups, identifying 63% of the Williams Pipeline disaster victims (sensitivity), while these symptoms was 100% absent in the controls (specificity).

Biopsychological defense against intrusive ideation, feelings, memories, and images are generally referred to as numbing or avoidance symptoms, which DSM-III-R describes these Criterion C symptoms as "persistent avoidance of stimuli associated with the trauma or numbing of general responsiveness" (APA, 1987). More stringent criteria than the DSM-III the III-R calls for three of seven possible statements to be true of the victim.

Biobehavioral Phenomena and Increased Arousal

This group of responses (Criterion D) are experienced as "persistent symptoms of increased arousal (not present before the trauma)" (APA, 1987), and are given greater emphasis in the revised version. Contemporary neuroscience and psychophysiological laboratory studies show alterations in the central nervous system, resulting in excessive sympathetic nervous system (SNS) arousal, and lowered efficiency in modulating hyperarousal, irritability, aggression, and chronic inner states of tension.

Disorders of Sleep. The psychological aftermath of trauma is characterized by a "mutation of expectational structures." This means that the victim no longer has confidence in predictive reality. After trauma a new reality exists in the absence of a stable sense of self, without a sure identity. Erik Erikson (1968) noted that for trauma sufferers "the sense of sameness and continuity and the belief in one's social role were gone" (p. 67). In the absence of self-security after trauma, the victim finds it difficult to give up control, a self-commodity victims feel was stripped away from them by the traumatic experience. What victims want more than anything else is to increase control; going to sleep is the unconscious equivalent of the state of ultimate helplessness and evaporation of control, namely, death. Sleep anxiety, a nocturnal manifestation of "death anxiety" (Lifton, 1982) is a real problem for many victims.

As a possible hallmark of PTSD, dysfunctional REM sleep may be involved in the pathogenesis of PTSD, and this condition may be relatively specific to the disorder (Ross et al., 1989). Most victims of trauma, as a part of their clinical symptomatology, present sleep disturbance to clinicians. Generally, sleep disturbance is at least twice as high in trauma populations than in nontraumatized populations. Biological mechanisms operative in flashbacks and startle reactions may also be related to dream disturbances (Burstein, 1985; Ross et al., 1989).

Irritability and Outbursts of Aggression. Kardiner (1941) spoke of irritability and explosive outbursts of aggression as essential features of PTSD. These responses are common among victims' post-trauma reactions. Wilkinson (1983) found anger in about 35% of victims of the Hyatt Regency Hotel mishap, while Horowitz, Wilner, and Alvarez (1980) report that 82% of a sample consisting of victims of violence, accidents, personal injuries, and serious illnesses suffered problems with anger and irritability.

Biopsychobehavioral Nature of PTSD

Brain functioning and behavior is emerging as a vital area for PTSD research as investigators seek knowledge from molecular to cellular to behavioral to the cognitive dimensions of the disorder. Highlighting the biopsychobehavioral properties of PTSD, Kardiner and Spiegel (1947) wrote

that “the nucleus of the [traumatic] neurosis is a physioneurosis,” and that the disorder was marked by irritability, outbursts of anger, difficulties in concentrating, sleep disturbances, an atypical dream life, fixation on the trauma, and exaggerated startle reactions (APA, 1987; Kardiner, 1941). It is now well-established empirically that PTSD is not a purely psychological disorder, sociocultural disorder, nor a purely biological one. PTSD incorporates these self-dimensions.

Psychoendocrinology of PTSD

Trauma causes long-term alterations and abnormalities in specific brain systems. New discoveries on neuroregulators are changing the way the brain is being understood. Instead of the usual cyberneticopsychic model of the brain as “dry” computer technology, a new model is emerging of the brain as a “wet” hormonal gland (Bergland, 1985; Burgess, Watson, Hoffman, & Wilson, 1988). The traditional physical and engineering sciences models are being expanded or replaced by models which can better describe “nonideal systems, such as turbulence, climatic change, wave motion that are almost chaotic or quasirandom” (Groves & Young, 1986, p. 18).

Empirical studies are increasing clinical understanding of nonlinear, nonideal, chaotic patterns that characterize PTSD dynamics. Psychoendocrinology of PTSD is the study of glands of internal secretion and

their role in human physiology, psychology, and behavior. These studies investigate brain chemistry, the action of neurochemical transmitters and cell function, sleep abnormalities, and somatic therapies. Freud (1920) saw PTSD as primarily a psychological disorder, but was aware of the role biology played in "the symptomatic picture" which was marked by "motor symptoms," "strongly marked signs of subjective ailment," and a "comprehensive general enfeeblement . . ." (p. 04). Despite this awareness, Freud (1920/1955) was an adamant critic of neurologists and psychiatrists who treated PTSD with electrical methods.

Psychophysiological studies provide a bridge between biological and psychological perspectives. Generally, alterations in the central nervous system (CNS) and the sympathetic nervous system (SNS) undergird the pathology of PTSD. Traumatic events are experienced as a vicious onslaught upon the self, which mobilize basic bioreflexive (or phylogenetic) mechanisms. Brende and McCann's (1984) analysis of forms of traumatic regression concluded that trauma forces victims to re-experience "the archaic racial heritage" of humankind, "emanating from subcortical centers . . . involved in primitive aggression and sexuality [and] basic survival" (p. 61).

In laboratory studies with Vietnam war veterans and other survivors of extreme stress, findings have consistently found higher physiological reactivity in subjects with PTSD than in controls. When exposed to trauma

cues (via visual, auditory, and imaginal modalities), veterans with PTSD showed consistently higher pathophysiological reactivity through excessive heart rate, respiration, pulse, anxiety, agitation, systolic blood pressure, temperature, and forehead muscle activity than veterans without PTSD (Blanchard, Kolb, Gerardi, Ryan, & Pallmeyer, 1986; Kolb, 1987; Pallmeyer, Blanchard, & Kolb, 1986; Pitman, Van der Kolk, Orr, & Greenberg, 1990).

Underlying these physiological responses to the sudden shock of threat-generated stress is the deployment of catecholamines, specifically, epinephrine, norepinephrine (NE), dopamine (DA), and serotonin (SE), which intensely stimulate and alter neuronal functions in the CNS. Autonomic arousal is mediated by the sympathetic-adrenal-medullary system via NE secretion. This adrenergic action not only supplies biochemical provisions for emergency, but it also ensures successful management of aversive external stimuli and internal cascading physiological changes to affect recovery to pretrauma levels of steady-state equilibrium through fight, flight, or catatonoid response. These are normally the chemicals of guaranteed resiliency and survival. However, there is a relative absence of speedy recovery and resiliency in PTSD. Thus, Van der Kolk (1988) correctly alludes to the absence of resiliency in PTSD when he writes that "In PTSD, autonomic arousal is no longer a preparation for, but a precipitant of emergency responses which bear little relationship to the nature of contemporary stimulus" (p. 275).

