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TOWARD A TAXONOMY OF STRESS: DISTINCTIONS BETWEEN TRAUMA, LIFE EVENT STRESS AND DAILY HASSLES

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Abstract

In recent years, the spectrum of stress phenomena, ranging from the tragic to the mundane, has received a great deal of attention in the research literature. Research has found that exposure to a broad range of stress phenomena increases the risk for subsequent psychopathology (Kanner, Coyne, Schaefer, & Lazarus, 1981; Lewinsohn, Mermelstein, Alexander & MacPhillamy, 1985). The assumption that stress phenomena vary along a continuum from mild to severe underlies much of this research (Dohrenwend & Dohrenwend, 1978). Trauma has been understood to constitute the class labelled severe, life event stress (LES) the moderate, and daily hassles (DH) the mild. In empirical studies, these classes have thus been assumed to vary in terms of degree (i.e., quantity) rather than in terms of qualitative differences.

In an attempt to clarify the nature of these possible differences in stress phenomena, the present study involved a comparison of three classes of stress as they relate to three variables: psychopathology, coping style, and assumptive world view. It was expected that qualitative, and not just quantitative, differences would be found among the three classes of stress.

Three hypotheses were tested: 1) Exposure to different classes of stressful events is correlated with different types of psychopathology; 2) assumptive world view is significantly related to trauma exposure (i.e., only trauma results in shattered assumptions about self and world); and 3) the type of coping strategy used is related to the type of stress exposure. Persian Gulf veterans completed questionnaires about: A) stress exposure; B) distress and psychopathology; C) coping style; and D) assumptive world view.

The major finding of the present study was that exposure to trauma has a unique and profound impact on victim's reliance on engagement coping strategies. The implications and limitations of the present findings as well as recommendations for future research were discussed.

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CHAPTER I

Introduction

Statement of problem and research objectives

Research has documented that traumatic events produce profound and often lasting changes in the mechanisms that mediate physiological arousal, emotion, cognition, and memory (Herman, 1992; van der Kolk, 1987). Until recently, the consequences of specific traumatic events such as war, concentration camp experiences, rape, child abuse, natural disaster, experiences of political persecution and "ethnic cleansing" were generally viewed as entirely separate entities. However, as researchers began to compare the experiences of victims across the range of traumatic events, a remarkable degree of consistency became apparent. Recognition of the core features of a generalized and over-arching post-traumatic reaction attained official diagnostic status with the introduction of Post-Traumatic Stress Disorder (PTSD) in the DSM-III (1980). This recognition of a core post-traumatic reaction has improved theoretical understanding and clinical treatment of trauma victims.

Just as similarities in the psychological outcome of a range of traumatic events are now recognized, the category of trauma, itself, is often subsumed within the construct of "stress". Although little research has been conducted to confirm this linkage, trauma is nonetheless assumed to represent the end point of a continuum of stress phenomena. This document explores the meaningfulness of characterizing trauma as a point along a "stress continuum."

Gradations along this hypothesized stress continuum are generally grouped into three categories. The first category is "trauma" which has been defined as those events that are "outside the range of usual human experience and that would be markedly distressing to almost anyone" (DSM-III-R; APA, 1987). Events within the trauma category include experiencing, witnessing, or confronting the actual or threatened death or serious injury, to one's self or others. Typical responses to traumatic events are intense fear, helplessness, or horror (DSM IV; APA, 1994). The second category, termed "life event stress", refers to those events "whose advent is either indicative of, or requires a significant change in, the ongoing life pattern of the individual" (Holmes & Masuda, 1974, p.437). This category includes such experiences as relocating, the birth of child, getting married, starting a new job, and changes in financial or social circumstances. In contrast to trauma, in which all traumatic events are clearly negative, life event stress has traditionally been assumed to include all significant change events, both negative and positive. The third category is "daily hassles", a term which refers to those events and circumstances that represent "the irritating, frustrating, distressing demands that to some extent characterize everyday transactions with the environment" (Kanner, Coyne, Schaefer, & Lazarus, 1981, p. 2). Included in this category are seemingly minor events such as the arrival of unexpected guests, neighborhood deterioration, fear of rejection, getting caught in traffic or experiencing car trouble.

In recent years, the spectrum of stress phenomena, ranging from the tragic to the mundane, has received a great deal of attention in psychological research and in

the popular culture. An extensive literature has documented that exposure to each of these classes of stress is correlated with both physical and psychological illness. For example, the trauma literature documents that those exposed to traumatic events often share a distinct cluster of psychological symptoms including hypervigilance, intrusive memories of the event and extreme avoidance of stimuli reminiscent of the trauma (Green, Grace, Lindy, Titchner & Lindy, 1983; Keane, Wolfe, & Taylor, 1987). This cluster of symptoms can result in a diagnosis of Post-traumatic Stress Disorder (hereafter PTSD). With respect to life event stress, individuals exposed to an unusually large amount of ordinary life event stress within a relatively short period of time are more vulnerable to depression, neurotic disorders, episodes of psychosis, suicidality, heart disease, sudden cardiac death, and cancer (Lewinsohn, Mermelstein, Alexander & MacPhillamy, 1985; Sarason, Johnson & Spiegal, 1978). Even minor events or daily hassles have been shown to play a prominent role in creating or exacerbating a wide range of physical and emotional disorders (Burks & Martin, 1985; DeLongis Coyne, Dakof, Folkman & Lazarus, 1982; Lewinsohn & Talkington, 1979; Monroe, 1983).

Although the research cited thus far clearly demonstrates that stressful experiences do indeed increase one's vulnerability to a vast array of physical and psychological disturbance, one issue that remains unclear involves the nature of differences among these three classes of stress (Breslau & Davis, 1987; Keane, et. al., 1993; Taylor, 1984; Ursano, 1987). Since the relationship between stress and psychopathology has been investigated through largely separate lines of research, each limited to a single

targeted class of stress (i.e., trauma, life event stress, and daily hassles), stress theory and research have rarely addressed the nature of the relationship among the different classes of stress. These independent lines of research have yielded a wealth of information and provide impressive support for the role of stress in the development or exacerbation of psychopathology. No integrated theory of stress, however, has emerged (Hobfoll, 1989). Whether trauma, life event stress and daily hassles represent continuous phenomena or whether they are categorically distinct phenomena has yet to be determined.

Given the plethora of research on stress phenomena, it is surprising that so little research has addressed how best to represent stress phenomena. This area of inquiry is particularly important because the identification of both similarities and differences in the experience and impact of stress events will greatly enhance the treatment and prevention of psychopathology (Hovanitz, 1986). The nature of the distinctions among stress phenomena may be qualitative or quantitative. Different classes of stress might vary in terms of degrees of intensity along a "stress intensity" continuum and thereby lead to distress or psychopathology through the same basic mechanisms (i.e., to be dependent on the level of stress intensity). Or they could represent categorically distinct classes of experience that lead to distress and subsequent psychopathology through entirely separate channels. By measuring exposure to several classes of stress phenomena, within the same investigation, the current study provides an exploration of the nature of potential differences among several classes of stress phenomena.

There are several ways to probe the nature of stress class differences. Stress categories may be compared in terms of: a) observable event characteristics (e.g., event duration), b) impact on psychological functioning (e.g., emotional distress and psychopathology following stress), or c) the degree to which variables such as coping skills, social support or assumptive world view mitigate the harmful impact of the stress exposure on psychological functioning (i.e., act as mediator variables). In the present study, the latter two means of comparison were employed through an investigation of psychopathology and two potential mediator variables, coping and assumptive world view. Psychopathology and coping represent the two variables most often explored in stress research. "Assumptive world view" (Janoff-Bulman, 1989), a concept introduced in the trauma literature to explain the nature of post-trauma reactions is also included in order to examine the specificity of its association to trauma (i.e., as opposed to stressful life events and daily hassles). Janoff-Bulman (1989, 1991) among others (Horowitz, 1979) have proposed that individuals enter situations with certain schemas about the nature of the world and the vulnerability of the self. These beliefs and world assumptions are believed to be "shattered" by exposure to traumatic events.

The central goal of the present study was to address the nature of the differences between classes of stress as they relate to psychopathology, coping and assumptive world view. Toward this goal, three central areas were examined.

First, the specificity of the relationship between psychopathology and stress class was examined in order to determine the degree to which measures of

psychopathology were uniformly or distinctly related to experiences with each class of stress (i.e., trauma, life event stress and daily hassles). Second, the specificity of the relationship between stress class, psychopathology and coping was examined. Finally, the association between assumptive world view and each class of stress was examined.

The participants of this study were active duty soldiers stationed at Fort Knox Army Base who had served in the Persian Gulf War. Volunteers completed questionnaires regarding their exposure to three classes of stress: 1) traumatic stress including events of combat-related trauma and a separate measure of childhood physical and sexual abuse and civilian traumas, 2) life event stress involving events such as moving, loss of job, or divorce, and 3) daily hassles including relatively minor stressors such as trouble with traffic or time pressures. In addition to stress exposure, subjects were asked to complete a series of questionnaires which surveyed: a) their current state of distress and psychopathology, b) their coping styles, and c) their basic assumptions about the world and themselves.

The review of the literature to follow begins with a brief history of the stress literature. This is followed by a review of current approaches to understanding and defining stress (e.g., stress as change, stress as environmental conditions, stress as process, stress as loss). Within this context, the introduction of coping and assumptive world view as potentially important variables in understanding the relationship between stress and psychopathology relations will be reviewed. The chapter ends with a formal statement of hypotheses. The methodology is described in Chapter II. The statistical analyses undertaken to address the questions of interest are described in Chapter III. A

discussion of the implications of this research and recommendations for future research follows in Chapter IV.

Literature Review

Background of the interest in the study of stress

In this section of the literature review, a brief history of the study of the psychological impact of stress on the individual will be reviewed. The psychoanalytic literature, which has generally relied on single case studies, will be reviewed first. This will be followed by notions of stress which have developed from laboratory research done initially on laboratory animals.

Psychoanalytic study of stress

The past century has witnessed a waxing and waning of clinical interest in the psychological aftermath of traumatic stress (Herman, 1992). In the psychoanalytic literature, in particular, acknowledgment of the profound impact of environmental stress on the psyche has weathered decades of cyclical assertions followed by recantations (Herman, 1992; Trimble, 1978). Freud's early assertion and later recantation of the pivotal role of a history of traumatic abuse in the lives of the female hysterical patients whom he treated is perhaps the most notorious example of this dialectic. At first, Freud boldly proposed that hysteria, that mysterious condition suffered by so many nineteenth century women, was a response to sexual abuse in childhood, usually incest perpetrated by a male paternal figure. This assertion was met with cool disbelief and even ridicule from the Viennese scholarly community. Perhaps, as Herman (1992) and others have suggested, the implications of the existence of widespread child sexual abuse were simply too horrifying to face.

As Masson (1984) has asserted, a reasonable case can be made that in response to the reactions of his colleagues, Freud revised his theory that some adult psychopathology is a sequela of childhood sexual trauma. Female patients' "memories" of incest, Freud decided, were actually evidence of unconscious, disavowed wishes for sexual attention from their fathers. Furthermore, he proclaimed that exploration of childhood sexual trauma, even when it actually had occurred, was less important than was a thorough examination of the neurotic symptoms, unconscious conflicts and fantasies evoked by the traumatic events. As a result, the primary focus became the hidden layers of intrapsychic neurotic conflict within the patient, while the importance of the veracity of the trauma histories faded into the background (Everstine & Everstine, 1993). Psychoanalytic literature from this period is replete with formulations of "hysterical" female patients who exaggerated, misinterpreted or fantasized sexual violations, and "cowardly" soldiers whose "failure of conscience" led to "war neurosis" and "malingering" which interfered with the adequate performance of their duties.

More recently, however, awareness has resurfaced of the importance of past trauma in the lives of those suffering psychologically. Spurred by the political heat of the Vietnam War, the women's movement, and heightened concern about the impact of child abuse, there has been a significant surge of scholarly interest in stress in the past 30 years (Figley, 1980; Herman, 1992; van der Kolk, 1987). The increased willingness to acknowledge, confront and understand the meaning and implications of atrocity and victimization has given credence to examination of the powerful impact of

traumatic stress on psychological functioning. Within this Zeitgeist, the psychological aftermath of exposure to traumatic stress has once again overshadowed emphasis on the internal vicissitudes of fantasy and internal psychological conflict (Herman, 1992).

Clinicians and researchers have begun to recognize a whole spectrum of traumatic disorders, ranging from the effects of a single overwhelming stressful event to the more complicated effects of prolonged and repeated exposure to traumatic stress. Explicit links are also being made between childhood and adolescent trauma and subsequent psychological distress in adulthood. Clinicians and researchers of varied theoretical backgrounds have begun to focus on the etiological role of trauma in shaping character pathology in adult life (Herman, 1992; Keane, Zimmering, Knight & Kaloupek, 1993).

Recognition and exploration of traumatic stress and its psychological impact on victims has political implications which confront entire communities with a variety of ethical and financial dilemmas. Acknowledgment of rape, political torture, domestic violence, natural and technological disasters, childhood sexual abuse, and the horrors of war may transform not only our notions of psychopathology but also our social structure. As Albee (1980) suggests:

> If the "evil" is inside the person, then we do not need to change anything except the person, and the damaging status quo is left intact. (p. 223)

Thus, this trend of refocusing on the role of stress in psychopathological outcomes and on placing environmental etiologies of psychopathology in bold relief has political and social implications.

The emotionally- and politically-loaded implications made so palpable in clinically-based literature on trauma and stress are less apparent in laboratory-based stress research. Evidence from both lines of inquiry, however, confirm the importance of exploring environmental causes of psychopathology. While clinical inquiries have focused more on traumatic events, laboratory research on stress has explored less politically-charged material (unless you're an animal activist). Indeed, the first laboratory inquiries into stress focused on the impact of physiological deprivations and physical conditions, such as extreme cold and lack of oxygen.

Laboratory research on stress

Within laboratory research, interest in the impact of stress on organismic functioning began with a simple but compelling analogy drawn between inanimate objects and living organisms (Cannon, 1929, 1936; Selye, 1929). Borrowing from the concepts in physics of "stress" and "strain", Cannon (1929; 1936) and Selye (1929) suggested that organisms, like physical objects, initially resist moderate outside forces, but eventually lose their resiliency with the addition of greater and greater pressure (i.e., strain is produced in organisms when stressed beyond their adaptive limits). Walter Cannon (1929; 1936) has been cited as the first modern researcher to apply this concept of stress to understanding humans in the laboratory. Principally concerned with the effects of cold, lack of oxygen and other environmental stressors on physiological responses, Cannon concluded that, while low level stressors could be withstood, severe or prolonged stressors lead to a breakdown of biological systems (Cannon, 1929, 1936).

In keeping with Cannon's work, Selye (1929) also used the physics analogy of stress and strain in his study of physiological responses. Selye (1929, 1979) helped to popularize stress research when he asserted that any and all stressors (i.e., physical as well as psychosocial) will elicit the same stereotyped pattern of physiological response. He called this pattern of response the General Adaptation Syndrome (GAS). This syndrome included three phases: "1) an alarm reaction, in which adaptation has not yet been acquired; 2) the stage of resistance, in which adaptation is optimal; 3) the stage of exhaustion, in which adaptation is lost again" (Selye, 1975).

Although later research demonstrates that the stress response is far more specific and far more complex than Selye's original model, at the time of its introduction, the simplicity of his model captured the interest of a generation of researchers from diverse fields. His work thus profoundly influenced research in medicine and neurobiology and was the catalyst for interest in psychosomatic phenomena (Elliot & Eisdorfer, 1982). Several of Selye's ideas continue to influence the way stress is conceptualized. For example, Selye's (1929, 1976) assumption that organisms have a finite supply of adaptive energy to invest in stressful transactions underlies much of Holmes and Rahe's (1969) work on life event stress.

In summary, research and clinical conceptualizations of stress phenomena and of the impact of stress developed from two traditions in the psychological literature: the domain of psychoanalytic theory and clinical work and the domain of laboratory research. Psychoanalytic and clinically-based notions have developed in the context of alternating eras of denial and acknowledgment of the impact of horrific events such as

incest and war. Within the research literature, notions of stress evolved from an analog of stress and strain borrowed from physics. For many clinicians and researchers, inquiry into the relationships between stress and psychopathology continues to be compelling because of the implications this work has for our understanding of many longstanding dualities: nature-nurture, mind-body, personal-political and disease-health. Inquiry into the impact of stress on psychological functioning represents movement away from mechanistic, medical models of disease and individual causality and toward the embrace of more complex, holistic conceptualizations of disease and health that acknowledge the impact of social and environmental realities.

Four Theoretical Approaches to Stress Phenomena

In this section, four major theoretical approaches to understanding and defining stress phenomena will be reviewed including: (1) the work of Holmes and Rahe (1969) in which change is considered the key variable in stress; (2) stress formulations which distinguish between stressful events and stressful conditions (Elliot & Eisdorfer, 1982); (3) the appraisal-driven approach to stress associated with Lazarus (Lazarus & Folkman, 1984); and (4) Hobfoll's (1989) formulation of stress as involving loss. The distinctions between daily hassles, life event stress, and trauma will be clarified in the reviews of the four models. In addition, the review of the literature on coping and assumptive world view will be incorporated into the review of these four models.

Holmes and Rahe: Stress as change

The work of Holmes and Rahe (1967) has been central in integrating psychological factors into the earlier, physiologically-focused stress research (see Lindemann, 1944, and Caplan, 1964 for exceptions). In contrast to previous laboratory research, Holmes and Rahe focused their efforts on identifying stressful events in the lives of human beings as opposed to animals. Stressful life events were defined as events "whose advent is either indicative of, or requires a significant change in, the ongoing life pattern of the individual" (Holmes & Masuda, 1974). Following Selye's (1974) "adaptive-cost hypothesis," which posits that the process of adaptation, in and of itself, causes deleterious effects, Holmes and Rahe asserted that the process of readjustment was inherently stressful, regardless of an event's positive or negative nature.