Noradrenergic Burnout Excessive Neuronal and Biochemical Responses

When victims encounter stressful events for long periods of time, the persistent secretion of neurotransmitters leads to a diminished supply of needed catecholamines, which are synthesized in the neuronal cells of the brain system. Chronic depletion of norepinephrine is due to overuse exceeding synthesis or production (Anisman & Zacharko, 1986; Van der Kolk, Greenberg, Boyd, & Krystal, 1985), which leads ultimately to norepinephrine ultrasensitivity in the CNS. Thus, subsequent to the original trauma, low amounts of norepinephrine can trigger a storm of autonomic reactivity even to minor stressful events.

Chronic noradrenergic hypersensitivity leads to noradrenergic burnout (Norbo), a state of gross decreased tolerance for arousal, which is accompanied by a decrease in motivation, in learning ability, and in memory functions, as anxiety, pain sensitivity, and defensive reactivity to novel stimuli increases, all to the detriment of adaptive recovery from trauma. Norbo is the biochemical or noradrenergic correlate to psycho-occupational burnout widely discussed and studied in recent years. Norbo underlies all forms of burnout experiences (Parson, 1981).

Studies on the locus coeruleus have shown how this brain system may be involved in PTSD. As the “brain trauma center,” the locus coeruleus controls emergency functioning and is the site for integrated organization of

memory, behavior, and autonomic arousal (Krystal, 1990). It is regulated by the ANS via noradrenergic innervations of the limbic system, cerebral cortex, cerebellum, and the hypothalalmus. Massive, prolonged noradrenergic activity during the trauma sets in motion a long-term biopsychic condition of "hyperpotentiated pathways [which] are reactivated at times of subsequent arousal" (Van der Kolk, 1988, p. 277). These potentiated pathways expand memory traces or tracts and accounts for intrusive thoughts, nightmares, flashbacks, and other incursive symptomatology.

Offering direct evidence of the sympathoadrenal "connection" in PTSD, McFall, Murburg, Ko, and Veith, (1990) found significantly higher levels of plasma epinephrine, pulse, blood pressure, and subjective distress than controls. Since neither NE nor cortisol measurements alone were sufficient to distinguish patients with PTSD from those without the disorder, Mason et al. (1988) combined measures from both adrenergic (norepinephrine [N]) and catecholaminergic (cortisol [C]) to form an N/C ratio. Results showed that increased levels in N/C ratio distinguished PTSD patients from those having other psychiatric diagnoses (with a diagnostic sensitivity was 78% and specificity of 94%). In a later study, Mason et al. (1990) noted unexpectedly low levels of cortisol (in comparison to high levels of norepinephrine) after exposure to traumatic laboratory stimuli. They believed that low levels of cortisol were a consequence of a suppression of arousal or what this writer calls a "biopsychic downregulation" of harmful cortisol-influenced arousal.

This results in numbing and reduced responsiveness.

Ver Ellen and Van Kamen (1990) theorized about a "corticolcatecholamine dissociation" due to the relatively higher levels of NE and low urinary levels of 17-hydroxycorticosteroids (cortisol). Brende (1982, 1984) also theorized about dissociative processes as evidenced by cerebral lateralization. Mason et al. (1990) also measured serum testosterone at 2-week intervals during hospitalization of veteran patients. PTSD inpatients had higher levels of testosterone than patients with depression or bipolar illness. Another significant psychoendocrinological study by Kosten, Mason, Giller, & Ostroff (1987) found significantly higher 24-hour urinary excretion of norepinephrine and epinephrine than comparison groups of other psychiatric patients.

Experimental PTSD-Induction: Animal Models and Learned Helplessness

Animals exposed to inescapable shock is the experimental equivalent of biopsychic traumatization seen in patients with PTSD. Noted in these animals after shock were deficits in memory, motivation, a "basic giving up on life," conditioned fear response, depression, impairments in learning ability, immunosuppression resulting in genesis of tumor, and changes in multiple brain systems (Van der Kolk, 1988). Significant excretions of dopamine, norepinephrine, and opiates were found in parts of the brain along with

changes in cortisol levels and the hypothalamic-pituitary-adrenal axis (HPA). When the animals are subjected to prolonged exposure to stress (shock) an eventual depletion of norepinephrine occurred (Anisman & Zacharko, 1986; Samson, Mirin, Hauser, Fendon, & Schildkraut, 1992; Seligman & Maier, 1967; Van der Kolk, 1987).

Centrally Mediated Endogenous Opiod Response

Studies on learned helplessness with animal models show a conditioned opiod release response after stressful experiences. Called "stress-induced analgesia" (SIA) (Van der Kolk, 1988), this reaction to trauma can be reversed by the opiod receptor site blocker Naloxone (Kelly, 1982). Van der Kolk, Pitman, and Orr (1989) and Pitman, Van der Kolk, Orr, and Greenberg (1990) have demonstrated SIA in human subjects with PTSD. Van der Kolk et al.'s study involved eight matched Vietnam veterans with PTSD and eight without PTSD who viewed the combat movie *Platoon.* Results showed that subjects with PTSD produced analgesia equivalent to an 8 mg injection of morphine.

Psychological Aspects of PTSD

Dynamico-Cognitive Aspects of Hypervigilance

Kardiner (1941) found that persons with traumatic stress response syndromes experience an "enduring vigilance for and sensitivity to

environmental threat" (p. 8). These symptoms are associated with intense annihilation anxiety and paranoid fears, but especially with internal traumatic terror. This anxiety and fear are also motivated by conscious and unconscious stimuli that threaten a breakthrough of the "return of the dissociated." The lost sense of security motivates self-protective defenses that anticipate danger and attack from an environment that is no longer trusted to sustain the self with normal predictive security.

The term "pansuspicious orientation" highlights the victim's anticipation of ubiquitous dangers—internally, interpersonally, socially, and environmentally. Basically, paranoid aggression is associated with pervasive feelings of dread, terror, post-traumatic helplessness, and a sense of "self-under-seige." It is basically aggression without malice toward others; instead it is motivated to maintain an inner sense of equilibrium, and guard the self against situations that may prove traumatomimetic (retraumatizing). Pansuspicious perception is biased perception: it features an intrapsychic program that sees a moment's calm and tranquility with suspicion because of the belief that such moments are an "opportunistic facade'' and a prelude to betrayal, humiliation, loss, or even annihilation.