For the present purposes, two ideas posited in the life event stress literature are particularly relevant. The first of these is the assertion that for any stressful event it is change (whether positive or negative) that is the critical dimension leading to distress and/or psychopathology (Holmes & Masuda, 1974; Holmes & Rahe, 1967). The second idea, which is related to the first, and is also relevant to the present study, has to do with the assumption that stress events impact an individual in an additive manner. Thus, stress phenomena are assumed to be definable and measurable in terms of a change or "units of change" metric. Theoretically at least, this suggests that the "units of change" from different events accumulate and, that at a certain point, this accumulated stress will eventually adversely impact the individual. In other words, the

impact of relatively common events, such as job changes, financial losses, and marital conflict, are believed to be cumulative. For example, a 1-year period in which one moves, changes jobs and has a baby is believed to be far more stressful than a year which involves only a job change. When ordinary life events accumulate to "crisis" proportions, the probability of psychopathology is assumed to increase.

More intense stressors such as natural or technological disasters are assumed to differ from more common events in terms of the amount of change involved (i.e., such events would add more "change-units" than would less stressful events):

> Most of these life events, taken singly, are far less extreme than natural or man-made disasters. One reason is that a disaster is likely to entail as sequelae a number of events all at the same time or closely spaced in sequence - injury, loss of home and other possessions, death of a loved one. It seems reasonable to assume that life events must show a cumulative pattern, a clustering in the lives of some people in otherwise more ordinary times, if they are to have a similarly stressful impact and similarly severe consequences (Dohrenwend & Dohrenwend, 1977, p. 95).

This is a critical assumption which, if supported by research, may have implications for making distinctions between stress, trauma and daily hassles. First, the impact of a single but extraordinary event (i.e., trauma) is assumed to be similar to the cumulative impact of several ordinary events. Second, there is the further implication in the above passage that pathways to psychopathology are the same regardless of potential qualitative differences in stressors. In other words, the assumption that change per se is the "source" of stress clearly implies that traumatic events differ from more common stressors only in terms of the magnitude of change involved. Differences in stressor classes, then, are viewed as comparable in terms of the amount of change and

readjustment involved, as measured by the number of "units of change" attributed to each event.

In order to investigate the hypothesis that stress leads to psychopathology, Holmes and Rahe (1964) devised the Social Readjustment Rating Questionnaire (SRRQ), which is a list of various life-change events which all of us are likely to face at some point in life. To complete this questionnaire, the subject checks off whether or not particular stressful events had occurred within a specified time period (usually 6 months). Subjects' scores on the SRRQ consisted of numerical estimates of the amount of change involved in each event endorsed. Estimates were derived from the average degree of life change or readjustment assigned to life events by the sample on which the measure was standardized. Since this ground breaking effort, other research teams have also generated life event scales (Antonovsky & Kats, 1967; Brown & Birley, 1968; Dohrenwend & Dohrenwend, 1978; Paykel, Prusoff & Uhlenhuth, 1971). Some of these researchers, however, have found that a simple tally of endorsed life events provides a better predictor of adjustment than the estimated impact scores used in Holmes and Rahe's measure (Rowlison & Felner, 1988).

The various life-event scales were initially used to test the hypothesis that exposure to stress events directly causes psychological illness. And indeed, scores from life event exposure scales have consistently been found to be related to a myriad of psychological symptoms (Dohrenwend, Dohrenwend, Dodson & Shrout, 1984; Lewinsohn, Mermelstien, Alexander, & MacPhillamy, 1985; Sarason, Johnson, & Spiegal, 1978). The overall strength of stress-psychopathology relationships has been

modest, however, with stressful life events accounting for less than ten percent of the variance in measures of subsequent psychological symptoms (Rabkin & Struening, 1976). This tremendous individual variability has led researchers to incorporate mediator variables into their investigations of stress rather than conducting studies that merely correlate stress scores with psychopathology.

The introduction of coping. More than any other variable in the stress literature, coping has been implicated as an important mediator of the connections between stress and psychopathology (Billings & Moos, 1984; McCrae, 1984; Thoits, 1986). The inclusion of coping as a mediator variable has allowed exploration of interactive models of the joint effects of stress and coping. Specifically, investigators have hypothesized that individuals who cope effectively may be less susceptible to psychopathology than those who do not (McCrae, 1984). Investigation of the individual's attempts to cope with stress represents a more serious consideration of individual differences (Kobasa, 1982), and also represents a more optimistic view that people have the capacity to overcome stress. Indeed, as Holroyd and Lazarus (1982) state: "Stressful circumstances do not take their toll from a passive individual... but from an individual who is imbuing stressful circumstances with personal meaning and struggling to control and master these circumstances" (p. 22).

Research investigating the mediating role of coping in the connections between stress and psychopathology has produced a groundswell of data. In the stress literature, coping has been most often defined as:

> cognitive and behavioral attempts to manage... the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person's resources (Folkman, Lazarus, Gruen, & DeLongis, 1986, p. 572).

A few general statements can be made regarding coping as a mediator variable. In general, although both problem- and emotion-focused coping are used in 98% of stressful encounters, researchers have found that individuals who rely on problem-focused coping have better adaptational outcomes than those who rely on emotion-focused coping (Billings & Moos, 1981, 1984; Folkman & Lazarus, 1980; Holahan & Moos, 1985; Hovanitz, 1986; Hovanitz & Kozora, 1989; Menaghan, 1982; Pearlin & Schooler, 1978; Thoits, 1986). These findings suggests that there are indeed individual characteristics which, to some extent, mediate the impact of stressful events.

Particular individual coping styles have indeed been found to serve a stress-buffering role. There are, however, also a number of stressor-related variables that influence how people cope. Folkman and Lazarus (1984) found that when a stressful situation is uncontrollable, almost all subjects report a greater reliance on emotion-focused coping (Folkman & Lazarus, 1984). In addition, Green, Lindy and Grace (1988) have suggested that coping may, at least in part, be determined by the extent or intensity of the stressors. They found that the coping modes most associated with combat intensity (e.g., event processing, time out for reflection, denial, and religion/philosophy) were the same ones associated with greater symptomatology and a diagnosis of PTSD. Consistent with these findings, Folkman et al. (1986a) found that in high stakes situations, all subjects relied on three coping strategies: self-control, escape-avoidance, and seeking social support. Therefore, it seems likely that whether

an event is a trauma, life-event stress, or daily hassle determines the power or direction of the mediating role of coping.

Taken together, these findings suggest that while the connection between stress and psychopathology is determined to some extent by the individual's coping style, the nature of the stress may also have a significant impact on which coping strategies are used by the individual. To extend this further, the idea that the characteristics of a stressor may impact on choices of coping strategy suggests that the role of coping as a mediator must be explored separately for each class of stress. The extent to which coping is differentially associated with one or another of the various classes of stress may imply categorical differences between classes rather than differences along a continuum of stress. If the intensity of traumatic events does indeed partially determine coping strategies, then stress events classified as traumatic may have a distinct association with different types of coping. Thus, no manner of coping may mediate the individual's distress if the traumatic event is "intense" enough. Another possibility is that the traumatic event lives on in active memory, becoming a chronic stressor which continues to exist in the psyche and must be coped with in the present (Green, Lindy, & Grace, 1988), as is the case in post-traumatic stress reactions. Finally, it may be that trauma presents the unique coping challenge of rebuilding shattered assumptions about the world and that this challenge determines an individual's coping choices more so than do typical coping preferences (Janoff-Bulman, 1989). Such differences in coping challenges may reflect categorical rather than quantitative distinctions among the classes of stress.

Summary. Holmes and Rahe developed a paradigm for investigating the psychological impact of stressful life events. Emphasizing change as the critical dimension in any stressful event, they assumed that the "units of change" in stressful life events accumulate and cluster in the lives of some individuals, and that these accumulated "units of change" lead to psychopathology. Later work has confirmed that life event stress does indeed relate to the development of psychopathology. Life-event stress, however, tends to account for less than ten percent of the variance in measures of psychological symptoms. Mediator variables (such as coping) have been introduced to help explain additional variance, allowing exploration of interactive models of the joint effects of stress and coping on the development of subsequent psychopathology. Research in this area has suggested that individual coping style does indeed mediate the impact of stressful events on psychopathology. Matters are made more complicated, however, by research showing that characteristics of the particular stress involved influence which coping strategies are typically available to the individual. These potential subtleties and complications underline the importance of examining the role of coping separately for each class of stress. The present study provides one such investigation.

Elliot and Eisdorfer: Stress as environmental events and conditions

Some researchers have criticized Holmes and Rahe's (1967) emphasis on change and have proposed alternative schemas for defining stress. Elliot and Eisdorfer (1982), for example, developed a taxonomy of stressors that included both specific events and environmental conditions. Pointing to experiences of monotony, various chronic

conditions, or the absence of an expected event, they argued that not all stressors involve change and readjustment as Holmes and Rahe assumed. For example, although they do not involve change, and often do not even involve occurrence of a specific event, most people would agree that many conditions such as physical handicaps, chronic diseases, unsafe neighborhoods, homelessness, and discrimination are extremely stressful.

Elliot and Eisdorfer (1982) suggested that stressors might best be organized within four broad categories which differ primarily in terms of the duration of exposure: 1) Acute, time-related stressors: This category includes time-limited or immediate, circumscribed stress events (e.g., awaiting dental surgery or approaching a rattlesnake). 2) Stressor sequences: Stress in this category would be initiated by a single event and unfold in domino-like fashion over an extended period of time (e.g., job loss, divorce). 3) Chronic, intermittent stressors: This refers to stress which occur intermittently on a daily, weekly, or monthly basis (e.g., examinations, in-law conflict), 4) Chronic stressors: A condition which persists continuously over long periods of time. Permanent disability, chronic job stress, chronic pain, parental discord, poverty, and racial and gender oppression are examples of what is referred to in this category.

By pointing out the exclusion of many important sources of stress in Holmes and Rahe's change-based schema, Elliot and Eisdorfer's (1982) work has made an important contribution to the literature on stress. Of particular importance is their recognition of chronic environmental stress related to socioeconomic status conditions

(e.g., living in unsafe neighborhoods because of poverty). Although socioeconomic status conditions have been shown to be important factors in stress resistance (Billings & Moos, 1981; Cronkite & Moos, 1984), with few exceptions (Dohrenwend, 1981; Elliot & Eisdorfer, 1982; Hobfoll, 1989), the classification of environmental conditions as an important source of stress has rarely been addressed methodologically or theoretically by stress researchers. Typically, socio-economic variables are implicitly conceptualized as person variables rather than as environmental condition variables which are stressful in their own right.

Research conducted in other disciplines illustrates the importance of analyzing socioeconomic status conditions as a source of stress. In the Economics literature, Brenner (1973) found an inverse relation between the state of the economy and mental hospital admission rates. In an analysis of 127 years of data for the state of New York, Brenner (1973) demonstrated that economic factors provided the single most important determinant of fluctuation in mental hospital admission rates, with the highest number of admission associated with the poorest economic conditions. McLeod and Kessler (1990) report that in the psychiatric epidemiology literature, the association between socioeconomic status and psychological distress is one of the most consistently documented associations. Their research and analysis revealed that socioeconomic status differentially affects vulnerability to life events, that this differential vulnerability is "not solely the result of constrained finances, but reflects more pervasive disadvantages inherent in the lives of persons who occupy lower status positions" (McLeod & Kessler, 1990, p. 169).

Summary. Elliott and Eisdorfer (1981) and others have suggested that any complete understanding and definition of stress must expand beyond the narrow notion of stress as change and include chronic environmental, social, familial and political conditions as important sources of stress. This theoretical shift may allow researchers to study stress more accurately and may be especially important in the study of members of disenfranchised populations. In these populations, the variance due to enduring environmental stress may inadvertently show up, by default, as error variance or be assumed to represent personal vulnerability rather than be captured and specifically labelled as sources of stress in their own right. These important environmental influences on individual functioning again hammers home the point made by Albee (1980) about the political implications of framing environmental conditions in terms of "personal vulnerability". If an individual's reactions are viewed as pathological, then the "problem" is located within the person rather than in the political or social fabric of a culture, and the status quo is left intact. Elliot and Eisdorfer's classification scheme has, however, been criticized as arbitrary and misleading because of its overemphasis on duration of exposure as the definitive dimension for the classification of stress. It has been pointed out that even sudden, brief stress experiences may be relatively enduring via the processes of affective disregulation that they set in motion (Avison & Turner, 1988; House, 1987; Pearlin, 1989).

Lazarus: Stress as appraisal

In his ground breaking work on stress, Lazarus (1966) emphasized the importance of the individual's cognitive appraisals in determining whether an event will be stressful. By emphasizing these appraisal processes, he depicted individuals as active agents in determining their fate. This view goes beyond the depictions in the life event stress literature of individuals as passive reactors to powerful external forces. Indeed, Lazarus suggested that in any complete investigation of stress phenomena, the individual's character, behavior and appraisal processes must be studied. Lazarus defines stress as a "particular relationship between the person and the environment that is appraised as taxing or exceeding his or her resources and endangering his/her well being" (Lazarus & Folkman, 1984). Pivotal to this view is the notion that stress involves the individual's perception of an imbalance between external demands and his/her capacity to respond effectively. Thus, in this framework, the degree to which an event is stressful is found not in the "objective" reality of an event, but rather in the individual's appraisals of events.

Lazarus proposes that stress must be viewed as an interactional process involving a system of interdependent variables. The person makes choices about which environments to enter and how best to modulate internal states and effect the environment (i.e., coping). In his view, the environment affects the person while itself changing constantly as a function of both the person's behavior and external forces. The forces within this system operate simultaneously and reciprocally. Lazarus (1985) emphasizes the recursive nature of this model, "so that all dependent variables can be

independent variables and vice versa" (p. 6) depending on the point at which analysis is undertaken. Cognitive appraisal, clearly the centerpiece of Lazarus's model, is viewed as a continuous process that strongly influences individual reactions to stress. He posits that there are two types of appraisals. "Primary appraisal" involves evaluating what (if anything) is at stake in a particular event. When an event is appraised as threatening, "secondary appraisal" processes are set into motion. This involves evaluation of the coping resources and options available to the individual (Lazarus & Folkman, 1984). In this way, appraisal shapes the coping process, and in turn, coping processes influence the environment and future appraisals in a dynamic, reciprocal fashion.

Some tenets of Lazarus's model have been empirically validated. For example, a body of research indicates that appraisal does indeed play a role in shaping the coping process. McCrae (1984) suggested that appraisal may systematically influence individual selection of which coping strategies to use during stressful events. He found that 1% to 8% of the variance in the use of coping strategies was accounted for by an individual's simple appraisal that a stressful situation involved loss, threat, or challenge. In another study, respondents were asked to categorize stressors as involving threat to one of six areas: the well-being of a loved one, financial resources, personal health, work goals, respect for someone else, or self-esteem (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). In keeping with McCrae's findings, this research showed that coping strategies systematically vary as a function of what is appraised as being at stake. Others have found that appraisals of an event

as unchangeable usually lead to coping responses directed toward regulating stressful emotions and maintaining emotional equilibrium (i.e., emotion-focused coping; Folkman, Lazarus, Gruen, & DeLongis, 1986). In contrast, when an individual appraises an event as controllable, he or she is more likely to engage in problem-focused coping with behaviors directed toward managing or changing the stressful person-environment relationship (Cohen & Edwards, 1989; Folkman et al., 1986).

The impact of coping on environmental outcomes and psychological functioning has also received some empirical support. Long, Williams, Gaynor, and Clark (1988) found that college students who accepted responsibility for most events in their lives showed better adaptation and increased productivity in comparison to students who appraised events as controlled by external factors such as powerful others or chance. Taylor (1983) found that cancer patients who appraised the course of their cancer as at least partially under their control showed better adjustment than those who did not. The appraisal that they had some degree of personal control over their illness led these patients to use direct behavioral coping strategies such as making dietary changes, changing medications, seeking information, and attempting to control the side effects of chemotherapy.

One element of Lazarus's model which has been received with skepticism and criticism is his fusing of environmental and intrapsychic factors (i.e., appraisal processes) in defining an event as stressful. Discerning the degree to which events actually can be defined externally and independently of appraisal processes is the focus of much debate (Dohrenwend & Shrout, 1985; Hobfoll, 1989). This issue is perhaps

the most controversial element of Lazarus's model. Specifically, Lazarus argues that even events of clearly extreme magnitude (e.g., loss of loved ones, severe illness or combat):

> must not be allowed to seduce us into settling for a simplistic concept of stress as environmentally produced (Lazarus & Folkman, 1984, p. 19).

Lazarus further advocates that researchers "no longer pretend that there is an objective way to define stress at the level of the environment without reference to the character of the person" (Lazarus & Folkman, 1984, p. 19).

Researchers have confirmed that appraisal processes are important determinants of which events are experienced as stressful. It has been widely documented that events appraised as negative, uncontrollable, unpredictable or ambiguous are generally experienced as more stressful than those seen as controllable and unambiguous (Cohen & Edwards, 1989; Glass and Singer, 1972; Long, Williams, Gaynor, & Clark, 1988; Seligman, 1975; Taylor, 1990; Vitaliano, DeWolfe, Maiuro, Russo & Katon, 1990).

Critics of this perspective, however, argue that if stress is construed as something that occurs only in the mind of the individual, then the objective, and often devastating realities of many tragic events and endemic social conditions will be denied (Albee, 1980; Hobfoll, 1989; Meichenbaum, 1985; Moos, 1985). Hobfoll has argued that environmental events and conditions, particularly in the case of trauma, can be defined and specified as stressful regardless of how an individual appraises them (Hobfoll, 1989). He notes that if everything in stress phenomena is process and appraisal:

> ...there is an absence of marker flags, standards of comparison, and other points of reference that can aid in organizing a taxonomy (of stress) and a prediction of behavior that develops from interactions of different factors (p. 515).

Appraisal may well be an important determinant of an individual's reaction to stressful events. Appraisal, however, also involves evaluation and consideration of different resources and coping options. There are many instances of severe stress (particularly, war, violence, poverty, famine, and oppression) which leave little room for such interpretation and which would be markedly disturbing to almost anyone (Breznitz, 1986). In these instances, appraisals are likely to be far less idiographic than Lazarus's model would imply (Hobfoll, 1989).

Failure to appropriately recognize harsh social and environmental realities may lead to a blame-the-victim view of outcome. Lazarus and Folkman (1984) have proposed that reevaluating stressors is an important key to stress resistance, implying that if only the individual would appraise events as more positive, more controllable, and less emotionally-laden, he/she would cope better and thereby avoid adverse outcomes. Certainly, for that class of stressors (i.e., daily hassles) in which events and conditions are neither clearly positive nor negative such reappraisals may well serve a buffering role. Hobfoll cautions that "this type of transformation should not be romanticized as occurring for all stressors..." (Hobfoll, 1989, p. 519). Many tragic stressors have little redeeming value and attempts to de-emphasize or "reappraise" the impact of major losses incurred following traumatic events, in the service of immediate stress reduction, may backfire. An individual who witnesses the violent murder of a friend might cope by devaluing the loss or in some way reinterpreting the event.

Certainly, in such cases, the individual's values are far less pliable than Lazarus' model implies. Similar criticisms are raised particularly with regard to the daily hassles construct, one application of Lazarus's model which is reviewed below.

The introduction of daily hassles. Lazarus and his colleagues introduced the term "daily hassles" in order to expand the empirical investigation of the inseparable connection, in their view, between stress events and the appraisal processes initiated by these events (Lazarus & Folkman, 1984; Lazarus, 1985). Daily hassles, as noted earlier, are defined as "the irritating, frustrating, distressing demands that to some extent characterize everyday transactions with the environment" (Kanner et al., 1981, p. 2) and include stress due to everyday problematic events and to ongoing environmental conditions which cause or exacerbate distress.

The Daily Hassles Scale (hereafter DHS) was introduced to provide an alternative to traditional life event stress inventories, which had been criticized for an overemphasis on change, for failing to include consideration of variables such as the personal meaning and significance attached to events, and for failing to include reference to the individual's coping resources and liabilities (Kanner et al., 1981; Lazarus, DeLongis, Folkman, & Gruen, 1985). Supporters of the Daily Hassles Scale and of the construct of daily hassles point to the poor predictive validity of life event stress inventories in accounting for illness outcomes (Kanner et al., 1981; Lazarus, 1984; Lazarus et al., 1985; Monroe, 1983; Pearlin, 1975, 1983). The DHS has been promoted as a process measure of stress that is sensitive to the interdependent, reciprocal process that typifies Lazarus's representation of such transactions. Rather

than creating a categorical stimulus-response instrument as is characteristic of life event inventories, in this measure Kanner et al. (1981) make implicit and explicit references to environmental events, appraisals, and emotional reactions. The DHS includes minor events (e.g., "unexpected company"), difficult, chronic environmental conditions (e.g., "neighborhood deterioration"), ongoing worries and concerns (e.g., "troubling thoughts about your future"), and emotional reactions of distress (e.g., "being lonely" or "fear of rejection").

While some researchers believe that, at least with respect to coping and adjustment processes, daily hassles and major life events represent conceptually distinct phenomena (DeLongis et al., 1982; Kanner et al., 1981; Rowlison & Felner, 1988), there is still some disagreement about the validity of that distinction. Some (e.g., Compas, Davis & Forsythe, 1985) argue that constructing separate scales for life event stress and daily hassles imposes an arbitrary division in stress phenomena. Respondents, they argue, will differ in what they appraise as major and minor events. Others (e.g., Felner, 1986; Felner, Rowlison & Terre, 1983) point out that making a distinction between life event stress and daily hassles may actually clarify the association between stress and psychological health. Life event stress, they suggest, may be associated with subsequent psychopathology primarily by increasing the individual's exposure to daily hassles. They suggest that a major life change event such as having a baby or losing a job would set off, in domino-like fashion, a series of minor challenges and disruptions. Life-events would thus be viewed as precipitants of disruption in day-to-day living which are more sensitively measured by the hassles

construct. Life-event stress, then, would represent a distal, molar-level measure of stress, while daily hassles would represent a proximal measure of stress (DeLongis et al., 1982; Pearlin & Schooler, 1978; Rowlison & Felner, 1988). Daily hassles and life event stress, however, have been shown to be only modestly correlated (Kanner et al., 1981), a finding which has led Monroe (1983) to suggest that daily hassles and life event stress may represent "independent predictors of disturbance" (p. 201). Monroe reasons that measures of daily hassles may provide a more sensitive assessment of chronic stressful conditions (e.g., socioeconomic status condition, bad marriage, chronic role strain, low paying job, poor housing, violent neighborhood, overcrowding), while life events mark more extreme disruptions which demand increased, and perhaps novel, adaptive efforts on the part of the individual.

The present study will attempt to clarify the nature of the distinction between life event stress and daily hassles. Whether or not daily hassles and life events are independent, research has consistently found that measures of daily hassles provides a more powerful predictor of future dysfunction than measures of life event stress. For example, Kanner et al. (1981) reported that when compared to major life events, hassles independently accounted for more of the variance in psychological symptoms and morale. In addition, a great deal of other research suggests that hassles negatively affect physical and mental health to a greater degree than does life events stress (Burks & Martin, 1983; DeBenedittis & Lorenzetti, 1992 a , 1992 b; DeLongis et al., 1982; Eckenrode, 1984; Kanner et al., 1981; Monroe, 1983; Weinberger, Hiner, & Tierney, 1987).

Early critics (Dohrenwend, Dohrenwend, Dodson & Shrout, 1984; Dohrenwend & Shrout, 1985) of the DHS questioned its validity as a measure of stress. Reminiscent of the criticisms of Lazarus's model described earlier, they suggested that the instrument confounds environmental stressors with psychological and physical symptoms, thereby making it difficult, or even impossible, to disentangle cause and effect when using hassles measures to predict psychological and physical illness. They argued that the "enhanced predictive utility" reported in the connection between hassles and psychopathology (as opposed to between life event stress and psychopathology) simply reflects an artifact of a response set or one common underlying factor such as "subjective upset" or negative affectivity (Dohrenwend, Dohrenwend, Dodson & Shrout, 1984; Dohrenwend & Shrout, 1985). Dohrenwend and Shrout (1985) suggested that measurement of the actual occurrence of daily hassles be disentangled from the individual's emotional reactions to those same events.

In response to these early criticisms, researchers (DeBenedittis & Lorenzetti, 1992a; Kohn, Lafreniere, & Gurevich, 1991) developed "decontaminated" hassles scales, designed specifically to avoid response set and other underlying third variable explanations. These newer hassles scales continue to relate significantly to physical and psychological well-being (DeBenedittis & Lorenzetti, 1992 a, 1992 b; Kohn, 1991; Kohn, Lafreniere, & Gurevich, 1991), suggesting that daily hassles play an important role in the etiology and exacerbation of a wide range of physical and emotional disorders.

Summary. Lazarus's model has been extremely influential in expanding our conceptualization of stress beyond the dimension of change, in pioneering a rich, sophisticated analysis of both individual and process variables, and in introducing the construct of daily hassles. Lazarus's model has been criticized for its overemphasis on appraisal (Hobfoll, 1989) and for fusing "objective exposure" to stress with individual appraisal processes and emotional reactions rather than presenting these as separate entities. Those who oppose making a distinction between daily hassles and life-event stress caution that the association between hassles and psychopathology may simply be a by-product of shared appraisal processes, response set or an underlying third variable. Measures of daily hassles undoubtedly tap the psychological distress of individuals struggling to carry out minor, everyday tasks which are normally carried out automatically. Nevertheless, a burgeoning literature has consistently indicated that scores on daily hassles measures are associated with physical and psychological health and that appraisal processes are an important determinant of coping behaviors. Although empirical verification of Lazarus's appraisal-driven model of stress is often difficult, his model has sparked further empirical inquiry and challenged stress researchers to embrace process variables in explaining the connection between stress and psychopathology.

Hobfoll: Stress as loss

Hobfoll (1989) proposed the conservation of resources (hereafter COR) model as an alternative to Lazarus's process- and appraisal-focused model. This model posits that "people strive to retain, protect, and build resources, and that what is threatening

to them is the potential or actual loss of these valued resources" (Hobfoll, 1989, p. 516). Resources are the single variable necessary for understanding stress in the COR. Hobfoll (1989) defines resources as:

> those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means of attainment of these objects, personal characteristics, conditions or energies (p. 516).

Resources have intrinsic, instrumental, or symbolic value. Four kinds of resources have been identified: 1) *object resources* which may have physical value (e.g., a house as a shelter) or secondary status value (e.g., a mansion as indicative of status); 2) *personal characteristics*, such as self-esteem or a personal belief system, which enhance identity and provide cognitive schemas to guide expectations, contribute to effective functioning, and buffer against stress (Janoff-Bulman, 1992); 3) *conditions* which include social roles, employment, tenure, seniority, and social attachments; and 4) *energies,* such as time, money, and knowledge, which are valued as means by which to acquire other resources.

Psychological stress is defined as "a reaction to the environment in which there is: (a) the threat of net loss of resources, (b) the net loss of resources, or (c) a lack of resource gain following the investment of resources" (Hobfoll, 1989, p. 516). The actual *or* perceived occurrence of any of these loss events is regarded as sufficient for producing stress. Hobfoll argues that, in surveys of stressful life events, items clearly reflecting loss are the most psychologically threatening. He points to data (Thoits, 1983) suggesting that the dimensions of change, transition and challenge, often found on event surveys, have not led to adverse reactions in their own right, but rather that it

is the dimension of "undesirability" which accounts for the relationship between events and distress/illness outcomes. Finally, Hobfoll argues, undesirability implies loss. Only this loss dimension of events is stressful and then only when valued resources are threatened.

Given the emphasis placed on resources, coping is represented as efforts directed toward the direct, indirect or symbolic replacement of resources. Coping is thus an integral element of the COR model of stress. When confronted with stress, Hobfoll asserts that coping will be directed toward minimizing the net loss of resources. In non-stressful circumstances, coping efforts are directed toward the development of resource surpluses to offset any potential future losses.

The COR model is parsimonious, testable and relevant for the present purposes of clarifying distinctions among classes of stress. If all stress phenomena involves loss of some kind, then perhaps different classes of stress threaten different types of resources. To take this even further, the resource levels identified by Hobfoll can be represented hierarchically beginning with more basic resources (e.g., food, clothing and shelter) and moving to more abstract, philosophically-based and, essentially human resources (i.e., need for a coherent belief system, world view, and self-esteem). Thus, trauma, life event stress, and daily hassles may be distinguishable on the basis of the different resources threatened in each class of stress. In addition, because different classes of stress threaten separate resources, the individual will be faced with unique coping challenges in efforts to replace the specific resource lost.

Trauma and the loss of an assumptive world view. Recent work in PTSD lends some support to the idea that traumatic events threaten a different level of resource than those threatened by life event stress or daily hassles. Various theorists (Creamer, 1990; Horowitz, 1976; Janoff-Bulman, 1989) have suggested that trauma may lead to distress and psychopathology by shattering the assumptions that individuals hold about themselves and their world. These researchers posit that trauma threatens the loss of basic, dearly held assumptions about how the world operates and about one's self worth. Janoff-Bulman (1989) proposed that the concept of assumptive world view is relevant here. She defines this term as an unquestioned "conceptual system, developed over time, that provides us with expectations about ourselves and the world so that we might function effectively" (Janoff-Bulman, 1989, p. 18). Our assumptive world represents a set of theories that generally provide a viable basis for anticipating the future, interpreting new information, and guiding what we notice and remember.

Following a threatening event, individuals work hard to understand why it happened and what it means (Hieder, 1958; Kelley, 1967). In Janoff-Bulman's view (1989), three basic kinds of world and self assumptions are brought into question by traumatic events: 1) the perceived benevolence of the world; 2) the meaningfulness of the world; and 3) the worthiness of the self. In the case of trauma, the individual is confronted with information that is inconsistent with his/her existing schemas and thus he/she is threatened with the loss of these most fundamental schemas.

> Catastrophic change at the level of people's basic assumptions, their highest order schema or theories, may threaten the breakdown of the entire conceptual system; for the primary postulates represent the

> foundation on which other beliefs are built (Janoff-Bulman, 1989, p. 19).

In order to threaten the basic, unquestioned, and unchallenged assumptions which have been built and solidified over years, a stress event must be of particularly profound proportions. This kind of resource loss and the coping challenge demanded by this level of loss could be the basis for distinguishing traumatic events from life events and daily hassles.

Confronting the task of integrating seemingly irreconcilable, traumatic information and of rebuilding a shattered world view is overwhelming. Trauma theorists have proposed that a number of different processes facilitate the integration of traumatic information. In his work on PTSD, Horowitz (1976) emphasized that denial and intrusion are important ways the mind processes traumatic information. He theorized that following emotionally distressing events there are periods of denial and numbing which titrate new threatening information into tolerable amounts. Denial thus permits a more gradual pace in the rebuilding of one's cognitive schemas. By slowing down the process of change, denial moderates the attack wrought by traumatic events on the victim's basic assumptions, thereby allowing the victim to maintain a semblance of stability and coherence during the slow, arduous process of cognitive integration of new information. But periods of denial may be followed by periods of flooding by overwhelming traumatic material. To Horowitz, these intrusions indicate that the traumatic information is being stored in active memory and is being continually processed until integration has been achieved. Like denial, intrusive thoughts may be

adaptive and facilitate "revising the automatic processing of such information,... revising the relevant schemas...and ...completing the processing of the stressful information" (Horowitz, 1976, p. 99).

Denial and intrusion, from this perspective, are mutually dependent regulatory processes which alternate from active accommodation of new data to shutting down when this process becomes too overwhelming:

> ...an oscillatory period commonly emerges in which there are periods of intrusive ideas or images, attacks of emotions, or compulsive behavior alternating with continued denial, numbing or other indications of efforts to ward off the implication of this new information. Finally a phase of working through may occur in which there are less intrusive thoughts, less uncontrolled attacks of emotion with greater recognition, conceptualization, stability of mood, and acceptance of the meaning of the event (Horowitz, 1974, p. 769).

Coping by means of denial and intrusion has been understood as a process which slows down the rapid influx and overload of discrepant traumatic information (Janoff-Bulman, 1989). Denial and intrusion are therefore particularly adaptive when the potential for total schema breakdown exists. Excessive reliance on coping by means of denial, escape and avoidance, however, can be maladaptive and may lead to complicated and prolonged post-trauma reactions.

To return now to the task of differentiating among classes of stress, trauma can be hypothesized to entail the loss of personal resources such as self esteem and personal beliefs. By threatening basic assumptions about and trust in the world, traumatic events confront the individual with the task of coping with discrepant information and rebuilding world- and self-schemas. Coping in response to trauma can

be seen as a reflection of the cyclical efforts of information processing and information avoidance. Life event stress, on the other hand, might be hypothesized to entail a different, more practical or logistical level of resource loss (i.e., object resources, conditions, and energies). Such losses would be expected to require renewed problem-focused coping efforts. In the case of some life event stressors, novel circumstances must be confronted with new coping strategies and behaviors devised in response to that particular stressor. As a result, in such a situation, the individual has to purposefully engage with the environment in order to gain new coping skills and develop new behaviors. This process demands an entirely different class of coping behaviors than those necessary for coping with traumatic events.

Summary. The conservation of resources model proposes that stress involves actual or perceived resource loss within both psychological (i.e., personal belief systems and energies), physical (i.e., food, clothing and shelter) and social domains. This model contributes a parsimonious and elegant means of integrating current clinical understandings of trauma reactions with empirically-based understanding of life event stress and daily hassles. Using Hobfoll's (1989) language, psychological trauma can be distinguished from life event stress in terms of the additional resources that are threatened (i.e., assumptive world view) and the different coping tasks which must be faced in these two loss situations. Trauma can be conceptualized best as those events which globally disrupt cognitive and psychological equilibrium, while life event stress includes only those events which disrupt automatic, "tried and true" coping behaviors. The threatened or actual loss of one's most basic beliefs about the world and the self

are proposed to be one of the resources at stake following traumatic events. In contrast, life event stress involves the loss of instrumental or object resources which demand new coping behaviors or renewed behavioral efforts. Finally, daily hassles may be more indicative of chronic levels of difficulty in interactions with the environment or reflect individual levels of negative affectivity.

Statement of Hypotheses

The goal of the present study was to examine the nature of differences among classes of stress as they relate to psychopathology, coping, and assumptive world view. The following specific areas were of interest:

1) The specificity of the relationship between psychopathology and stress class: Are the relations between stress and various measures of psychopathology uniform across the different stress classes (i.e., trauma, life event stress and daily hassles) or are there class differences? Relation between stress classes will be determined. In addition, zero-order relations between each stress class and each measure of psychopathology will be examined.

Hypothesis #1: The association between psychological distress and stress will be distinct for each class of stress. For example, trauma exposure will be related to measures of PTSD, while exposure to life event stress and daily hassles will not be related to trauma psychopathology. Daily Hassles will be significantly related to measures that tap Negative Affectivity such as depression and anxiety but not measures of psychopathology once Negative Affectivity is controlled for statistically.