Even ideas and spontaneous feelings are "suspect": they may suddenly turn against the self in any unguarded moment. The consequences of CNS dysregulation in PTSD poses yet another area of anticipatory catastrophe for

the victim; namely, a threat from the somatic system. Such dysregulation undermines the normal capacity for biopsychic modulation and control of aggression, anxiety, and bodily tensions.

Replicating Foa, Feske, McCarthy, and Kozak's (1990) study in which she found Stroop interference for rape-related words with rape victims, McNally, Kaspi, Riemann, and Zeitlin (1990) studied combat veterans with and without PTSD. utilizing the modified Stroop task. Subjects were asked to name the colors of neutral words (e.g., input), positive words (e.g., love), obsessive-compulsive disorder (OCD) words (e.g., germs), and PTSD words (e.g., bodybags). Compared with the normal controls, the PTSD patients took significantly longer to color-name words reflective of PTSD, than color-naming other words (neutral, OCD, and positive words). The authors maintain that the delay or interference in color-naming was indication of intrusive cognitive activity.

In their victimization survey, Kilpatrick and Veronen (1984) found that among rape victims, 64% felt they would be injured or killed by the attack, while 96% felt scared, 96% were worried, 92% were terrified, and 88% expressed helplessness. At the three-year followup, 89% were still experiencing intrusive ideation and avoidance. In a sample of 102 victims of the Hyatt Regency Hotel sky walk collapse, Wilkinson (1983) found that 44% suffered concentration deficits while 27.4% of a sample of 102 subjects had

memory problems.

Archibald and Tuddeham (1965) had reported on the cognitive deficits in World War II veterans during a 20-year followup: 75% complained of concentration difficulties, while 67% had memory deficits. In a study with survivors of a natural disaster, Madakasira and O'Brien (1986) reported that 82% of the sample suffered intrusive thoughts, 61% had memory problems, and 66% had concentration difficulties.

The self-experience of falling apart psychologically and somatically (due to significant noradrenergic upheavals) results in low self-esteem, a sense of unworthiness, powerlessness, and a profound post-traumatic sense of incompetence. Predominating in the psyche of victims are self-blame, guilt, shame, hostility, narcissistic rage, lack of confidence in self-management, in intimate relationships, childrearing, and career management. Neurophysiological pathology may produce a feeling of coldness, aloofness, feeling dead inside, "numbed awareness," and low tolerance for strong affect —intrapsychically, intrasomatically, and interpersonally.

Behavioral Abnormalities

Social dysfunctioning in areas of play and leisure, love and marriage, and work, appear to be more related to PTSD than to combat exposure itself (Solomon & Mikulincer, 1987). Incest victims often suffer eating disorders,

substance abuse disorders, somatoform disorders, sexual dysfunctions and promiscuity, problematic human relationships, impulsivity, and suicidal behavior, while another study found burglary victims to be distrustful of other people, experience fear of being alone, and to have intense anxiety upon entering the house alone.

Distrust of people is particularly intense in human-engineered (as opposed to natural occurrences) traumatic sequelae in victims. The profound shattering of internal structures of humanity and attachment (best described by the British object relations theories) often leads to feelings of antipathy, hostility, and avoidance of others. Behavioral abnormalities marked by aggression are often observed in interaction with persons and institutions of authority, and, in many victims, the proclivity to create new victims to mirror their own internal image of helplessness and lack of self-efficacy in life.

Validity of the Diagnosis of PTSD

The search for validity strategies for PTSD is progressing at a rapid rate. This is in part due to the continuing controversy surrounding the diagnosis. Despite major clinical and scientific progress in understanding and delineating PTSD, some continue to view the disorder as the "illegitimate child in a family of nosological entities." Some have argued that PTSD does not have a unique set of symptoms separating it from other well-known

psychiatric disorders, and that the stressor criterion is itself flawed (Breslau & Davis, 1987; Davidson, Lipper, Kilts, Mahorney, & Hammett, 1985; Goodwin & Guze, 1984; Solomon & Canino, 1990).

The primary challenge to PTSD validity is to: (1) determine if people with PTSD significantly differ from individuals without a psychiatric diagnosis; and (2) determine if victims with PTSD differ from persons with other psychiatric diagnoses. The two aspects of this challenge were fulfilled by a number of research scientists investigating key validational areas: PTSD instrumentation (use of psychometric and interview data), epidemiology of the disorder, and allied morbidity.

PTSD Instrumentation

To achieve validational power, it is important that assessment procedures incorporate a broad spectrum of cognitive, emotional, behavioral, and physiological indicators that comprehensively describes the individual. PTSD instrumentation features behavioral measures, cognitive measures, and psychophysiological measures (Malloy, Fairbank, & Keane, 1983) in a comprehensive, multimodal assessment system.

Structured interview formats and psychometric tests utilized to achieve validity are: (1) *The Jackson Structured Interview for PTSD* (Keane et al., 1985); (2) *The Structured Clinical Interview for DSM-III-R* (SCID) (Spitzer &

Williams, 1985); (3) the *Schedule for Affective Disorders and Schizophrenia* (SADS) (Endicott & Spitzer, 1978); (4) *Diagnostic Interview Schedule* (D1S) (Robins, Helzer, Croughan, Williams, & Spitzer, 1981); (5) *The Vietnam Era Stress Inventory* (VESI) (Wilson & Kraus, 1985); (6) *The Keane MM PI PTSD Scale* (Hathaway & McKinley, 1967; Keane, Malloy, & Fairbanks, 1984; Lyons & Keane, 1992); (7) *Impact of Events Scale* (IES) (Horowitz, Wilner, & Alvarez, 1979); (8) *Beck Depression Inventory* (BDI) (Beck et al., 1967); (9) *State-Trait Anxiety Inventory* (STAI)(Spielberger et al., 1970; (10) *The Laufer-Parson Guilt Inventory* (L-PGI) (Laufer & Parson, 1985); and (11) *Traumatosalutogenesis Scale* (TSS) (Parson, 1990).

Studies using the above structured interview procedures and instruments have collected sufficient and consistent data to support the validity of the diagnosis of PTSD. Validity studies need to be broadened to accommodate the full range of traumatized populations, as well as a full range of positive posttrauma outcomes.