2) The specificity of the role of stress class experiences in determining the coping strategies relied upon and the nature of the relationship between coping and psychopathology: Is the role of coping style in stress-psychopathology associations similar across stress classes or are there differences in the contributions made by coping style as a function of the category of stress? The relations between coping style and each stress class and psychopathology will be evaluated.

Hypothesis #2: The relationship between coping and stress will vary as a function of stress class. Since trauma is characterized by loss of control, intense fear, and horror, emotional-focused coping and avoidant coping will be significantly related to high trauma exposure and trauma-related psychopathology. Since life events are characterized as involving significant changes in ongoing life pattern, problem-focused coping is likely to be significantly related to high life event exposure.

3) The specificity of the association between assumptive world view and trauma: Is the relationship between the World Assumptions Scale (Janoff-Bulman, 1989) and exposure to stress similar regardless of the specific type of stress to which one has been exposed? The relations between stress class exposure and assumptive world view will be determined.

Hypothesis #3: World Assumptions will be significantly related to trauma exposure and trauma-related psychopathology but not to exposure to life event stress or daily hassles.

CHAPTER II

Method

Participants

Ninety-two active duty soldiers (84 men and 8 women) who were veterans of the Persian Gulf War and currently stationed at Fort Knox, Kentucky volunteered to participate in the study. The veteran population was chosen in order to increase the possibility of locating participants who had some recent exposure to trauma. Flyers were sent to all the commanding officers who had Persian Gulf veterans under their command informing them about the study. A total of 305 Persian Gulf veterans were targeted, however, it was up to the discretion of each commanding officer to decide whether to inform his/her soldiers about the study and to allow them to leave their posts in order to participate. As a result there is no clear way to determine exactly how many of the 305 soldiers were eligible to participate. Those soldiers who were interested in participating were asked to report to an auditorium where they were given a booklet of questionnaires. Participants were given the option to complete the booklet in the auditorium or to complete it at home. All participants were given 36 hours to return the booklets. One hundred and twelve booklets were distributed, ninety-two were returned.

Detailed demographic information on the sample is located in Appendix A. Participants ranged in age from 20 to 47 years (M=31.7) with years of education ranging from 11 to 19 (M=12.96). Ninety-two percent of the soldiers were married, four percent divorced and three percent never married. In terms of racial/ethnic

identity, the sample consisted of 63 white, 16 African-American, 6 Hispanic and 1 Native American participant. One participant selected the "Other" classification and 6 participants chose not to complete this information. Reported income ranged from $1,800.00 to $50,000.00 annually, with a mean income of $23,356.00 (sd=$9,631.06).

Instruments

The following description of the instruments used is divided into three parts: A) four instruments used to measure stress exposure (see Appendix B; Combat Exposure Scale, Traumatic Event Screen Inventory, Life Experiences Survey, and Daily Hassles Scale), B) four measures of distress and psychopathology (see Appendix C; Impact of Events Scale, Mississippi Posttraumatic Stress Disorder Scale, Brief Symptom Inventory, and Beck Depression Inventory), C) Coping Strategies Inventory (see Appendix D), and D) World Assumptions Scale (see Appendix E).

Measures of Stress

Combat Exposure Scale.

Combat exposure is assumed to play a central role in the development of post-traumatic stress disorder (PTSD) in the veteran population, and, as a result, a number of efforts have focused on ways to quantify wartime stressors and associated atrocities for research and clinical purposes. The Combat Exposure Scale is one product of these efforts. The Combat Exposure Scale (CES: Keane, Fairbank, Caddell, Zimmering, Taylor & Mora, 1989) is an 8-item self-report measure of combatants'

subjective reports of exposure to wartime stressors. Sample questions include: "Were you ever under enemy fire?" and "How often did you fire rounds at the enemy?".

Internal consistency of the CES was measured by means of coefficient alpha, which yielded a value of .85 and item-remainder/ total score correlation averaging .75 (range = .64 to .83). This high degree of reliability indicates that the items are measuring the same or a very similar construct. Test-retest reliability with a one week interval demonstrated excellent stability ($r(29)=.97$, $p<.0001$).

In validation studies (Keane, Fairbank, Caddell, Zimmering, Taylor & Mora, 1989), mean scores on the CES revealed group differences between Vietnam combat veterans with a diagnosis of PTSD and those who did not carry this diagnosis. As predicted by the developers of the measure, the PTSD group reported greater amounts of combat exposure than did the group without PTSD. It is unclear whether this is attributable to actual differences in the amount of combat exposure or to differences in subjective recall of combat experience by clinically distressed veterans. The retrospective and self-report nature of this measure makes such discriminations difficult to make without prospective work or external measures of actual combat exposure. Although some researchers argue that the individual's perspective in the measurement of stress exposure may ultimately prove to be a crucial variable accounting for differences in adjustment, the impact of current levels of distress/adjustment may very well influence retrospective ratings of combat stressors.

In addition to the 8 items on the CES, a supplemental 6 items that more directly tapped exposure to atrocity were included in the present study. These items

include events such as: "Torturing prisoners of war" and "Mutilating corpses". Subjects are asked to respond to each item along a four-point scale (a= no experience; b= heard about it; c=witnessed it; d= participated in it). Exposure to atrocities has been found in previous research to be particularly predictive of PTSD in Vietnam veterans (Lund, Foy, Sipprelle, & Strachan, 1984; Watson, Juba & Anderson, 1989). Watson, Juba, and Anderson (1989) report that the inclusion of items that describe specific traumas, such as learning about, witnessing or participating in, the killing, torturing, or mutilation of enemy troops or civilians may yield better validity coefficients than the sole reliance on comparatively vague descriptors of military activity. Formal psychometric evaluation of these atrocity items has not yet been undertaken.

Traumatic Event Screen Inventory.

The Traumatic Event Screen Inventory (TESI; Kramer, Green, Wooley, & Voos, in progress) was developed to provide a brief index of the potentially traumatic events a person may experience through the life course. The TESI includes fifteen items which include events such as criminal victimization, sexual molestation or assault prior to or after age 14, natural or technological disaster, abortion and homelessness. Scores are obtained by tallying the number of events that have occurred in the individual's lifetime. The collection of psychometric data on the reliability and validity of the instrument is still in the early stages.

Life Experiences Survey.

The Life Experiences Survey (LES; Sarason, Johnson, & Siegal, 1978) provides a list of 57 events which may have been experienced over the course of the last year. Subjects are asked to indicate which events have occurred within the last six months or within seven months to one year ago. The events on the LES represent life changes frequently experienced in the general population such as "new job", "change of residence" or "death of close family member." These were drawn from previous life event stress measures, particularly the Schedule of Recent Experiences (Holmes & Rahe, 1967).

In the present study, a modified version of the LES was used. In the original measure, subjects are asked to separately rate the occurrence, impact and desirability of each event. Pilot work for the present study, however, revealed that soldiers found these instructions too complicated and as a result would not complete the questionnaire. In order to obtain some information regarding exposure to life event stress, a simplified version of the LES was devised in which only the occurrence of events was measured (i.e., without ratings of impact or desirability). In addition, the ten items specifically designed for use with college students (e.g., joining a fraternity/sorority, academic probation) that were not relevant for active duty soldiers were not included. The resulting measure provides 46 events plus 3 blank spaces in which subjects can indicate other events that have occurred in the past year. Although these changes may have made the reliability and validity information available for the original LES less applicable, the test reliability and validity information for the original LES are presented below.

Test-retest reliabilities of .63 and .64 were obtained with 5- to 6-week intervals between administrations (Sarason, Johnson, & Siegal, 1978). These reliability coefficients are based on total change scores, which is more applicable to the modified version of the measure used in the present study than the reliability coefficients for positive and negative rating scores. Total change scores also correlated significantly with measures of state and trait anxiety. LES scores were not related to a measure of social desirability, suggesting that the LES is relatively free from a response bias due to social desirability (Sarason, Johnson, & Siegal, 1978).

Daily Hassles Scale.

The Daily Hassles Scale (DHS; Kanner, Coyne, Schaefer, & Lazarus, 1981) is a self-report measure of 117 relatively minor negative events which can occur on a day-to-day basis. As noted in the literature review, the DHS was created as an alternative to the various life event stress inventories. Kanner et al. (1981) sought to bring together, within the same scale, a range of common but psychologically difficult events and states. Rather than create a categorical stimulus-response instrument, implicit and explicit references to environmental inputs, appraisals, and emotional reactions are fused together in the DHS. Minor environmental events (e.g., "unexpected company"), difficult, chronic environmental conditions (e.g., "neighborhood deterioration"), ongoing worries and concerns (e.g., "troubling thoughts about your future"), and distressed emotional reactions (e.g., "being lonely") are all included in the DHS. Factor analysis of this measure yielded the following eight oblique factors: future security, time pressures, work, household, health, inner

concern, financial responsibility, and environment (Lazarus, DeLongis, Folkman, & Gruen, 1985).

On the DHS, subjects are instructed to rate the severity of the hassles that have occurred in the past month using a 3-point scale (1= somewhat severe, 2= moderately severe and, 3= extremely severe hassle). Three summary scores can be derived from the DHS: (1) a simple frequency count of the number of items endorsed as having occurred; (2) a cumulated intensity score which is obtained by summing the ratings of severity for each item; and (3) an intensity score which indexes the average intensity of each hassle experienced (while controlling for the frequency of hassles endorsed). The correlations between the frequency index and the cumulated severity index averaged .95, indicating that these two scores provide essentially the same information. Test-retest reliability coefficients averaged .79 for the frequency scores and .48 for the intensity scores (Kanner et al., 1981).

Measures of Distress and Psychopathology

Impact of Event Scale.

The Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979) is a 15-item self-report measure of levels of current subjective distress experienced as the result of a specific event. This measure, which was modeled on Horowitz's stress response syndrome, builds on the observation that following stressful events there is a tendency to experience intrusive thoughts and periods of avoidance of situations which might bring up elements of the stressful event. The measure is divided into two subscales: avoidance and intrusion. Avoidance subscale items include statements such

as "I tried to remove it from my memory" or "I felt as if it hadn't happened or it wasn't real". The intrusion subscale includes statements such as "I thought about it when I didn't mean to" and "I had dreams about it". Each statement is rated by the subject on a four point scale (0= not at all, 1=rarely, 3=sometimes, and 4=often). To complete the IES, subjects endorse the items which they feels are true of their experience.

Internal consistency of the subscales yielded Cronbach's alpha coefficient of .78 for intrusion and .82 for avoidance. The correlation between intrusion and avoidance subscales was .42, indicating that the two subscales are associated but do not measure the same dimension. Test-retest reliability for a one week interval yielded Pearson product-moment correlation coefficients of .87 for the total stress score, .89 for the intrusion subscale and .79 for the avoidance subscale. The instrument's sensitivity to changes over time was supported by data in which IES scores were correlated with the judgments of experienced observers (Horowitz, Wilner, & Alvarez, 1979).

Brief Symptom Inventory.

The Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) is a 53-item self-report checklist of symptoms of psychopathology and distress. Drawn from the extensively researched Symptom Checklist-90 (SCL-90-R), items on the BSI describe a variety of complaints and problems such as "nervousness or shakiness inside" or "feeling lonely" (Derogatis, 1977; Derogatis & Cleary, 1977; Derogatis, Lipman, & Covi, 1973; Derogotis, Lipman, Rikels, Uhlenhuth, & Covi, 1974). Items are rated for the intensity of distress on a five-point scale (ranging from 0 = "not at

all" to 4 = "extremely"). Three global indices and nine primary symptom dimensions can be calculated from raw scores on the BSI.

Each global index yields a single score which encapsulates the level or depth of symptomatic distress currently experienced by an individual. The global indices follow: (1) the General Severity Index (GSI), which provides a weighted frequency score calculated by summing the subject's ratings for each symptom; (2) the Positive Symptom Total (PST), which gives a frequency count of the number of symptoms endorsed by the subject; and (3) the Positive Symptom Distress Index (PSDI), which reflects the intensity of distress, corrected for the number of symptoms endorsed. Test-retest reliability coefficients for the global indexes range from .80 to .90.

The nine primary symptom dimensions are: (1) Somatization (SOM), which reflects perceptions of bodily dysfunction; (2) Obsessive-compulsive (O-C), which reflects unremitting or irresistible ego-dystonic thoughts and actions; (3) Interpersonal sensitivity (I-S), which is a cluster of symptoms related to feelings of personal inadequacy and inferiority; (4) Depression (DEP), a dimension which reflects the signs and symptoms of clinical depression; (5) Anxiety (ANX), which indicates high manifest anxiety including restlessness, tension, and panic; (6) Hostility (HOS), which is a dimension organized around hostile thoughts, feelings and actions; (7) Phobic anxiety (PHOB), a cluster of symptoms suggestive of agoraphobia or phobic anxiety states; (8) Paranoid ideation (PAR), which reflects a mode of thinking involving projection, hostility, suspiciousness, egocentrism, and fear of loss of control; and (9)

Psychoticism (PSY), which indicates signs of a schizoid, alienated life style and more dramatic symptoms of psychosis.

Test-retest reliabilities for the nine dimensions ranged from .68 to .91 for a 2-week test interval. Internal consistency of the nine scales using Cronbach's alpha coefficients ranged from .71 to .85. Moderate convergent validity was found for the nine primary symptom scales of the BSI and a set of 30 MMPI (Hathaway & McKinley, 1983) scales with reported correlation coefficients ranging from .30 to .72 (Derogatis & Melisaratos, 1983). A principal-component analysis to assess the independence of the nine primary dimension scores was conducted for a sample of inpatient and outpatient forensic patients (Boulet & Boss, 1991). One of these components (best labeled as an intensity factor) accounted for 71% of the variance among dimension score totals, suggesting that the dimensions are not independent and that, at least with more severely disturbed samples, little information may be gained by separating the test scores into nine dimensions of psychopathology. Given the questionable validity of the nine primary dimensions, in the present study only the Global Index of Severity (GSI) and the Anxiety subscale were statistically analyzed.

Mississippi Posttraumatic Stress Disorder Rating Scale.

The Mississippi Posttraumatic Stress Disorder Rating Scale (M-PTSD; Keane, Cadell & Taylor, 1988), which is derived from the Diagnostic and Statistical Manual of Mental Disorders criteria, is a 39-item self-report measure of combat-related PTSD. Subjects rate items on a 5-point scale reporting how true each statement is for them

(from 1= "not at all true" to 5= "extremely true"). Sample items include: "I wonder why I am alive when others have died." and "Unexpected noises make me jump."

The M-PTSD is psychometrically sound. A coefficient alpha of .94 and an average individual item-total score correlation coefficient of .58 suggest high internal consistency for the entire scale. A 1-week test-retest reliability coefficient of .97 has been reported. In differentiating a PTSD group from two non-PTSD comparison groups, the M-PTSD obtained an overall hit rate of .90. Evidence supporting the convergent validity of the measure was presented in a study in which significant correlations were obtained between M-PTSD scores and interview, and M-PTSD scores and other psychometric measures of PTSD (McFall, Smith, Mackay, & Tarver, 1990).

Factor analysis generated a six factor solution for the M-PTSD. Factors identified were labeled as follows: 1) intrusive memories and depression, 2) interpersonal adjustment problems, 3) lability of affect and memory, 4) ruminative features of PTSD, 5) interpersonal difficulties, 6) sleep difficulties (Keane, Caddell, & Taylor, 1988). Principal Components analysis indicated that items measure three dimensions of PTSD: (1) intrusive re-experiencing/ numbing avoidance, (2) anger/lability, and (3) social alienation.

Beck Depression Inventory.

The Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item self-report instrument designed to provide quantitative assessment of the intensity of depression. Each item provides four self-evaluative

statements which tap different aspects of depression. For scoring purposes, the statements are ranked from 0 to 3 according to the intensity of depression (as assessed by which of the four self-evaluative statements the subject endorses on each item). Possible total scores for the measure range from 0 (indicating the absence of depression) to 63 (indicating a most severe depression). For example, for one item: 0 = "I can work as well as before;" 1 = "It takes extra effort to get started at doing something;" 2 = "I have to push myself very hard to do anything;" and 3 = "I can't do any work at all". Subjects are instructed to circle the statement that most accurately describes how they have been feeling in the past week.

The BDI is one of the most popular and widely used self-report measures of depression. It has been validated on a variety of populations (Beck, 1967; Beck & Beamesderfer, 1974; Beck, Nies, & Thompson, 1982; Gould, 1982). For example, in a psychiatric population, stability of the BDI was measured by comparing the BDI to clinical ratings of depression at two points 4 weeks apart. The stability was also confirmed by the finding that changes on the BDI paralleled changes in ratings by clinicians of the depth of patients' depressions. In addition, concurrent validity was supported by correlation coefficients between the BDI and other measures of depression (including the Minnesota Multiphasic Personality Inventory-Depression scale) ranging from .58 to .75.

Coping Strategies Inventory-Short Form.

The Coping Strategies Inventory-Short Form (CSI-sf) is a 40-item self-report measure of coping. The Coping Strategy Inventory and the CSI-sf (Tobin, 1985; Tobin, Holroyd, and Reynolds, 1982, 1984; Tobin, Holroyd, Reynolds & Wigal, 1989) represent attempts to improve the psychometric properties of the Ways of Coping Checklist (Folkman & Lazarus, 1985). Drawing on a variety of theoretical approaches (cognitive-behavioral, trait, social-ecological and ego-dynamic), CSI items include as many components of coping as possible. Subjects are asked to think of a stressful event that they have experienced in the past month and how they handled it. This stressful event is then used as the basis for indicating the degree to which each coping strategy listed was relied upon (1 = not at all to 5 = very much). Eight primary, four secondary and two tertiary subscales can be calculated from raw scores on the CSI. The tertiary subscales represent the two most global modes of coping: engagement and disengagement. To disengage is defined as "to release from something... detach ... to free oneself" (Morris, 1973, p. 377). Disengagement coping strategies rely heavily on denial and repression and include four subscales: problem-avoidance, social withdrawal, wishful thinking and self criticism. To engage is defined as "to involve.. to interlock with.. to enter into contest with" (Morris, 1973, p. 433). Engagement coping includes ways of coping in which the individual focuses on active and ongoing efforts to manage the thoughts, feelings and situational consequences of the stressful event. Problem solving, cognitive restructuring, seeking social support, and expressing emotion are the four subscales that make up engagement coping.

The secondary scales break the engagement-disengagement dichotomy down into four coping modes: (a) problem-focused engagement, (b) emotion-focused engagement, (c) problem-focused disengagement, and (d) emotion-focused disengagement. There are eight primary scales. Four involve engagement coping that may be either problem- or emotion-focused (e.g., cognitive restructuring and problem solving) and four involve disengagement coping that may be either problem- or emotion-focused (e.g., wishful thinking and social withdrawal). Researchers are advised to employ only one level of the scales in order to avoid problems of colinearity between the scales (Tobin, Holroyd, & Reynolds, 1984). In the present study only the tertiary scales (i.e., engagement and disengagement) were used.

Cronbach's alpha coefficients for reliability of the engagement and disengagement scales are .78 and .79 respectively. Test-retest Pearson product moment correlation coefficients range from .67 to .83 when subjects responded to the same stressful situation of their choosing on two separate occasions. Criterion-related validity is supported by the findings that the CSI successfully differentiates between depressed and non-depressed samples, headache and non-headache sufferers, and normal and neurotic samples (Tobin, Holroyd, & Reynolds, 1984). Construct-related validity is supported by the finding that scores on the CSI predict depressive symptoms for those subjects who are under high levels of stress. Other studies have also provided evidence that certain ways of coping on the CSI were related to the increased or decreased likelihood of psychopathology (Hovanitz, 1986; Hovanitz & Kozora, 1989).

World Assumptions Scale.

The World Assumptions Scale (WAS: Janoff-Bulman, 1989) is a 32 item self-report measure of the assumptions individuals hold about the world and themselves. The scale was developed in order to begin to gather some descriptive data of trauma victims' basic assumptions. Items are rated on an eight-point scale ranging from 1= disagree completely to 8= agree completely and include statements such as: "The world is a good place." and "I often think I am no good at all."

The WAS is proposed to tap the three domains of an individual's cognitive schema most likely to be threatened by exposure to traumatic events. Each domain is represented by a separate subscale. The perceived benevolence of the world subscale is comprised of beliefs about the benevolence of the impersonal world and of people. Janoff-Bulman (1989) found that victims see the world more negatively than non-victims. The meaningfulness of the world subscale measures people's beliefs about how good or bad events are distributed among people. The ways in which outcomes are distributed in the world determines the meaning attached to discordant events and may influence an individual's sense of personal vulnerability. Male victims, in Janoff-Bulman's research, viewed the world as more random than their non-victim counterparts. Female victims, on the other hand, believed in chance less often than non-victim females. The worthiness of self subscale measures beliefs about the self that are parallel to, and logical extensions of, beliefs about the world. Previous research suggests that self-worth is the single best predictor of victim/ non-victim status (Janoff-Bulman, 1989).

The subscales have been found to have independent factor structure and reliability coefficients ranging from .67 to .78. In addition, a study comparing victims and non-victims found that three assumptions were reliable discriminators between the two groups: perceived self-worth, chance as a distributional principle and the benevolence of the impersonal world. Presumably, victimization leads to lasting changes in basic theories of the world and the self (Janoff-Bulman, 1989).

CHAPTER III

Results

Overview

Descriptive statistics for the stress exposure measures, the measures of distress/psychopathology and the mediator variables will be presented first followed by an analysis of the findings for each of the three hypotheses posed in Chapter 1.

Descriptive Statistics

Means, standard deviations and ranges for each of the four measures of stress exposure (CES, TESI, LES, DH) are presented in Table 1. As is clear from examination of Table 1, there was a tremendous amount of variability in subjects' reported exposure to Daily Hassles (DH). In contrast, the Life Experiences Survey (LES), the Combat Exposure Scale (CES), and the Traumatic Event Screen Inventory (TESI) all yielded narrower ranges.

Means, standard deviations and ranges for each of the four measures of distress/ psychopathology (IES, M-PTSD, BDI, BSI) as well as available normative data are presented in Table 2. Keane, Cadell, and Taylor (1988) reported mean M-PTSD scores of 76 (sd = 18) for a well-adjusted sample, 86 (sd = 26) for general psychiatric patient sample, and 130 (sd = 18) for a sample of veterans with diagnosed PTSD. The present mean of 93.50 (sd = 21.05) most closely parallels the general psychiatric patient sample mean, suggesting that although the subjects were experiencing a significant degree of psychological distress, it was not extreme enough to warrant a diagnosis of PTSD (at least as measured by the M-PTSD). As an alternative measure

Table 1

Descriptive Statistics for Measures of Stress

Measures of Stress	Mean	Standard Deviation	Range
Combat Exposure Scale (CES)	17.04	5.94	7 - 47
Trauma Experiences Survey Inventory (TESI)	6.56	2.54	1 - 12
Life Experiences Survey (LES)	12.47	4.81	3 - 26
Daily Hassles (DH)	75.66	63.89	4 - 309

n=92

Table 2

Descriptive Statistics for Measures of Psychopathology

Measures	Mean	SD	Normative Data Non-Patient Mean	Non-Patient SD	Patient Mean	Patient SD
M-PTSD	93.50	21.05	76.00	18.00	130.00	18.00
BDI	12.31	9.09	10.90	8.10	25.40	9.60
IES: Intrus	11.05	10.21	4.30	4.15	21.30	10.55
IES: Avoid	9.79	9.81	5.59	6.15	17.35	11.65
BSI: General	.90	.70	.30	.31	1.37	.96
BSI: Anxiety	.78	.76	.35	.45	1.70	1.15

n=92

Note. M-PTSD=Mississippi PTSD Scale
BDI=Beck Depression Inventory
IES=Impact of Events Scale
BSI=Brief Symptom Inventory

of PTSD, Horowitz, Wilner and Alvarez (1979) developed the Impact of Events Scale (IES). They presented means from a sample of outpatients seeking treatment following a serious life event [Intrusion: M = 21.30 (sd = 10.55); Avoidance: M = 17.35 (sd = 11.65)] and a sample of medical students reacting to their first experience with a cadaver [Intrusion: M = 4.30 (sd = 4.15); Avoidance: M = 5.59 (sd = 6.15)]. Means for the IES obtained in the present study [Intrusion: M = 11.07 (sd = 10.21); Avoidance: M = 9.79 (sd = 9.81)] lie between the sample of outpatients seeking treatment following a serious life event and the medical students.

Normative data for the Brief Symptom Inventory's (BSI) General Symptom Index (GSI) and anxiety subscale have been reported (Derogatis & Melisaratos, 1983) for adult non-patient sample [GSI: M = .30, (sd = .31) and Anxiety: M = .35, (sd = .45)], a psychiatric outpatient population [GSI: M = 1.32, (sd = .72) and Anxiety: M = 1.70, (sd = 1)] and a psychiatric inpatient population [GSI: M = 1.37, (sd = .86) and Anxiety: M = 1.70, (sd = 1.15)]. In the present study, a mean GSI score of .90 and a mean Anxiety score of .78 was obtained, suggesting again that the level of distress reported by the soldiers is similar to that experienced by those seeking outpatient psychiatric treatment. Beck (1967) suggested the following Beck Depression Inventory (BDI) cut off scores for the classification of depression into minimal: 10.9, mild: 18.7, moderate: 25.4 and severe: 30.0 categories. A mean BDI score of 12.31 (sd = 9.09) was found in the present study, reflecting minimal to mild depression in this sample.

Means and standard deviations for the Coping Strategies Inventory (CSI) subscales and available normative data are presented in Table 3. The following

Table 3

Descriptive Statistics and Normative Data for Coping Strategies Inventory

Measures	Present Sample Mean	SD	Toxic Residents Mean	SD	Early Cancer Pts. Mean	SD
Coping: Disengage	49.48	15.00	43.80	23.00	42.60	17.80
Coping: Engage	58.96	12.96	53.20	19.60	70.20	22.20

n=92

normative data were reported for the CSI: Engagement subscale: means of 53.20 (sd = 19.20) for Fernald residents (an area found to have dangerously high levels of radioactivity), and 70.20 (sd = 20.20) for early stage cancer patients and for the CSI: Disengagement subscale, means of 43.80 (sd = 23) for Fernald residents and 42.60 (sd = 17.80) for early stage cancer patients. In the present study a mean of 58.96 (sd = 12.96) for Engagement and 49.48 (sd = 15) for Disengagement were found. Participants of the present study reported slightly more reliance on disengagement coping than either normative sample. Reported use of engagement coping more closely resembled that of Fernald residents than the early stage cancer patients. Finally, as expected from results of previous research engagement and disengagement coping were not correlated (r = -.07).

Table 4 presents the means and standard deviations for the World Assumption Scale subscales. Normative data are not yet available for the World Assumptions Scale (WAS).

Summary. The scores obtained for the present sample generally suggest a moderate level of psychological distress which most closely resembles samples of individuals seeking outpatient psychotherapy.

Hypothesis 1

Hypothesis 1 predicted that the degree of association between psychological distress/ psychopathology and reported stress experiences would be distinct for each of the classes of stress. To test that hypothesis, first zero-order correlations among the various measures of stress experience and among the various measures of

Table 4

Descriptive Statistics for World Assumptions Scale

Subscales	Mean	SD	Range
Benevolent World	18.59	5.86	4 - 32
Benevolence of Ppl	19.12	5.81	4 - 30
Randomness	17.86	5.71	4 - 30
Controllability	19.03	5.29	4 - 32
Justice	15.09	5.37	4 - 25
Luck	17.23	6.45	4 - 32
Self-Control	22.91	4.22	13 - 32
Self Worth	25.47	5.86	7 - 32

n=92

psychological distress/ psychopathology were calculated. The zero-order correlation matrix for the stress measures are presented in Table 5. Table 5 shows that the reported exposure to combat (CES: Combat Exposure Scale) is significantly related (r = .42, p<.0001) to the reported exposure to more general (civilian and childhood) traumatic events (TESI: Traumatic Events Screen Inventory). Neither Daily Hassles (DH) nor Life Event Stress (LES) is significantly correlated to the CES. Reported exposure to TESI (general civilian/ childhood trauma) is significantly correlated (r = .33, p<.001) with reported LES. Finally, LES is significantly correlated with DH (r = .46, p<.001). No other measure of stress experience is significantly correlated to DH. These correlations suggest that in the present study combat exposure and daily hassles represent phenomena distinct from one another.

The pattern of relations between the measures of each class of stress (shown in Table 5) are also noteworthy. The Combat Exposure Scale (CES) was significantly related only to the Traumatic Events Screening Inventory (TESI) (r = .42, p<.0001). This may reflect item overlap between these two measures (e.g., the CES item: "Were you involved in handling dead bodies?" and the TESI item: "Have you ever seen dead bodies?"). The TESI was additionally related to LES (r = .33, p < .001), which may also reflect item overlap (e.g., the TESI item: "Have you had a serious life threatening illness?" and the LES item: "Major personal illness or injury."). Finally, LES and DH were significantly related (r = .46, p< .0001). Once again, this may reflect item overlap between the two measures (e.g., the LES items: "Change in work situation

Table 5

Zero Order Correlations Among Measures of Stress

	CES	TESI	LES	DH
CES	1.00	.42**	.21	.11
TESI		1.00	.33*	.16
LES			1.00	.46**
DH				1.00

n=92
*p<.001
**p<.0001

Note. CES=Combat Exposure Scale
TESI=Traumatic Experiences Survey Inventory
LES=Life Experiences Scale
DH=Daily Hassles

[different work responsibilities, major change in working conditions, working hours, etc.]" and the DH items: "Concerns about job security" and "Don't like current work duties").

Table 6 presents the zero-order correlations among the various measures of distress/ psychopathology. All measures of psychological distress are significantly correlated ($p<.0001$) with all other measures of psychological distress. These correlations provide some indication of the degree of overlap between the measures. Some overlap is expected given the overlapping nature of constructs of psychopathology; too much overlap, however, indicates that the measures, assumed to represent distinct constructs of psychopathology (PTSD, in particular), are insensitive to the subtle distinctions between various types of psychopathology. These data indicate that discerning and specifying distinct relationships between classes of stress exposure and measures of distress/ psychopathology may not be possible, given the high correlations among measures.

Table 7 presents the zero-order correlations between stress exposure and distress/ psychopathology. Given the large number of correlations calculated, the criterion for significance was held at the .005 level in order to limit Type I errors. Even with this stringent criterion, many correlations between reported stress exposure and psychological distress/ psychopathology were statistically significant. Both reported exposure to combat (CES) and more general civilian and childhood trauma (TESI) were significantly correlated with the Impact of Events Scale (IES: both the Avoidance and Intrusion subscales) and the M-PTSD, the two measure of PTSD used

Table 6

Zero Order Correlations Among Measures of Distress/ Psychopathology

	IES: Intrus	IES: Avoid	M-PTSD	BDI	BSI: General	BSI: Anxiety
Intrus	1.00	.75	.60	.49	.58	.50
Avoid		1.00	.56	.49	.61	.54
M-PTSD			1.00	.75	.80	.72
BDI				1.00	.79	.76
BSI:General					1.00	.85
BSI:Anxiety						1.00

n=92

Note. All correlations are significant at $p < .0001$.

M-PTSD=Mississipi PTSD Scale
IES=Impact of Events Scale
BDI=Beck Depression Inventory
BSI=Brief Symptom Inventory

Table 7

Zero Order Correlations Among Measures of Distress/ Psychopathology and Stress

	CES	TESI	LES	DH
IES:Intrusion	.53**	.43**	.43**	.33*
IES:Avoidance	.41**	.33*	.32*	.39**
M-PTSD	.34*	.34*	.50**	.57**
BDI	.26	.32	.52**	.54**
BSI:General	.23	.25	.54**	.66**
BSI:Anxiety	.27	.22	.43**	.57**

n=92

*p<.001
**p<.0001

Note. CES=Combat Exposure Scale
TESI=Traumatic Stress Survey Inventory
LES=Life Event Stress
DH=Daily Hassles
IES=Impact of Events Scale
M-PTSD= Mississipi PTSD Scale
BDI=Beck Depression Inventory
BSI=Brief Symptom Inventory

in the present study. Neither the Beck Depression Inventory (BDI) nor the Brief Symptom Inventory (BSI) were significantly correlated with the CES. The TESI, however, was significantly correlated with the BDI (r = .32, p<.002). Both the reported experiences with life events stress and daily hassles were significantly correlated with all measures of distress/ psychopathology. Correlations range from r = .32, p<.002 for LES and IES: Avoidance to r = .66, p<.001 for BSI:General and DH. In general, the present findings offer only minimal support for the hypothesis that psychological distress/ psychopathology would be distinctly related to each class of stress. Interpretation of these findings will be presented in Chapter IV.

Hypothesis 2

The second hypothesis predicts that coping styles will vary as a function of stress class and psychopathology. In the present study, as in previous research (Tobin, Holroyd, Reynolds, & Wigal, 1989), Engagement and Disengagement Coping are independent and not statistically correlated (r = -.07). The use of engagement strategies is not dependent on the use of disengagement strategies. Table 8 presents the zero-order correlations between coping styles and the measures of distress/ psychopathology. These results suggest that the more the individual relied on engagement coping strategies, the lower his or her score on the M-PTSD (r = -.40, p<.0001) and on the BDI (r = -.30, p<.004). All measures of distress/ psychopathology were significantly correlated (p<.001) with disengagement coping. This suggests that reliance on disengagement coping strategies is generally indicative of distress/ psychopathology.

Table 8

Zero Order Correlations Between Coping and Distress/ Psychopathology

	Disengagement Coping	Engagement Coping
IES: Intrusion	.35*	-.13
IES: Avoidance	.53**	-.01
M-PTSD	.52**	-.40**
BDI	.60**	-.30*
BSI: General	.63**	-.26
BSI: Anxiety	.56**	-.22

n=92

*p<.001
**p<.0001

Note. IES=Impact of Events Scale
BDI=Beck Depression Inventory
BSI=Brief Symptom Inventory
CSI=Coping Strategies Inventory

Table 9 presents the zero order correlations between coping and reported stress exposure. Life event stress (LES) and daily hassles (DH) were significantly correlated with greater reliance on disengagement coping strategies. The reported exposure to combat stress was the only stress class significantly correlated with engagement coping strategies (r = -.29, p<.005), suggesting that the more combat exposure, the less likely the individual was to employ engagement coping strategies. These findings lend support to Hypothesis 2, and the implications of this result will be discussed in Chapter IV.

Hypothesis 3

Hypothesis 3 predicted that the World Assumptions Scale (WAS) would be significantly related to trauma exposure and trauma-related psychopathology but not to LES or DH. The present data provides no support for this hypothesis. Table 10 presents the zero-order correlations between the stress exposure measures and the eight subscales of the WAS. As can be seen from Table 10, only one correlation (Self-Worth and DH: r = -.34, p<.0008) reached statistical significance. The zero-order correlations between the measures of distress/ psychopathology and WAS subscales are presented in Table 11. Only a handful of correlations reached statistical significance. Self-Worth is significantly correlated with M-PTSD (r = -.39, p<.0001), BDI (r = -.39, p<.0001), and BSI: Anxiety (r = -.30, p<.003). The belief that positive and negative events are distributed randomly is significantly correlated with M-PTSD (r = .31, p<.002) and BSI: General (r = .33, p<.001). And finally, the belief in the benevolence of the interpersonal world was significantly related with the BDI (r = -.34, p<.0009).