Epidemicity of Biopsychic Stress

The most significant study to date on the prevalence of PTSD is the National Vietnam Veterans Readjustment Study (NVVRS), a study that investigated the psychological effects of the War on the entire generation. It is the model par excellence for the study of PTSD since it used multiple

measurements to increase sensitivity and diagnostic accuracy. In term of current cases of PTSD, NVVRS study found 15.2% among male veterans and 8.5% among women veterans. Other studies on the prevalence of PTSD reported: 25% among Special Forces veterans (Chemtob, Bauer, & Neller, 1990); 46% among POWs from Vietnam, 30% from Korea, and 19% among World War II veterans (Blake et al., 1990); 4.6% in survivors of disasters (Robins et al., 1986); and 21% in firefighters in Australia almost 30 months after the event (McFarlane, 1986).

Moving from estimating the prevalence of PTSD in specific target populations, other studies have focused on the epidemiology of trauma. Breslau, Davis, Andrecki, and Peteerson (1991) reported a frequency of traumatic experiences of 39% in a sample of 1,000 adults, while Kilpatrick and Resnick (1992) with a national probability sample of 1,500 women found current rates of PTSD to be 1 to 13% and lifetime (proportion of women meeting criteria for PTSD at any time in their lives) rates of 10 to 39%. In a recent study of the epidemiology of trauma, Norris (1992) investigated the frequency of 10 potentially traumatic events in a sample of 1,000 black, white, male and female adults, with a developmental range from young, middle-aged, and older adults.

Norris found that 69% of the sample had experienced at least one traumatic event during their lifetime, with lifetime exposure greater for

whites and men and for blacks and women. Recent rates were highest for younger adults. Of the 1,000 subjects, over 200 had suffered a traumatic event during the past year. This is the first and only study to investigate the biopsychic stress in African American civilian populations. The 10 categories of traumatic events studied were robbery, physical assault, sexual assault, fire, Hurricane Hugo, other disaster, other hazard, tragic death, motor vehicle crash, and combat. Epidemiological studies contribute to the validational process by providing prevalence data on a variety of victim groups.

Allied Morbidity and Differential Diagnosis

Validity necessitates the establishment of critical boundary between multiple diagnostic categories of disorders. Psychological and psychoendocrinological studies show a number of common biological and phenomenological factors PTSD shares with many other diagnoses, particularly anxiety, depression, panic disorders, and substance abuse disorders (Behar, 1983; Birkhimer, DeVane, & Muniz, 1985; Green, Lindy, & Grace, 1985; Horowitz et al., 1980; Keane et al., 1988; Silver & Iacono, 1984). Among a sample of veterans, Sierles et al. (1983) found that 56% of veterans with PTSD had one additional psychiatric diagnosis, 20% two additional diagnoses, and 8% had three additional diagnoses. Clinical experience and empirical studies point to the necessity for differential diagnosis among such conditions as factious PTSD (Sparr & Pankratz, 1983), somatization disorder,

schizophrenia, bipolar disorder, social phobia simple phobia, agoraphobia, adjustment disorder, malingering, and personality disorders like antisocial, borderline, and others.

Traumatic Personality Disorders

Pretraumatic personality factors (measured retrospectively) and co-PTSD personality disorders are essential factors in validation. Though DSM-III-R Axis I diagnoses and syndromes are the subject of most validity studies. Axis II personality disorders are equally important. No systematic investigation of personality have been conducted to date, though some work has begun in this area with treatment samples (Funari, Piekarski, & Sherwood, 1991; Hyer, Woods, & Boudewyns, 1991) and theoretical development (Parson, 1982). Since personality configurations serve as a matrix for shaping responses, it is assumed that expression of post-traumatic stress are shaped by psychological steady-state internal structures of the personality. In addition to contributions from personal and social experiences, and biogenic factors, post-traumatic personality disorders may add to the clinical picture the interaction of psychodynamics, biopsychological imprinting of associated catacholaminergiccholinergic biphasic functions of alternation between agitation and arousal, and avoidance and depression.

Traumatosalutogenesis (TSS): The Strengthening Effects of Trauma

Epidemiological studies have been remiss in the blatant omission of positive, facilitating sequelae of traumatic experiences. Validity studies would do well to incorporate the broadest possible universe of victims' responses, and this should include the positive outcomes generated by the event. The purely negative emphasis in mental health research may hamper more realistic descriptions of acute and long-term adjustment in PTSD scientific studies. In validational studies, it is quite possible to find that victims endorse as many salutogenic items as pathology items on research questionnaires.

Over a decade ago, Wilson (1980) coined the term "psychosocial acceleration" to describe the growth-enhancing impact of trauma survivors. In what might be called bifurcated functioning, this writer has also noted over the years that assessment and therapy with Vietnam veterans with PTSD showed trauma-derived strengths (e.g., in terms of insight, resilience, and "generativity prosocial tendencies.") in their overall functioning. Many demonstrated unusual insight and generativity wisdom beyond their chronological age. Ursano (1981), in an early paper, found that Vietnam POW pilots had been strengthened in significant ways when pre- and postwar psychological, psychiatric, and medical measurements were analyzed.

Antonovsky and Bernstein (1988) are among the few professionals to address the issue of health-generated properties of trauma, and first used the

term “salutogenesis” in this regard. (See also recent contributions by Lyons, 1991b.) Their awareness of the dearth of interest in this area led them to wonder, “Who studies the successful coper?” In one of his many clinical contributions Scurfield (1985) also wrote about the health-engendering outcomes of traumatic experiences. Noting the importance of a balanced view of the client, he recommended “Helping the client to fully experience both the negative and positive aspects of the trauma experience [since this] is critical to full integration of the trauma experience” (p. 247).

Brende and Parson (1986) describe the third and fourth recovery phase of the natural history of PTSD and noted that the survivor had grown from having a narrow perspective to “a larger perspective” on the trauma, from having a negative, destructive attitude to having a “positive and constructive” one, from being fixed on the past, to an openness to new possibility thinking about the future in which trauma is placed into “its proper perspective” and seen “as merely a past memory” (p. 218). Parson (1989) wrote of veterans giving up self-pity, self-destructiveness and distrust and becoming positive and prosocial in their orientation to self and community.

The Traumatosalutogenesis Scale (TSS) (Parson, 1990) is a move toward correcting the absence of a salutogenetic point of view in current research and therapy (Parson, 1990a). It points to the often ignored fact that the traumatic mishap is not all pain, loss, and breakdown, with absolutistic

indelible images of annihilation and death. But it may also yield post-traumatic outcomes of value, with purchasing power toward a better future worthy of an esteemed status in the community. The term "traumatosalutogenesis" refers to trauma-facilitated health outcomes of practical and existential utility.

Without a traumatosalutogenic view in research and clinical practice, professionals will inevitably continue to inadvertently contribute to propagated images of victims as weak, helpless, and mentally deformed by the experience (Janoff-Bulman, 1992; Mazelan, 1982; Parson, 1988a, 1989, 1991). Traumatic suffering needs to be balanced by positive images that realistically portray the true essence of victims' lives. This writer's professional experience with victims is that trauma both weakens and strengthens people, and may accelerate personal growth.

Among the many valuable life-enhancing byproducts of traumatic suffering are an increase in the sense of competence and self-efficacy, an enhanced sense of one's true-self identity; increased courage to be, and a heightened sense of self-worth. Acquiring a special knowledge or insight into the dialectic of life and death, along with enhanced valuing of and sensitivity to people—in both intimate and non-intimate relationships— are also empowering post-trauma outcomes. Many survivors have a basic feeling of rejuvenation, an awareness of a personal resurrection, a second life, and a

second chance to live with greater vitality and increased sense of meaning and purpose.

MANAGEMENT: POST-TRAUMATOTHERAPY OF BIOPSYCHIC STRESS

An imbalance exists at the present time in terms of what is known about victims' biopsychic problems and actual knowledge to ameliorate their suffering. To date, there are no large-scale, controlled outcome studies with traumatized populations. The biopsychobehavioral approach to conceptualization and assessment, discussed so far, also informs the treatment of PTSD. An intertheoretical model of treatment is probably the most realistic approach when intervening with victims of traumatic events (Table 13.5). This is because the victim's response involves multiple self systems, so that no one theoretical model can suffice in addressing the wide array of disabilities (Crump, 1987; Parson, 1984, 1988a). The clinical and scientific necessity to integrate divergent schools of psychotherapy is gaining great momentum (Beitman, Goldfried, & Norcross, 1989). Presented here is a generic model of care for victims of biopsychic stress or PTSD. The utility of the biopsychobehavioral perspective is in logically and pragmatic applications of meaningful procedures to the broad spectrum of problems, deficits, and conflicts in victims. The model is flexible: it may be applied to acute cases (phases 1 and 2), requiring days or weeks of care, or to chronic cases (phases 1 through 4).

Countertransferential Neutrality. Therapists with this kind of response tendency with trauma victims or survivors uses the technical-professional aspects of his or her role to avoid getting “too close." The dynamically-oriented may assume the “blank-screen" posture, while the behavior therapist may use an affectless, “technically correct" procedure with the victim.

Countertransferential Enmeshment. Here, the therapist’s anxiety motivates counterphobic defenses. Because boundary regulation is lost, the therapist may show difficulty in separating personal issues from the legitimate therapeutic concerns of the patient. In “losing oneself" in the patent’s traumatopathlogy. the therapist is reassured that he or she is well, and is no danger of being exposed to the incredible suffering the patient presents.

Countertransferential Distantiation. This is a particularly affectively “cold" response. The therapists unconscious fear is related to concerns of "being contaminated by the victim's experience. This "deep freeze" response undermines empathy, objective assessment of the survivor’s problems, and impairs the chances for establishing a meaningful therapeutic alliance with the patient.

Countertransference Repugnance. In this response, the victim is "put down" by the therapist who unconsciously asks, “How could you have gotten yourself in such a mess. I would have known

better to avoid the situation." This supercilious attention classes with the victim's need to be understood and receive support and acceptance.

Management of PTSD begins with a systematic collection of data on the victim's developmental history and premorbid functioning, and a chronologically ordered, sequentially specific detailing of the entire traumatic event. This detailing focuses on the time of the day, the day of the week, the month, and year; the people involved in the event—relatives, friends, strangers, helpers, or rescuers, authorities; the victim's evaluation of his or her performance during the event; and so on.

Second, management requires the administration of brief standardized tests (Lindy, 1988) to assess: (1) the degree of experienced stress (selection made for specific trauma or modified), (2) cognitive processing (e.g., Impact of Event Scale (IES) (Horowitz et al., 1979)); and (3) global severity index of overall psychopathology (e.g., Symptom Checklist-90 [SCL-90], Derogitis, 1977). The clinician may choose to administer parts of this battery during the course of the treatment to objectively monitor progressive and regressive changes in the areas of stress responses, cognitive processing of the trauma, and in global severity of the patient's psychopathology.

Third, management continues with a multiphasic interconceptual model of post-traumatotherapy. The model attempts to realistically address the

multiplicity of variables and complexities of PTSD as discussed in this chapter so far. It spans comprehensively from addressing the victim's initial biopsychic disorganization and intrusive ideas and images, adrenergic hyperreactivity and associated affectivity of anxiety and fear of falling apart and of losing control, to working through the trauma to build "prophylactic structures of maturation" (to guard against future regressions).

Integrating multiple schools of psychotherapy, the model uses cognitive-phenomenological (to deal with pathology-sustaining beliefs and emotionality), behavioral (actional patterns), somatic (biophysiological aspects), psychodynamic (awareness and insight), and existential (to deal with meaning) techniques to meet the patient's spectrum of needs comprehensively over time. Thus, the model espouses reparative techniques that span from crisis to integration.

Called "post-traumatotherapy," the model consists of four phases geared to repair the massive damage to self processes, and to heal attachment dysfunctions, described in this chapter. These phases incorporate the usual psychotherapy stages of engagement, pattern search, change, and termination (Beitman et al., 1989). Psychotherapy is the major reparative modality, with somatic and social therapies playing vital, facilitative roles. The model is applied to addressing the needs of battered women (Kemp, Rawlings, & Green, 1991; West, Fernandez, Hillard, Schoof, & Parks, 1990); rape victims

(Katz & Mazur, 1978); and other trauma populations. It incorporates the patient's situational stresses such as minority status (Penk & Allen, 1991), and divorce (Dreman et al., 1991). Action becomes the critical healing dimension of each phase. Thus three self-in-action dimensions are addressed in each phase: self-focus (e.g., cognitive processing of trauma elements, guilt, rage), self in relation to others, and self in relation to the social and physical environment.