Table 9

Zero Order Correlations Between Coping Strategies Inventory and Stress

	Disengagement Coping	Engagement Coping
Combat Exposure Scale	.11	-.29*
Taumatic Event Survey Inventory	-.01	-.18
Life Experiences Survey	.36**	-.09
Daily Hassles	.50***	-.15

n=92
*p<.005
**p<.001
***p<.0001

Note. CES=Combat Exposure Scale
TESI=Traumatic Experiences Scale
LES=Life Experiences Scale
DH=Daily Hassles

Table 10

Zero Order Correlations Between Stress and World Assumptions Scale

	CES	TESI	LES	DH
World Assumptions Subscales				
Benevolent World	-.04	-.10	-.18	-.17
Benevolence of People	-.06	-.02	-.16	-.25
Randomness	.00	.01	.13	.18
Controllability	.16	.13	.06	-.06
Justice	.04	-.13	-.22	-.12
Luck	.04	-.09	-.16	-.11
Self-Control	-.12	-.13	-.07	-.14
Self Worth	-.08	-.08	-.20	-.34*

n=92

*$p<.0008$

Note. CES=Combat Exposure Scale
TESI=Traumatic Experiences Scale
LES=Life Experiences Scale
DH=Daily Hassles

Table 11

Zero Order Correlations Between Measures of Distress/Psychopathology and World Assumptions Scale

	IES: Intrus	IES: Avoid	M-PTSD	BDI	BSI: General	BSI: Anxty
Benev Wrld	-.13	-.10	-.24	-.21	-.20	-.15
Benev Ppl	-.14	-.14	-.28	-.34**	-.28	-.20
Rndmnss	.25	.28	.31*	.28	.33	.26
Cntrlblty	.09	.10	-.00	.02	.03	.06
Justice -.16		-.08	-.19	-.13	-.19	-.02
Luck	-.03	.04	-.15	-.06	-.06	.06
Slf-Cntrl	-.01	-.05	-.25	-.16	-.15	-.23
Slf Wrth	-.04	-.16	-.39***	-.39	-.28	-.30**

n=92

*=p<.005
**p<.001
***p<.0001

Note. IES=Impact of Events Scale
M-PTSD=Mississipi PTSD Scale
BDI=Beck Depression Inventory
BSI=Brief Symptom Inventory

These findings suggest that the WAS is not specifically related to trauma exposure or trauma-related psychopathology, nor is it related more generally to stress phenomena. The implication of these findings will also be discussed in Chapter IV.

Summary

Descriptive data suggests that the present sample reported a moderate level of distress, most often not in the realm of diagnosable psychopathology. With regard to Hypothesis 1 in which psychological distress was expected to be distinctly related to each class of stress, the present findings provided only limited support. Combat exposure and childhood/civilian trauma were significantly related to both measures of PTSD and combat exposure was not related to any other measure of psychological distress. LES and DH, however, were significantly related to all measures of psychgological distress, including the measures of PTSD. Some support was found for Hypothesis 2 which anticiated that coping style would vary as a function of stress class. Combat exposure was significantly related to an engagement coping styly (i.e., the greater the combat exposure, the less reliance on engagement coping). Disengagement coping was significantly related to greater reported expereince with LES and DH and all measures of psychological distress. Finally, the present findings provide no support to the hypothesis (Hypothesis 3) that one's assumptive world view would be significantly and uiniquely related to trauma exposure and trauma-related psychopathology.

CHAPTER IV

Discussion

Overview

The purpose of the present study was to investigate the nature of differences between classes of stress as they relate to psychopathology, coping and assumptive world view. The major goal was to clarify the validity of the assumption that stress is a continuous phenomena. This assumption underlies much of the theory and methodology currently guiding stress measurement and research.

Separate lines of research have provided evidence that each of the three classes of stress is related to indices of psychological distress (DeLongis, et al., 1982; Keane, et al., 1987; Lewinsohn, et al, 1985). The nature of the differences between these classes of stress, however, has not been addressed empirically. The accuracy of characterizing trauma as a point along a "stress continuum" (as opposed to a categorically or qualitatively separate phenomenon) has traditionally gone unexamined in research. In the diagnostic literature, however, the diagnosis of PTSD requires exposure to a "traumatic" event as if "trauma" represents a separate, externally definable, and categorically distinct class of stress phenomena (Breslau & Davis, 1987). In an attempt to clarify the nature of stress phenomena, the present study compared three classes of stress as they related to three variables: psychopathology, coping style, and assumptive world view.

In this chapter, the findings of the research and the implications of these findings will be discussed. The discussion of findings is organized by hypothesis, i.e., Hypothesis 1 is discussed first, Hypothesis 2 next, and Hypothesis 3 is discussed last. The limitations of the present findings and recommendations for future research are discussed within this format as well, meaning that discussion of limitations and recommendations as they are relevant to each hypothesis are discussed in the section in which that particular hypothesis is examined. The chapter closes with a broader discussion of issues related to the existing models of stress and with discussion of current controversies in the definition and measurement of stress phenomena.

Hypothesis 1: Specificity in the relationships between psychopathology and stress class

It was posited in Hypothesis 1 that the association between psychopathology and stress would be distinct for each class of stress. A clear pattern was expected to emerge in which traumatic events were uniquely related to specific psychological sequelae (i.e., PTSD symptomology). Separate patterns of relations with psychological functioning were also expected for life event stress (LES) and daily hassles (DH). Daily hassles, for example, have long been associated with generalized distress, particularly depression and anxiety (Dohrenwend et al., 1984; Kanner et al., 1981; Lazarus, 1984). It was, therefore, anticipated that DH would be significantly related to measures of depression and anxiety. Such a pattern of results, in which each class of stress was uniquely related to psychological functioning, would support a conceptualization of stress phenomena as varying qualitatively and not just quantitatively.

The present findings provide limited but intriguing support for the hypothesis that a distinct pattern of connection exists between specific types of pathology and certain classes of stress. Combat (CES) and childhood/civilian trauma (TESI) were significantly and exclusively related to both measures of PTSD symptoms (i.e., to Impact of Events Scale and Mississippi-PTSD Scale) and were not related to the other measures of psychopathology administered to participants. This finding suggests that trauma exposure is indeed distinctly related to psychopathological outcomes. Life event stress (LES) and daily hassles (DH) were also found to be significantly related to these same measures of PTSD. Consequently, even though trauma exposure was related exclusively to PTSD symptomatology, the measures of PTSD were not exclusively related to trauma exposure and, therefore, did not discriminate between the impact of participants' experiences of trauma and their experiences of life events stress and daily hassles.

The pattern of connections found between measures of psychopathology and LES and DH raise questions about the validity of these measures with respect to the purposes for which they were employed in this study. LES and DH were found to be significantly correlated with all the measures of psychopathology, including measures of PTSD. Indeed, such an indiscriminant pattern of connections between these two classes of stress (i.e., LES and DH) and psychopathology can be understood in terms of both methodological and more substantive issues.

The fact that the measures used in the study were all self-report instruments and the fact that there were high intercorrelations among the measures of psychological

distress provide important clues about a limitation of the present findings. All the measures of psychopathology used in the present study were highly correlated ($p < .0001$) with all other measures of psychopathology used. This sole reliance on self-report instruments undoubtedly increased the likelihood of tapping a significant amount of shared method variance among the measures of psychopathology (e.g., response set; willingness to report deviance).

In addition, in a subclinical sample, this degree of interdependence among measures of psychopathology can be interpreted as indicative of generally poor psychological functioning in the absence of any specific syndrome rather than evidence of the specific constructs of psychopathology which each instrument was designed to measure (Gotlib, 1984). Taking this argument further, some of the variance shared between the measures of psychopathology and the measures of LES and DH may represent such "third variable" constructs as negative affectivity or neuroticism (Eysenck, 1968; Gotlib, 1984; Schroeder & Costa, 1985; Watson & Clark, 1984). The high correlations found between LES and DH, between LES and all the measures of psychopathology, and between DH and all the measures of psychopathology raise the possibility of such third variable explanations. Indeed, certain items on both the LES and DH suggest that these instruments may measure negative affectivity more than stress events (e.g., "Major change in sleeping habits- much more or much less sleep"; "Troubling thoughts about your future"; "Concerns about inner conflicts").

Negative affectivity has been defined by Watson and Clark (1984) as a mood dispositional dimension (not necessarily psychopathological in nature) representing an

enduring tendency to experience dysphoric emotions and to emphasize the negative in self, others and the environment. In a data set involving a "normal" (i.e., non-patient) sample, "psychopathology" may be better understood in terms of this central underlying construct. Indeed, Gotlib (1984) has concluded:

> It appears then that self-report measures of a number of types of maladaptive functioning may all essentially assess one construct, which might best be labeled dysphoria, malaise, or general psychological distress (p. 26).

The interpretation that the relations found between LES and DH and psychopathology are actually due to a third variable (e.g., negative affectivity) supports the current results and the work of a number of other researchers who have critized the measurement of LES and DH, arguing that such measures of stress are not independent of the measures of psychopathology they are suposed to be predicting (Dohrenwend, et al., 1984; Dohrenwend & Shrout, 1985; Elliot & Eisdorfer, 1982; Johnson, 1982; Rabkin & Struening, 1976; Schroeder & Costa, 1984).

This assertion of interdependence is particularly relevant for stress events that are potentially controllable, predictable, and/or ambiguous, which is especially the case in life event stress and daily hassles. In such cases, an individual's reported experiences with life event stress and daily hassles (as opposed to trauma exposure) may be far more dependent on prior levels of psychological functioning. Specifically, poor psychological functioning (i.e., dysphoria, neuroticism) may predict increased reports of LES and DH since those higher on negative affectivity or neuroticism may have a lower threshold for noticing minor inconveniences or interpreting ambiguous circumstances negatively.

Discriminating post-trauma distress from a more gross or macro-level dimension such as "dysphoria" or negative affectivity may simply not have been possible in the present data set in which the range of M-PTSD scores reflects generalized psychological distress as opposed to indicating the classic (i.e., more elevated) PTSD symptom profile.

Finally the level of trauma exposure experienced by the participants who took part in the present study may not have crossed some thus far unspecified threshold of experience into the realm of traumatic experience which presumably leads to combat-related PTSD.

Sources of stress missed in the present study. Moving now into the realm of the intuitive and phenomenological, an informal observation from the field is particularly noteworthy at this point because of its implications for the present findings. While on site, collecting the data, the researcher was approached by many soldiers, after they had completed their questionnaires, to discuss their concerns about the mysterious "immunizations" to which they were forced to submit and about which they were not offered any explanation (as to purpose or possible side effects). The soldiers described their ongoing distress about a number of unexplained and unusual physical symptoms which they had been experiencing since receiving the immunizations. Since the data collection, these immunizations have been identified in the print media as the most likely cause of the mysterious symptoms with which many Persian Gulf veterans returned home. Perhaps the most disturbing and enduring stressful experience of the Persian Gulf War for the participants was the coercive and

secretive nature of the immunizations, the soldiers' sense of betrayal and abandonment by their government and commanding officers and the ongoing fear regarding the long term consequences of their mysterious physical symptoms. Indeed, some soldiers suggested to the researcher that these "immunizations" constituted the Persian Gulf War version of Agent Orange exposure from the Vietnam War. Clearly a critical, unanticipated, most importantly, unmeasured, source of stress was visited upon the "immunized" soldiers.

Whether these coerced "immunizations" constitute a trauma is fodder for the larger debate in the trauma and stress literature about how best to define and classify stress phenomena. Since the introduction of PTSD into the diagnostic nomenclature, the inclusion of an externally identifiable and objectively definable traumatic event as a critical element of the diagnostic criteria has been hotly debated. As mentioned previously, some researchers have argued that the DSM requirement that the stress event be objectively defined as "traumatic" implies that trauma represents a separate, externally definable, and categorically distinct class of stress phenomena (Breslau and Davis, 1987). This requirement is controversial on a number of fronts and provides a microcosm of the debate smoldering within the broader study of stress phenomena.

It could be argued that defining the immunizations as a traumatic event depends on each soldier's perception of the coercion, his or her concern about the physical danger of the immunizations and about the resulting mysterious physical symptoms. Thus, soldiers may have been grappling with sources of stress which were not recognized or measured in the present study, since no data were collected regarding

which soldiers received the immunizations. This source of stress may have had important implications for the present data set.

Summary. Although the current findings raise some intriguing issues, they shed only limited light on the question of how the various classes of stress are differentially related to psychopathological outcomes. The findings underscore the importance of employing multi-source, multi-method assessment procedures whenever possible in order to avoid third variable explanations and self-report response biases. Future research in which the sample includes a broader range of subjects thereby avoiding the range attenuation in the present study (i.e., subjects who represent a broader range both in terms of exposure to trauma and struggle with psychopathology) and employs multi-method, multi-source assessment procedures would help to expand on the present findings.

Hypothesis 2: Specificity of the role of coping as a function of stress class and psychological distress

Coping has been well established as an important mediator of the connections between stress and psychopathology (Billings & Moos, 1984; Folkman & Lazarus, 1980; Holahan & Moos, 1985; Holroyd & Lazarus, 1982; Thoits, 1986). Researchers have found that characteristics of a particular stressful experience influence the coping choices made by individuals (Folkman & Lazarus, 1984; Green, Lindy & Grace, 1988). No study to date, however, has examined variations in coping as a function of the individual's experiences with each of several different classes of stress. The present study provided one such analysis.

It was posited in Hypothesis 2 that coping would be differentially associated with each class of stress, thereby supporting a qualitative differences model relevant to any construction of a nosology of stress phenomena. The present findings provide some support for the hypothesis of qualitative differences between trauma and other classes of stress as they relate to coping style. In particular, combat exposure was found to be significantly related to an engagement coping style. Specifically, the greater the participant's exposure to combat trauma, the less likely that individual was to employ engagement coping strategies. These findings are similar to those of Green, Lindy and Grace (1988), in which the coping styles of Vietnam veterans were, in part, determined by the extent or intensity of their combat exposure.

When taken together, the findings of the current study and those of Green et al. (1988) support the contention that trauma has a profound impact on ongoing coping style and that exposure to trauma leads to a categorically different relationship with coping and subsequent psychopathology, (as compared to the relations between LES and coping and DH and coping). Perhaps exposure to overwhelming combat trauma changed the soldiers' sense of agency in the world, leading them to believe that direct, self-initiated action directed toward confronting the environment was futile. Causal statements about these connections cannot be made until they are verified in prospective multi-source, multi-method research. The present results indicate that this is likely to be a fruitful avenue of further inquiry.

In contrast to the findings for trauma, a different pattern of relations emerged for LES and DH. Both life event stress and daily hassles (but not trauma exposure)

were significantly related to a disengagement coping style. Specifically, the more the participant reported experiences with life event stress and daily hassles, the more likely he or she was to employ a disengagement coping style. These results may again reflect an underlying third variable explanation in which the statistically significant correlations reflect the negative affectivity picked up in the measures of LES and DH and the negative affectivity evident in the reliance on a disengagement coping style.

A disengagement coping style was found to be significantly related to all measures of psychological distress ($p < .001$ and .0001), and all measures of distress were significantly correlated with life event stress and daily hassles. Perhaps, in the case of LES and DH (but not trauma exposure), maladaptive (disengagement) coping styles represent a crystallization or behavioral manifestation of underlying psychopathology or psychological distress. Disengagement coping styles might then be viewed as manifestations of individual psychopathology. The significant relations between disengagement coping, psychopathology and high endorsement of minor stress experiences may be understood as representative of the interdependent, dynamic process in which change in one dimension both exacerbates and creates change in the others bi-directionally. Researchers have suggested that a baseline of poor psychological functioning can lead to poor choices which in turn, directly or indirectly cause or exacerbate the occurrence of negative events and the psychological impact of these events (Dohrenwend & Shrout, 1985). The present findings seem to support the notion that LES and DH overlap substantially with psychopathology and maladaptive coping, a notion which suggests that the connection between stress (LES and DH but

not trauma exposure), psychopathology and a disengagement coping style is akin to a Gordian knot.

Summary. The present findings provide some support for the hypothesis that qualitative differences exist in the associations between coping and classes of stress. Combat exposure was the only class of stress to be significantly correlated with an engagement coping style. Exposure to trauma may change a victim's sense of the utility of actively engaging with the environment, such that direct action seems futile or perhaps overwhelming. Although prospective data are needed for verification, exposure to traumatic events may actually have a lasting impact on coping style.

The high degree of overlap among the measures of disengagement coping style, high reported experience with LES and DH, and greater psychological distress have implications for the accuracy of characterizing LES and DH as measures of "objective" or "environmental" stress. Specifically, it seems reasonable to interpret the present findings as supporting the work of others who have concluded that measures of life event stress and daily hassles are often confounded with negative affectivity (Dohrenwend & Shrout, 1985; Schroeder & Costa, 1984).

Hypothesis 3: Specificity of the association between assumptive world view and classes of stress

Cognitive processing models of PTSD propose that traumatic events lead to psychopathology and distress by threatening the victim's basic assumptions about the world and the self (Horowitz, 1976). Although most treatment models of PTSD follow this assumption (Herman, 1992; Keane et al., 1994; Peterson, Prout, &

Schwartz, 1991; van der Kolk, 1987), little empirical research has addressed this issue and no study has examined potential differences in assumptive world view as a function of experience with various classes of stress. The present study provided initial exploration of this matter.