POST-TRAUMATOTHERAPY: THE PHASES OF REPAIRING DYSFUNCTIONAL ATTACHMENT

Phase 1. Shielding: Stablizing Affectivity

During the immediate post-traumatic or post-emergency period the victim is caught up in the throes of powerful affectivity from central noradrenergic reactivity, and reactive cognitive responses which may escalate to dangerous levels and result in cognitive dissociation. The major task after a traumatic crisis (whether acute or chronic [occurring after a trigger]) is the immediate management of the state of post-traumatic affective stress response syndrome, which consists of intense anxiety, fear, guilt, shame, anger, outrage, depressive mood, narcissistic rage, and phobic reaction in the context of dissociative mechanisms.

Risks of cardiovascular damage and neuromuscular strain are

significant for some victims during this phase. The goal, therefore, is to down-regulate the influx of mental imagery and peripheral SNS reactivity and reverse varying degrees of biopsychic regression in the patient (Brende & McCann, 1987). At this point of engagement, the victim is in need of a cohesive system of holding and protection from stimuli referred to as "shielding." Shielding is achieved via: (1) the therapist's basic calmative and trust-engendering attitude; (2) psychopharmacotherapy; (3) cognitive and behavioral procedures; and (4) stress management.

Safe-Holding as Prerequisite for Post-Traumatic Reattaching

PTSD is also disorder of "dysattachment." Through the therapist's reassurance, safety, and shielding functions, the victim's inner world of turmoil, fear and threat of losing control abates, allowing attachment to reoccur. However, the therapist must be perceived as a safe, benevolent, reliable, competent, and idealizable (Kohut, 1977) person who knows how to handle the internalized anguish, fear, intense anxieties, aggression, and anticipated threats of breakdown in victimization. This is a form of psychobiological synchroniety, similar to Field's description of being "on the same wavelength."

Safe-holding is a therapeutic relationship factor: it relates to the therapist's capacity to shield the victim from further noxious stimulation as a

material one shields and protects the young child who is being torn apart by primitive agonies. Self-holding and shielding are prerequisite for repairing broken bonds or dysattachment. The therapist is required "to go all out" for the patient (Little, 1957), while monitoring a variety of countertransference (CT) reactions (Parson, 1988a).

Psychopharmacotherapy

Drug therapy is an important dimension of the overall psychotherapeutic enterprise with PTSD patients especially in the beginning of the therapy. The success of psychotherapy with victims often depends on the rational use of specific drugs by sensitive, trauma-informed, and experienced psychiatrists (Yost, 1987). Pharmacologic therapy may help increase the patient's capacity to differentiate between external and internal and control cognitive dissociative trends so essential to learning in psychotherapy. Drugs may thus perform the very critical task of "biological preparation" for therapy and increase in personal well-being.

As noted before, PTSD has a stable biological profile which reflects changes in the SNS, neuroendocrine system, and sleep-dream cycle. Thus, during the immediate post-traumatic period, patients experience intrusive-repetitive symptoms and hyperarousal. Drug treatment and the therapist's reassuring and idealizing posture may alleviate the menacing subjective

experience of "lost somatopsychic security."

As an arousal disorder characterized by a "hypoadrenocortical state" (Friedman, 1988; Kramer, Kinney, & Scharf, 1982), PTSD is marked by insomnia and disturbed sleep pattern for which drug therapy is particularly valuable for the patient. Psychopharmacological agents have been found to be particularly effective with specific intrusive-arousal symptomatology of PTSD. DSM-III-R's Criterion B and Criterion D are most responsive to medications, while numbing and avoidance symptoms are not as responsive, unless they are accompanied by depression (Friedman, 1988).

The multi-symptomatic nature of PTSD make selection of proper medication very difficult (Embry & Callahan, 1988). In acute cases, the physician is careful not to give medications before a clear picture emerges. In chronic cases, a careful evaluation for suicide and a physical examination are warranted since studies have shown that chronic PTSD is associated with significant medical complaints from deterioration in physical health.

Addressing Intrusive-Arousal Symptoms. Embry and Callahan (1988) found tricyclic antidepressants (TCAs) to be the best pharmacologic group of agents for PTSD treatment, second only to the combination of TCAs and neuroleptics (N) or benzodiazepine (BDZ). Though TCAs are routinely used in nontrauma contexts for dysphoric symptoms like anhedonia, concentration

problems, and insomnia, Embry and Callahan (1988) found TCAs (chiefly Imipramine [Tofranil] and Doxepin [Sinequan] to alleviate flashbacks, recurrent dreams, anxiety, depression, sleep disturbance, feeling of detachment, and anhedonia. Other studies found that Amitriptyline (Elavil) was also helpful in reducing the adverse effects of nightmares, flashbacks, dysphoric mood, and insomnia (Falcon, Ryan, Chamberlain, & Curtis, 1985; Roth, 1988).

Burstein (1984) had also found Imipramine to ameliorate intrusive symptoms in victims of vehicular accidents, while Kolb, Burris, and Griffith (1984) found that the monoamine oxidase inhibitors (MAOIs) propranolol (Inderal) and clonidine (Catapres) useful in regulating outbursts of aggression, nightmares, hyperalertness, exaggerated startle response, insomnia, and arousal in war veterans with chronic PTSD.

Benzodiazepines like Diazepam (Valium) and Oxazepam (Serax) are useful for high levels of anxiety, while Alprazolam (Xanax) alleviates panic attacks, and Flurazepam (Dalmane) was helpful with insomnia (Friedman, 1981; Van der Kolk, 1983). Phenelzine (Nardil), a MAOI, features an antidepressant and antipanic effect. Anti-anxiety (or benzodiazepines) psychotropic agents marketed as hypnotics (sleep medications) are Triazolam (Halcion), Flurazepam (Dalmane), and Temazepam (Restoril) and are used with significant success in ameliorating this PTSD symptom. In

addition to BDZs, the MAOI propranolol, and lithium carbonate are also used as hypnotic agents (Van der Kolk, 1983). Shalev and Rogel-Fuchs' (1992) study of the arousal phenomenon of auditory startle-reflex in PTSD patients found that clonazepam was helpful in the treatment of this symptom.

Autopharmaco-"Therapy." Alcohol and anti-anxiety agents, the benzodiazepines, are abused by many combat veterans who need to self-medicate for arousal symptomatology. Assessment of the history and current status of this practice is important to the treatment experience.

Teaching Pretherapy

Pretherapy informs the victim what he or she is to expect from the therapy, offering an opportunity for informed consent. Definitions of therapy, reasons for therapy, who seeks therapy, why, and possible risks are among the important issues to be explored in pretherapy. This procedure reduces anxiety over the unknowns of therapy, and prevents premature termination.

Cognitive Procedures

These procedures aid the anti-adrenergic effects of drug therapy by promoting opportunities for the successful cognitive processing of the event in an attempt to overcome cognitive distortions of PTSD and to cognitively organize and master the trauma. Horowitz's (1976) "crisis-oriented

psychodynamic therapy" is founded on the premise that trauma causes information overload which overwhelms the victim's information-processing cognitive capacities. He recommends that when the patient is in the intrusive-repetitive mode the therapy focuses on developing controls from the external world, while the therapist serves as an extension of the patient that organizes information for the victim.

Additionally, rest and relaxation are important as well as reducing external demands upon the patient. If the patient is in the denial-numbing mode the therapy focuses on reducing the effects of these defenses. Other cognitive procedures used during this phase by this writer are: cognitive restructuring and other rational-emotive therapy techniques (Ellis, 1962) and educopsychological procedures to enhance information-processing through helping victims achieve a cognitive grasp of their trauma responses, and move toward a self-managed life style (Williams & Long, 1975).

Behavioral Procedures

Behavioral approaches assist the victim to manage memories of the trauma through the application of implosive therapy and imaginal flooding (Keane et al., 1985), systematic desensitization (Schindler, 1980), relaxation training (Bernstein & Borkovec, 1975; Parson, 1984), behavioral rehearsal (Fairbank & Keane, 1982), stress inoculation training (SIT) (Meichenbaum,

1974), and behavioral bibliotherapy (Marafioti, 1980; Parson, 1984). Kilpatrick and Resnick (1992) and Foa et al. (1991) used SIT, and cognitive-behavioral procedures and counseling for rape victims who showed fear, anxiety, tensions, and depression.

Stress Management and Biofeedback

Stress management consists of procedures aimed at increasing physiological regulation, inner tranquility and sense of competence over the subjective sense of losing control.

Social Skills and Communications Training

The ordinary tendency to isolation and to feeling misunderstood by family, friends, and work peers and supervisors is a very significant area requiring direct intervention. Communications skills are core elements in successful reintegration into family, work, and community. The therapist's basic technical posture in phase 1 is characterized by active engagement and self-disclosing behavior.

Phase 2. Consolidation and Deepening of Trust

This phase presupposes that a significant reduction of the uncontrolled adrenergic eruptions of phase 1 (stabilization) has occurred. Building self-

esteem, idealizability, and trust are key processes during this phase. Victims gradually learn to face self—to stay with trauma-induced feelings without backing off. Specific behavioral techniques are taught to assist the victim learn skills in relaxation, and self-management (Williams & Long, 1975). Cognitive approaches are geared to help some patients overcome black-white thinking (Alford, Mahone, & Fieldstein, 1988), and manage emotions associated with somatization disorder and overcome aspects of social stigma, especially among Vietnam veteran patients (Fleming, 1985).

As carryover from first phase of the natural history of PTSD, symptoms involving "the heart, stomach, urinary tract, genitals, muscles, nerves, and blood pressure" (Brende & Parson, 1986, p. 222) are present during this phase. Additionally, problematic phase 2 symptoms of emotional detachment and numbing, partial or full amnesias, and anhedonia (Brende & Parson, 1986) are essential focus for treatment. Responses are integrated into the treatment and are conducted within a context of therapeutic support, with a "suppressive-repressive" emphasis, which prepare the patient for the strenuous demands of phase 3.

The victim's cognitive and affective functioning are carefully monitored to determine the degree of numbing defenses utilized and the relative relation to intrusive ideation and related anxious arousal. Specific techniques are employed to build skills in becoming an effective partner in the

therapeutic venture. The patient's concerns, guilt, and dynamics in relation to his or her children (Haley, 1987), family (Figley, 1988), work, career, and the future in terms of effectance (or sense of competence) are important issues during this phase in order to solidify the therapeutic relationship.

Deconditioning emotional responses to traumatic memories associated to PTSD such as Shapiro's (1989) eye movement desensitization is valuable during this phase. The therapist is always mindful of the need to keep all procedures connected to the patient's presenting traumatic complaints in the beginning of the therapy. Therapist's self-disclosure is very important in this phase to reduce isolation, offer continued reassurance, and increase self-esteem. A full evolution of PTSD patterns as well as search for characterological patterns emerge in this phase. Preparation for phase 3 is essential to secure to the overall treatment enterprise, and the therapist's posture is active with less self-disclosing information than previous phase.

Phase 3. Controlled Regression

This phase consists of psychologically returning to the "psychic site of the trauma." It presupposes the development of sufficient trust and the acquisition of new psychological structure and integration of the trauma to "permit" the anxiety-provoking regression. Systematic stress management skills and employment of these techniques prepare the patient for the journey

back. The goal of this phase is abreaction, a prerequisite integration of the trauma. Therapeutic regressive or reexposure techniques may include hypnosis, yoga, implosive flooding therapy (Keane, Fairbank, Caddell, & Zimering, 1989) or the "helicopter ride therapy" devised for traumatized veterans (Scurfield, 1992). The therapist's total focus is on the patient's needs around regressive reliving of the event.

Phase 4. Integration and Completion

This phase utilizes psychodynamic procedures and techniques to further consolidate the victim's personality. Using chiefly the tool of interpretation, confrontation, and overt exploration of transference, the goal of the phase is personality change at deep levels. This may serve prophylactic functions against the eruptions of latent trauma elements which form the dissociated bedrock of the personality. If it is determined that the goal of the overall treatment can be enhanced by collateral therapeutic procedures or modalities (such as stress management, marital therapy, group therapy) arrangements are made with other therapists or agencies.

Healing the split-off aspects of self is a major objective of the overall treatment enterprise. These splits or disjunctive gaps are associated with the victim's sense of attachment to self and others. Attachment theory (Emde, 1982) sheds light on the profound rupturing of the sense of connectedness

between the victim's self and the world. Healing and integration of necessity, therefore, calls for a "re-attaching" of severed strands of the self's fabric which connects it to life-sustaining forces in others and in the environment.

The phase ends with an existential focus through which the victim's meaning system is consolidated. Some victims may continue to require cognitive, behavior modification, and stress management procedures to retain the change and growth they had achieved in therapy. This can in part be determined through the administration of the post-traumatic assessment battery. Ultimately, for anchored change and transformation to occur, the survivor becomes socially engaged to achieve internal balance and establish equanimity and control. For psyche and soma "cannot fully integrate internally until [they] attain harmony communally" (Tien, 1987, p. 181).