It was posited in Hypothesis 3 that the individual's assumptive world view would be uniquely related to trauma exposure. Trauma exposure, however, was not found to be differentially related to the individual's assumptive world view. In fact, no discernible pattern of relations were found between assumptive world view and any class of stress or any measure of psychopathology. These negative finding may best be explained by a number of psychometric and methodological limitations in the present study.

In terms of the psychometric limitations, the World Assumptions Scale (WAS) is a relatively new instrument (1989) with little validation data. Validation requires the accumulation of empirical data indicating that the instrument indeed measures what it is intended to measure. Even when assessed, validity is only a matter of degree rather than an all-or-nothing property; in short, validation is an unending process (Nunally, 1967). For the WAS this process of validation has only just begun and the possibility remains that the instrument possesses little construct validity.

One part of establishing construct validity involves determining the extent to which "measures fit in a lawful way into a network of relationships that would be expected on the basis of sensible theories" (Nunally, 1967, p. 103). This issue is particularly relevant with respect to the WAS in that it is an extremely difficult task to

establish the instrument's construct validity while simultaneously developing adequate theory for a construct as elusive and abstract as assumptive world view. Assumptive world view is a private, individually constructed set of beliefs which does not easily lend itself to quantification. The measurement task of eliciting and categorizing such basic beliefs is a complex one and researchers may not yet have found a rich enough language, or a comprehensive or holistic enough methodology by which to adequately capture and measure the idiosyncratic, nonverbal, emotional (and perhaps unconscious) realm of assumptions about the world and assumptions about one's sense of personal vulnerability.

Taking this argument even further, perhaps the WAS misses basic dimensions of our belief systems which are more salient and more susceptible to being disrupted or altered following trauma exposure. Or alternatively, perhaps the WAS does not tackle the issue of basic assumptions at the appropriately minute level to provide useful data. The 8-point scale format (i.e., based upon the strength of a participant's agreement or disagreement with items) of the WAS allows participants to respond equivocally to each item, a format which yields only limited information from a research perspective. Finally, participants may simply not have enough conscious access to their beliefs and world assumptions to meaningfully and sensitively discriminate between the kinds of abstract, impersonal statements presented in the WAS.

Along with the psychometrically-based limitations delilneated above, certain participant-based properties of the sample utilized in the present study may have

limited the possibility of obtaining positive results with respect to Hypothesis 3. The belief systems of a group of active duty soldiers may be too homogeneous (i.e., range attenuation) to allow for meaningful analysis. The self-selection involved in volunteering for the armed forces and the impact of being trained by and indoctrinated into the armed services may converge to create a core and homogeneous belief system across soldiers which overshadows any subtler beliefs that may have been affected by exposure to trauma. In this regard, if Hypothesis 3 is indeed true, use of a more heterogeneous sample might have yielded more positive results. In addition, the inclusion of a control group of soldiers who did not participate in the Persian Gulf War (but who similarly volunteered for and were trained in the armed forces) may have been useful as well. In this situation, the World Assumptions Scale might have uncovered some group level differences between combat and non-combat veterans. Finally, it is also possible that the level of trauma exposure experienced by the soldiers who took part in the study was not extreme enough to produce the kind of group-level belief system changes which are detected by self-report measures.

At the methodological level, more sensitive procedures of data collection and analysis may have been available than were used. Differences in assumptions about the world may only be discernible at the individual level of analysis and, then, only within a prospective format (i.e., pre- and post- trauma exposure). Changes in assumptive world view following trauma exposure may be very individualized and, therefore, not easily captured by the nomothetic, cross-sectional group research design used in the present study.

Summary. The present findings did not support the prediction that a unique relationship exists between exposure to trauma and assumptive world view. In order to disconfirm this hypothesis with confidence, the psychometric, sampling and methodological limitations described above would need be overcome.

Theoretical Considerations

Current controversies in the definition of stress. In the literature addressing theory development in the study of stress phenomena (Breznitz, 1986; Miechenbaum, 1985; Taylor, 1984), confusion and conflict abound. Although controversy is an expected part of any area's pre-paradigmatic stage of development (Janis, 1985), it is also important to point out that the development of an integrated network of knowledge by which future research could be structured and directed is hindered by the lack of definitional clarity about the concept of stress (Cook & Campbell, 1979). The most fundamental controversy involves the issue of how best to define stress. The present study plays a part in the push to achieve greater clarity about how best to define stress phenomena. By exploring the network of relationships that emerged for each class of stress with the variables of psychopathology, coping, and assumptive world view, the present study challenged assumptions that stress phenomena exists on a continuum.

The definitional controversies in the literature reflect the long standing traditional divide in psychological research between the subjective and the objective. As reviewed earlier, some definitions of stress phenomena focus almost exclusively on subjective perception (Lazarus & Folkman, 1984), while others emphasize objectively

observable environmental events and conditions (Dohrenwend, 1981; Hobfoll, 1989). Lazarus (1984; Lazarus et al., 1985), for example, has argued that characterizing stress phenomena in terms of powerful "objective" and external forces that impinge upon passive individuals is incomplete and simplistic. He has proposed that individuals are active agents whose unique appraisals are pivotal to any understanding of stress phenomena, that is, stress is not found in the "objective" reality of an event, but rather in the individual's appraisal of that event.

Those championing an environmental view of stress argue that such an appraisal-driven approach does not allow researchers to make important distinctions between stress reactions and neurotic symptoms (Dohrenwend, et al., 1984; Hobfoll, 1989). The "objective" environment, these theorists argue, must be specifiable and identifiable without reference to idiosyncratic, subjective appraisal processes. If this is not done, they argue, stress will be defined as existing only (or at least mainly) in the eye of the beholder and become tangled in a meaningless or irrelevant tautology, which would make it impossible to develop predictive models.

The entrenched and long-standing nature of the debate about the objective vs. the subjective is not surprising given the complexities of human existence and the multifaceted nature of stress phenomena. It is indeed a monumental challenge to abstract and operationalize commonalities in experiences across different individuals, all of whom face very different and complicated environments and experiences, and all of whom have markedly different histories and live in a world in which constant,

moment-to-moment change is the norm (Lazarus & Folkman, 1984; Monroe & Roberts, 1990).

In the present study, trauma exposure (i.e., combat) was found to be related to PTSD symptoms and to less reliance on engagement coping strategies. Trauma exposure led to a different, and apparently less tangled, network of relations to both psychological distress (PTSD only) and coping (engagement coping exclusively). In contrast, an interrelated network was found for the measures of life event stress and daily hassles. LES and DH were highly related to each other, to all measures of psychological distress, and to an increased reliance on disengagement coping strategies. Moreover, all the measures of psychological distress were highly related to a disengagement coping style. This network of interrelatedness for DH and LES (but not for CES or TESI) suggests again that a distinctly more subjective element is captured in current measures of LES and DH. These different networks of relations for trauma as opposed to LES and DH may reflect the degree to which objective and subjective factors play a role in the network of relations.

Whether the connections of emotional, behavioral and environmental variables captured by the LES and DH are viewed as psychometric shortcomings or accurate representations of the stress phenomena at hand, is, of course, open to debate. The LES is represented as measuring the "objective" occurrence of events in the environment while the DH is promoted for its "sensitivity" to the "fusion" between the environment and the individual's appraisal of that environment. As the larger theoretical debate rages on, our current psychometric technology may effectively limit

the extent to which environment and perception can be segregated in measurement, particularly in measures of these lower-level stress classes. In actual practice, for lower-level classes of stress phenomena, there may be no way to sever the connection between environment and perception without losing the phenomena of interest. Psychometric attempts to sever objective and subjective elements will at best yield an incomplete picture of the phenomenon under study and at worst provide misleading or erroneous information.

Current limitations in the measurement of stress

Each time researchers devise a stress measurement strategy they implicitly reveal in their measure their own theoretical stance about the particular stress phenomenon under study (Kraus, 1990). For example, the Life Events Scale is grounded in a view of stress as an externally and objectively definable phenomenon which involves environmental change (Holmes & Rahe, 1967). Environmental stress is assumed to be quantifiable with "units of change" being the metric of quantification.

Within the checklist format it is further assumed that various stressful events can be added together to yield a meaningful cumulative score which captures an individual's stress profile. As mentioned in Chapter I, much of the literature on stress is guided by this assumption of additivity. The impact of relatively common events are believed to be cumulative. Thus, common events are assumed to accumulate potentially to "crisis" proportions which would impact the individual in the same manner as one massive, traumatic event.

Validation of the assumption of additivity requires that the effect of any stressor be independent of previous stress experiences. Birnbaum & Sotoodeh (1991), however, have found two systematic departures from additivity in their investigation of the nature of stress event interactions. First, they found that the impact of a given event was not independent of previous stress experiences. Indeed, the impact of a given event was less severe when it was the least stressful event in a combination than when it was the most. Second, each additional stressor had a diminishing marginal impact on the overall impact severity. For example, a third stressor of equal value (i.e., equal units of change) contributed less than half as much to outcome severity as the first stressor (see also Brown and Harris, 1978; Shanteau & Phelps, 1975). These findings suggest that the most stressful event experienced by an individual carries extra configural weight and strongly challenge the assumption of additivity which underlies most stress measurement strategies.

Monroe & Roberts (1990) have pointed out an additional problem with the assumption of additivity. They argue that not all events are cumulative in their effects, rather, some events may nullify or neutralize the impact of previous experiences. For example, when an individual endorses both "getting fired" and "starting a new job" at least some of the impact of getting fired may well be offset by finding a new job. They suggest that: "Since life is a process of adaptation it is not surprising that many life events reflect attempts to deal with previous problems" (p. 236). The present findings of a distinct pattern of impact on coping style found for trauma as compared

to LES and DH further suggest that an additivity model in which stress phenomena is assumed to be continuous is insufficient.

The checklist approach to stress measurement has been further criticized for a number of psychometric limitations. Items on checklists often tap psychopathological conditions in both obvious and subtle ways. Some events or conditions may be manifestations of psychological symptoms (e.g., "trouble sleeping"), as it may be impossible to determine if an event's occurrence is independent of the disease process or the result of disease-induced changes (Elliot & Eisdorfer, 1982). And, as was noted with regard to the findings in the present study, distinguishing effects of stress from the chronic distress of an individual high in neuroticism can be quite difficult. Some researchers have even suggested that only those stress events confounded with negative affectivity will be related to self-report psychopathological criteria (Brett, Burke, George, & Webster, 1990; Schroeder & Costa, 1984). Others have criticized items which are so vague or ambiguous as to permit all sorts of loose interpretations by subjects based on highly idiosyncratic, personal impressions (Monroe & Roberts, 1990). Finally, the retrospective nature of the checklist approach and poor recall of past events may infuse checklists with retrospective and attributional biases as individuals search for meaningful explanations for their current distress. Consequently, the checklist approach to measurement of "objective, environmental" stress may yield an uninterpretable mix of data about external stressors and subjective experience.

Underlying the construction and use of DH is the assumption that the environment and the individual's appraisal of that environment cannot and should not

be disentangled. As a result, DH is lauded for the very fusion of environmental and personal variables for which the LES is criticized. Regardless of their theoretical underpinnings, what stress checklists actually measure and the extent to which classes of stress are definable and measurable externally or objectively may vary dramatically as a function of the particular class of stress. For example, in many cases the individual's discretion, recall and negative affectivity may be less important on an combat exposure inventory with items such as "Were you ever under enemy fire?" than on a measure that asks how hassled were you by "concerns about the meaning of life".

The present findings suggest that the LES and the DH measure a combination of the environmental, psychological, emotional, and behavioral dimensions of the stress process. In comparison, trauma was found to be less susceptible to this type of blurring and this, in fact, may turn out to be a critical dimension along which trauma is distinguishable from LES and DH.

Summary

The present study probed the nature of the differences between various classes of stress. Much of the previous research has been guided by the unconfirmed assumption that stress is a continuous phenomenon and that trauma and daily hassles represent the two extreme ends of the "stress continuum". As was anticipated in the hypotheses which guided the research, trauma exposure (as opposed to LES and DH) was found to be differentially related to both psychopathology and coping style. This

finding was interpreted as an indication that the various classes of stress have qualitatively (and not just quantitatively) different relationships with these variables.

Life event stress and daily hassles were highly related to each other, to a disengagement coping style and to all the measures of psychopathology. This network of relations along with the high correlations between a disengagement coping style and all measures of psychopathology suggest that the measures of low-level stress such as daily hassles and life event stress may be confounded with or inextricably fused with maladaptive coping and psychological distress.

These findings have implications for the development of theoretical models of stress phenomena, and further exploration is warranted. Future research probing potential qualitative distinctions between classes of stress would benefit from the use of longitudinal designs that employ multi-source, multi-method data collection procedures to determine the causal connections between trauma exposure and enduring changes in coping style.

This study also explored the possibility that trauma exposure (but not experiences with LES or DH) would be related to assumptive world view. The findings did not, however, support a relation between trauma exposure and assumptive world view. These negative findings seem most appropriately interpreted as a reflection of the psychometric limitations of the measure of assumptive world used in the present study (i.e., the World Assumptions Scale), the vagueness of the assumptive world view construct, and possible range attenuation due to a homogeneity in the beliefs of volunteer soldiers. Future research directed toward exploring other

means of accessing information about the participants' assumptive world view and employing other methods of data collection and analysis may be more sensitive in uncovering the nature of the impact of trauma exposure on assumptive world view. In particular, the use of a repeated measures and a longitudinal design may yield more positive findings.

Overall, the results of this project suggest that further probing of the differences between the classes of stress will increase our understanding of the nature of stress phenomena. These findings effectively challenge the tacit assumption that stress is a continuous phenomenon and suggest that pursuing models of the qualitative distinctions between classes of stress will continue to be fruitful.

References

Albee, G. (1980) A competency model must replace the defect model. In Bond & Rosen (Eds.), Competence and Coping During Adulthood.

Antonovosky, A., & Kats, R. (1967). The life crisis history as a tool in epidemiological research. Journal of Health & Social Behavior, 8, 15-21.

Baker-Miller, J. (1986). Toward a New Psychology of Women. (Second Edition). Boston: Beacon Press.

Barnett, P.A. & Gotlib, I. H. (1988). Psychosocial functioning and depression: Distinguishing among antecedents, concomitants, and consequences. Psychological Bulletin, 104, 97-126.

Beck, A.T. (1967). Depression: Clinical, experimental, and theoretical aspects. New York: Harper & Row.

Beck, A.T. & Beamesderfer, A. (1974). Assessment of depression: The depression inventory. Modern Problems in Pharmacopsychiatry, 7, 151-169.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Billings, A. & Moos, R. (1981). The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 4, 139-157.

Billings, A. & Moos, R. (1984). Coping, stress, and social resources among adults with unipolar depression. Journal of Personality and Social Psychology, 46, 877-891.

Birnbaum, M. & Sotoodeh, Y. (1991). Measurement of stress: Scaling the magnitudes of life changes. Psychological Science, 2, 236-243.

Boulet, J. & Boss, M. (1991). Reliability and validity of the Brief Symptom Inventory. Psychological Assessment, 3, 433-437.

Brenner, M.H. (1973). Mental Illness and the Economy. Cambridge, Massachusetts: Harvard University Press.

Breslau, N. & Davis, G. (1987). Posttraumatic Stress Disorder: The stressor criterion. The Journal of Nervous and Mental Disease, 175, 255-264.

Brett, J., Brief, A., Burke, M. George, J., & Webster, J. (1990). Negative affectivity and the reporting of stressful life events. Health Psychology, 1, 57-68.

Breznitz, S. (1986). Stress: Potency of the stressor. In A. Eichler, M. Silverman, & D. Pratt (Eds.), How to define and research stress (pp. 13-22). Washington, D.C.: American Psychiatric Press, Inc.

Brown, G. & Birley (1968). Crisis and life changes and the onset of schizophrenia. Journal of Health & Social Behavior, 9, 203-214.

Burks, N. & Martin, B. (1985). Everyday problems and life change events: Ongoing versus acute sources of stress. Journal of Human Stress, 11, 27-35.

Campbell, D. & Fiske, D. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.

Cannon, W.B. (1929). Bodily changes in pain, hunger, fear and rage: An account of recent researches into the function of emotional excitement. (Second Edition). New York: Appleton-Century Crafts.

Cannon, W.B. (1932). The Wisdom of the body. (Second Edition). New York: Norton.

Caplan, G. (1964). Principles of preventive psychiatry. New York: Basic Books.

Cohen, S. & Edwards, J. (1989). Personality characteristics as moderators of the relationship between stress and disorder. In R. Nuefeld (Ed.), Advances in the investigations of psychological stress. (pp. 235-283). New York: Wiley.

Compas, B.E., Davis, G.E., & Forsythe, C.J. (1985). Characteristics of life events during adolescence. American Journal of Community Psychology, 13, 677-691.

Cook, T. & Campbell, D. (1979). Quasi-experimentation: Design and analysis issues for field settings. Boston: Houghton Mifflin.

Costa, P.T. & McCrae, R.R. (1980). Somatic complaints in males as a function of age and neuroticism: A longitudinal analysis. Journal of Behavioral Medicine, 3, 245-257.

Creamer, M., Burgess, P., & Pattison, P. (1990). Cognitive processing in post-trauma reactions: some preliminary findings. Psychological Medicine, 20, 597-604.

Cronkite, R.C. & Moos, R.H. (1984). The role of predisposing and moderator factors in the stress-illness relationship. Journal of Health & Social Behavior, 25, 372-393.

DeBenedittis, G. & Lorenzetti, A. (1992). Minor stressful events (daily hassles) in chronic primary headache: Relationship with MMPI personality patterns. Headache, 32, 330-332.

DeLongis, A., Coyne, J.C., Dakof, G., Folkman, S., & Lazarus, R.S. (1982). Relationships of hassles, uplifts, and major life events to health status. Health Psychology, 1, 119-136.