SUMMARY AND CONCLUSION

Post-traumatic stress disorder (PTSD) is a nosological entity that appeared officially for the first time in the DSM-III (APA, 1980). The diagnosis requires five criteria: history of trauma and intrusive, avoidance, arousal, and a temporal factor. It is one of the most exciting areas of scientific inquiry and therapeutic work. Interests in the area grows daily, and the national and international organizations recently established the symposia, lectures, and professional, scientific, and popular publications in the area attest to the

significance of PTSD in psychology, psychiatry, psychoanalysis, sociology, and law. It affects children, adolescents, young adults, middle-aged, and senior-aged individuals. It impacts all nations, and all racial and ethnic groups. Its devastating effects damage the victim's physiology, biology, cognition, and behavior.

PTSD appears to be a pressing public health problem, as drug-related violence, social violence, and family violence infest communities. As this ubiquitous pattern of violence flares up and engulfs people's lives, PTSD becomes an ever-increasing threat and reality. Though estimates of PTSD in some trauma populations have been reported (for example, Vietnam veterans [CDC], 1988; Weiss, Marmar, Schlenger, & Fairbank, 1992), prevalence rates in the general population are not known at the present time. However, Helzer et al. (1987) have reported the controversial rate of PTSD of 1 to *2%* in the general population. Though this figure seems small it means that at least 2 to 5 million persons suffer from PTSD are in need of effective intervention strategies to prevent life cycle-long disabilities that attend this disorder.

Assessment and therapy in PTSD requires a wide ranging theoretical and practical information base. They thus call for an appreciation of basic physiological stress response processes, the employing of scientifically-based traumatic stress assessments (Keane et al., 1987; Lyons, 1991a; Malloy et al., 1983; Penk & Allen, 1990), and understanding the role culture and adapted

character styles play in the expression and meaning of the trauma (Boehnlein, 1987; Parson, 1985a, 1992; Sherwood, 1990). The integration of multiple therapies such as psychotherapy (Lindy, 1988; Parson, 1984; Scurfield, 1985), sociotherapy (Parson, 1990b), drug therapy (Davidson, 1992), may provide the most efficacious treatment plan for victims of biopsychic stress.

Toward DSM-IV, ICD-10, and Beyond

Despite the progress in PTSD instrumentation and research and adequate levels of diagnostic accuracy, sensitivity, and specificity for PTSD, there exists to date no "gold standard" for diagnosing PTSD (Penk & Allen, 1991). Clinical experience and scientific studies have raised questions bearing on the taxonomic appropriateness since PTSD may have its own nosologic or taxonomic boundaries that separate it from other disorders. Perhaps some changes in current classification and descriptions based on clinical observation and scientific findings may increase diagnostic specificity.

Traumatic Stress Syndromes

Is PTSD an anxiety disorder? Anxiety is related to PTSD but is not a predominating factor or precondition for the disorder (APA, 1987). Unlike the anxiety in anxiety disorders (e.g., GAD, phobic disorder, obsessive-compulsive disorder), which are seen as irrational responses ("irrational anxiety"),

anxiety responses in PTSD are connected to real events ("rational anxiety") which did actually occur. PTSD is probably not an anxiety disorder, and should therefore be reclassified to another nosological category such as "traumatic stress syndromes," with specific subcategorizations could conceivably contribute to achieving an increase in diagnostic accuracy by refining description, prediction, and explanatory formulations. Such reclassification could aid in the development of a common language among clinicians and scientists, and reduce the historical and contemporary chaos in the field (Boulanger, 1990).

Subcategorizations of PTSD

Green et al. (1985) maintain that problems dealing with etiology, natural course of the disorder, and diagnostic specificity are important issues to be grappled with in the field. Not all stressors are equal; not all stressors produce the same form or degree of long-term post-traumatic symptomatology. For example, human-engineered events leading to PTSD are more devastating to the victim than trauma caused by natural events. Thus, rape produces more distress and negative experiences than other crimes (Kilpatrick et al., 1989). War experiences are probably very different from torture experiences, and a victim of a technological disaster may differ from an incest trauma victim. As noted earlier, life-cycle stage or age at the time of trauma tend to have differential impact, with children and the elderly being

most vulnerable. Additionally, prior trauma or family psychiatric history may be important variables in succumbing to PTSD and its maintenance into the chronic stage. The diagnostic scheme should allow for *nonpathological* traumatic stress responses.

Proposed here is a classification that takes these factors into account. The diagnosis of PTSD is accompanied by additional information bearing on etiology-vulnerability and coping. Stressor characteristics such as intensity, duration, and type of stressor are balanced with personal factors like vulnerability and coping. Thus the following sequence of data presentation is proposed: diagnosis (di), precipitating stimuli (ps), vulnerability (vu), and coping (co). A woman with PTSD who was raped and had a history of family psychiatric illness and good coping at the present time would be coded as: PTSD (di), rape (ps), FPI (vu), and + (co). A war veteran who killed in the war and was also wounded, with no psychiatric history, and currently has poor coping is recorded as: PTSD, war (specify stressor[s]), NFPI (no family psychiatric illness), and —. A child who witnessed parental murder with good adjustment, no mental illness in family, with moderate coping capacity would be: PTSD, witness, NFPI, child, and +—. Additionally, a woman who survived a tornado mishap where others died and reports mild, normal responses to trauma, but has a prior history of trauma (incest), and blames an authority for the mishap is recorded as PTSD/CNAMD ("Conditions Not Attributable to a Mental Disorder"), tornado—HE (human-engineered), prior trauma (pt) and

+. This victim may be expected to go through later eruptions of post-traumatic symptoms due to both the impact of prior trauma and the human-induced nature of the trauma.

O'Donohue and Elliott (1992) have argued eloquently for a similar reclassification, while Green et al. (1985) had earlier advocated a specific focus on etiology, natural course of the disorder, and factors bearing on diagnostic accuracy in order to improve the assessment and diagnostic accuracy in the DSM-IV. Herman (1992) argues persuasively for the inclusion of DESNOS (Disorders of Extreme Stress Not Otherwise Specified) in DSM-IV for cases of "complex PTSD" characterized by prolonged, repeated trauma. As "a diagnosis that spans national and international boundaries," the World Health Organization's ICD-10 (International classification of diseases, 10th ed.) "will promote the systematic global use of the term" (Weisaeth & Eitinger, 1992, p. 1).

This chapter was written to offer the clinician a broad spectrum of issues in assessment and treatment of PTSD, and guide the research investigator to salient gaps in knowledge in which to direct effort in scientific study. It continues to be clear that much research needs to be done in every major area of PTSD in order to build on the present clinical and empirical foundations of this new emerging field.

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