Derogatis, L.R. (1977). The SCL-90 Manual: Scoring, administration, and procedures for the Scl-90. Clinical Psychometric Research: Baltimore.

Derogatis, L.R., & Cleary, P.A. (1977). Confirmation of the dimension structure of the SCL-90: A study in construct validation. Journal of Clinical Psychology, 33, 981-989.

Derogatis, L.R., Lipman, R., Rickels, K., Uhlenhuth, E.H., & Covi, L. (1974). The Hopkins Symptom Checklist (HSCL): A self-report symptom inventory. Behavioral Science, 19, 1-15.

Derogatis, L.R., & Melisatos, N. (1983). The Brief Symptom Inventory: An introductory report. Psychological Medicine, 13, 595-605.

Dohrenwend, B.P. & Shrout, P.E. (1985). "Hassles" in the conceptualization and measurement of life stress variables. American Psychologist, 40, 780-785.

Dohrenwend, B.S. (1977). Anticipation and control of stressful life events: An exploratory analysis. In J. Straus, H. Babigiam, & M. Roff (Eds.) The origins and course of psychopathology: Methods of longitudinal research. New York: Plenum Press.

Dohrenwend, B.S. (1978). Social status and responsibility for stressful life events. In C.D. Spielberger & I.G. Sarason (Eds.), Stress and Anxiety (Vol. 5, pp. 25-42). New York: Wiley.

Dohrenwend, B.S. & Dohrenwend, B.P. (1974). Overview and prospect for research on stressful life events. In B.S. Dohrenwend & B.P. Dohrenwend (Eds.), Stressful life events: Their nature and effects (pp.313-331). New York: Wiley.

Dohrenwend, B.S. & Dohrenwend, B.P. (1978). Some issues in research on stressful life events. Journal of Nervous and Mental Disease, 166, 7-15.

Dohrenwend, B.S. & Dohrenwend, B.P. (Eds.), (1981). Stressful life events and their contexts. New York: Prodist.

Dohrenwend, B.S., Dohrenwend, B.P., Dodson, M. & Shrout, P.E. (1984). Symptoms, hassles, social supports, and life events: Problems of confounded measures. Journal of Abnormal Psychology, 93, 220-230.

Eckenrode, J. (1984). Impact of chronic and acute stressors on daily reports of mood. Journal of Personality and Social Psychology, 46, 907-918.

Elliot, G.R. & Eisdorfer, C. (Eds.), (1982). Stress and human health: Analysis and implication of research. New York: Springer Publishing Company.

Eysenck, H.J. (1967). The biological basis of personality. Illinois: Charles C. Thomas.

Felner, R.D., Rowlison, R.T., & Terre, L. (1986). Unraveling the Gordian knot in life change events: A critical examination of crisis, stress, and transitional frameworks for prevention. In S.M. Auerback & A.L. Stolberg (Eds.), Children's life crisis events: Prevention and intervention strategies (pp. 39-63). New York: McGraw Hill.

Figley, C.R. (Ed.), (1985). Trauma and its wake: The study and treatment of post-traumatic stress disorder. New York: Brunner/Mazel.

Figley, C.R. (Ed.), (1986). Trauma and its wake: Volume II: Traumatic stress theory, research, and intervention. New York: Brunner/Mazel.

Folkman, S., & Lazarus, R. (1980). An analysis of coping in a middle-aged community sample. Journal of Health and Social Behavior, 21, 219-239.

Folkman, S., & Lazarus, R. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. Journal of Personality and Social Psychology, 48, 150-170.

Folkman, S., & Lazarus, R. (1988). Coping as a mediator of emotion. Journal of Personality and Social Psychology, 54, 466-475.

Folkman, S., Lazarus, R., Gruen, R.J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. Journal of Personality and Social Psychology, 50, 571-579.

Folkman, S., Lazarus, R., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). Dynamics of a stressful encounter: Cognitive appraisal, coping, and encounter outcomes. Journal of Personality and Social Psychology, 50, 992-1003.

Gould, J. (1982). A psychometric investigation of the standard and long form of the Beck Depression Inventory. Psychological Reports, 51, 1167-1170.

Gotlib, I.H. (1984). Depression and general psychopathology in university students. Journal of Abnormal Psychology, 93, 19-30.

Green, B.L., Grace, M.C., Lindy, J.D., Titchener, J.L., & Lindy, J.G. (1983). Levels of functional impairment following a civilian disaster: The Beverly Hills Supper Club fire. Journal of Consulting and Clinical Psychology, 51, 573-580.

Green, B.L., Lindy, J.D., & Grace, M.C. (1985). Posttraumatic stress disorder: Toward DSM IV. The Journal of Nervous and Mental Disease, 173, 406-411.

Green, B.L., Lindy, J.D., & Grace, M.C. (1988). Long-term coping with combat stress. Journal of Traumatic Stress, 1, 399-411.

Heider, F. (1958). The psychology of interpersonal relations. New York: Wiley.

Hobfoll, S.E. (1989). Conservation of resources: A new attempt at conceptualizing stress. American Psychologist, 44, 513-524.

Holahan, C., & Moos, R. (1985). Life stress and health: Personality, coping, and family support in stress resistance. Journal of Personality and Social Psychology, 49, 739-747.

Holmes, T., & Masuda, M. (1974). Life change and illness susceptibility. In B.S. Dohrenwend & B.P. Dohrenwend (Eds.) Stressful life events: Their nature and effects, (pp.45-72). New York: Wiley.

Holmes, T., & Rahe, R.H. (1967). The Social Readjustment Rating Scale. Journal of Psychometric Research, 11, 213-218.

Holroyd, K., & Lazarus, R. (1982). Stress, coping and somatic adaptation. In L. Goldberger & S. Breznitz (Eds.), Handbook of stress: Theoretical aspects. New York: Free Press.

Horowitz, M. (1976). Stress response syndromes. New York, Aroson.

Horowitz, M. (1974). Stress response syndromes: Character style and brief psychotherapy. Archives of General Psychiatry, 31, 768-781.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. Psychosomatic Medicine, 41, 209-218.

Hovanitz, C. (1986). Life event stress and style as contributors to psychopathology. Journal of Clinical Psychology, 42, 34-41.

Hovanitz, C., & Kozora, E. (1989). Life stress and clinically elevated MMPI scales: Gender differences in moderating influence of coping. Journal of Clinical Psychology, 45, 766-771.

Janis, I.L. (1986). Psychological stress: Definitional and conceptual issues. In A. Eichler, M. Silverman, & D. Pratt (Eds.), How to define and research stress (pp. 37-40). Washington, D.C.: American Psychiatric Press, Inc.

Janoff-Bulman, R. (1992). Shattered Assumptions: Towards a new psychology of trauma. New York: The Free Press.

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

Johnson, J.H. (1982). Life events as stressors in childhood and adolescence. In B. Lahey & A.E. Kazdin (Eds.), Advances in clinical and child psychology, (pp. 219-253). New York: Plenum.

Kanner, A., Coyne, J., Schaefer, C., & Lazarus, R. (1981). Comparison of two modes of stress measurement: Daily hassles and uplifts versus major life events. Journal of Behavioral Medicine, 4, 1-39.

Keane, T.M., Caddell, J., & Taylor, K.L. (1988). Mississipi Scale for combat related posttraumatic stress disorder: Three studies in reliability and validity. Journal of Consulting and Clinical Psychology, 56, 85-90.

Keane, T.M., Fairbank, J.A., Caddell, J., Taylor, K.L., & Mora, C.A. (1989). Clinical evaluation of a measure to assess combat exposure. Psychological Assessment, 1, 53-55.

Kelley, G.A. (1955). A theory of personality: A psychology of personal constructs. New York: Norton.

Kobasa, S. (1982). Commitment and coping in stress resistance among lawyers. Journal of Personality and Social Psychology, 42, 707-717.

Kohn, P.M. (1991). Reactivity and anxiety in the laboratory and beyond. In J. Strelau, & A. Angleitner (Eds.), Explorations in temperament. New York: Plenum.

Kohn, P.M., Lafreniere, K., & Gurevich, M. (1991). Hassles, health, and personality. Journal of Personality and Social Psychology, 61, 578-482.

Krause, N. (1990). Stress measurement. Stress Medicine, 6, 201-208.

Lazarus, R. (1966). Psychological stress and the coping process. New York: McGraw-Hill.

Lazarus, R. (1986). Stress, appraisal and coping capacities. In A. Eichler, M. Silverman, & D. Pratt (Eds.), How to define and research stress, (pp. 5-12). Washington, D.C.: American Psychiatric Press, Inc.

Lazarus, R., DeLongis, A., Folkman, S., Gruen, R. (1985). Stress and adaptational outcomes: The problem of confounded measures. American Psychologist, 40, 770-779.

Lazarus, R., & Folkman, S. (1984). Stress, appraisal, and coping. New York : Springer Publishing Company, Inc.

Lewinsohn, P.M., & Talkington, J. (1979). Studies of the measurement of unpleasant events and relations to depression. Applied Psychological Measurement, 3, 83-101.

Lewinsohn, P.M., Mermelstein, R., Alexander, C., & MacPhillamy, D.J. (1985). The Unpleasant Events Schedule: A scale of the measurement of aversive events. Journal of Clinical Psychology, 41, 483-498.

Lindemann, E. (1944). The symptomatology and management of acute grief. American Journal of Psychiatry, 101, 141-148.

Lund, M., Foy, D., Siprelle, C., & Strachan, A. (1984). The Combat Exposure Scale: A systematic assessment of trauma in the Vietnam war. Journal of Clinical Psychology, 40, 1323-1328.

Mason, J.W. (1971). A re-evaluation of the concept of "non-specificity" in stress theory. Journal of Psychiatric Research, 8, 323-333.

Masson, J.M. (1984). The assault on truth: Freud's suppression of the seduction theory. New York: Farrar, Straus, and Giroux.

McCrae, R. (1984). Situational determinants of coping responses: Loss, threat, and challenge. Journal of Personality and Social Psychology, 46, 919-928.

Mcleod, J., & Kessler, R.C. (1990). Socioeconomic status differences in vulnerability to undesirable life events. Journal of Health and Social Behavior, 31, 162-172.

Meichenbaum, D. (1986). Toward a conceptualization of stress. In A. Eichler, M. Silverman, & D. Pratt (Eds.), How to define and research stress, (pp. 55-57). Washington, D.C.: American Psychiatric Press, Inc.

Meneghan, E. (1982). Measuring coping effectiveness: A panel analysis of marital problems and coping efforts. Journal of Health and Social Behavior, 23, 220-234.

Monroe, S.M. (1983). Majoor and minor events as predictors of psychological distress: Further issues and findings. Journal of Behavioral Medicine, 6, 189-205.

Monroe, S.M., & Roberts, J.E. (1990). Conceptualizing and measuring life stress: Problems, principles, procedures, progress. Stress Medicine, 6, 209-216.

Moos, R. (1986). Environmental conditions and stressors: separating context from appraisal. In A. Eichler, M. Silverman, & D. Pratt (Eds.), How to define and research stress, (pp. 59-63). Washington, D.C.: American Psychiatric Press, Inc.

Moos, R., & Billings, A. (1982). Conceptualizing and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), Handbook of stress: Theoretical and clinical issues. New York: The Free Press.

Morris, W. (Ed.), (1973). The American Heritage dictionary of the English language. Boston: Houghton Mifflin.

Paykel, E.S., Prusoff, B.A., & Uhlenhuth, E.H. (1971). Scaling of life events. Archives of General Psychiatry, 25, 340-347.

Pearlin, L.I. (1975). Sex roles and depression. In N. Datan & L. Ginsburg (Eds.), Life-span developmental psychology: Normative life crises, (pp. 191-207). New York: Academic Press.

Pearlin, L.I. (1983). Role strain and personal stress. In H.B. Kaplan (Ed.), Psychological stress: Trends in theory and research, (pp. 3-32). New York: Academic Press.

Pearlin, L.I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.

Peterson, K.C., Prout, M.F., & Schwarz, R.A. (1991). Post-traumatic stress Disorder: A clinician's guide. New York: Plenum Press.

Rabkin, J.G., & Struening, E.L. (1976). Life events, stress, and illness. Science, 194, 1013-1020.

Rowlison, R.T. & Felner, R.D. (1988). Major life events, hassles, adaptation in adolescence: Confounding in the conceptualization and measurement of life stress and adjustment revisited. Journal of Personality and Social Psychology, 55, 432-444.

Sarason, I.G., Johnson, J.H., & Siegal, J.M. (1978). Assessing the impact of life changes: Development of the Life Experiences Survey. Journal of Consulting and Clinical Psychology, 46, 932-946.

Schroeder, D.H., & Costa, P.T. (1984). Influence of life event stress on physical illness: Substantive effects or methodological flaws? Journal of Personality and Social Psychology, 46, 853-863.

Selye, H. (1976). The stress of life, (rev. ed.) New York: McGraw-Hill.

Taylor, S.E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. American Psychologist, 33, 1161-1173.

Taylor, S.E. (1984). Issues in the study of coping: A commentary. Cancer, 53, 2313-2315.

Taylor, S.E. (1990). Health psychology: The science and the field. American Psychologist, 45, 40-50.

Thoits, P.A. (1986). Social Support as coping assistance. Journal of Consulting and Clinical Psychology, 54, 416-423.

Tobin, D., Holroyd, K., & Reynolds, R. (1982). The assessment of coping: Psychometric development of the Coping Strategies Inventory. Paper presented at the Association for the Advancement of Behavior Therapy.

Tobin, D., Holroyd, K., Reynolds, R., & Wigal, J.K. (1989). The hierarchical factor structure of the Coping Strategies Inventory. Cognitive Therapy and Research, 13, 343-361.

van der Kolk, B.A. (1987). Psychological trauma. Washington, D.C.: American Psychiatric Press, Inc.

Watson, C.G., Juba, M.P., & Anderson, P.E.D. (1989). Validities of five combat scales. Psychological Assessment, 1, 98-102.

Watson, D., & Clark, L.A. (1984). Negative Affectivity: The disposition to experience aversive emotional states. Psychological Bulletin, 96, 465-490.

Weinberger, M., Hiner, S.L., & Tierney, W.M. (1987). In support of hassles as a measure of stress in predicting psychological health outcomes. Journal of Behavioral Medicine, 10, 19-31.

Appendix A. Descriptive data on sample

PARTICIPANT INFORMATION

Date: _____

Initials:_____ Last 4 digits of SS#:_____

General Information

1. Age .....

2. Gender (1=Male, 2=Female) ..... __

3. Marital Status ..... __
   1 = Married 4 = Separated
   2 = Remarried 5 = Divorced
   3 = Widowed 6 = Never Married

4. How many times have you been married? (Code "0" if never married.) ..... __

5. How many children do you have?..... ..... __

6. If you do have children, how many were living with you before you went to the Middle East for Operation Desert Storm? ..... __

7. Race/Ethnic Ancestry ..... __
   1 = White, not Hispanic 5 = American Indian/Alaskan
   2 = Black, not Hispanic 6 = Asian
   3 = Hispanic, White 7 = Pacific Islander
   4 = Hispanic, Black 8 = Other (Specify: _____) __

8. How many years of education do you have? (Highest academic degree: _____) ..... __

9. What is your annual income? ..... $ __ __ __,__ __ __

FREQ -- Frequencies of Demographic Variables

AGE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
20	1	1.1	1	1.1
21	1	1.1	2	2.2
22	3	3.4	5	5.6
23	3	3.4	8	9.0
24	1	1.1	9	10.1
25	5	5.6	14	15.7
26	2	2.2	16	18.0
27	5	5.6	21	23.6
28	9	10.1	30	33.7
29	6	6.7	36	40.4
30	4	4.5	40	44.9
31	1	1.1	41	46.1
32	9	10.1	50	56.2
33	6	6.7	56	62.9
34	5	5.6	61	68.5
35	8	9.0	69	77.5
36	3	3.4	72	80.9
37	2	2.2	74	83.1
38	2	2.2	76	85.4
39	6	6.7	82	92.1
40	1	1.1	83	93.3
41	1	1.1	84	94.4
42	1	1.1	85	95.5
43	2	2.2	87	97.8
46	1	1.1	88	98.9
47	1	1.1	89	100.0

Frequency Missing = 3

GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	83	91.2	83	91.2
2	8	8.8	91	100.0

Frequency Missing = 1

MARYSTAT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	77	86.5	77	86.5
2	5	5.6	82	92.1
5	4	4.5	86	96.6
6	3	3.4	89	100.0

Frequency Missing = 3

TIMEMARY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	7.8	7	7.8
1	66	73.3	73	81.1
2	10	11.1	83	92.2
3	6	6.7	89	98.9
4	1	1.1	90	100.0

Frequency Missing = 2

CHILDRN_	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	15	16.7	15	16.7
1	24	26.7	39	43.3
2	32	35.6	71	78.9
3	13	14.4	84	93.3
4	4	4.4	88	97.8
5	2	2.2	90	100.0

Frequency Missing = 2

LIVNWITH	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	31	34.4	31	34.4
1	24	26.7	55	61.1
2	26	28.9	81	90.0
3	6	6.7	87	96.7
4	3	3.3	90	100.0

Frequency Missing = 2

RACE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	63	72.4	63	72.4
2	16	18.4	79	90.8
3	5	5.7	84	96.6
4	1	1.1	85	97.7
5	1	1.1	86	98.9
8	1	1.1	87	100.0

Frequency Missing = 5

EDUCATON	Frequency	Percent	Cumulative Frequency	Cumulative Percent
11	2	2.2	2	2.2
12	48	53.3	50	55.6
12.5	2	2.2	52	57.8
13	14	15.6	66	73.3
14	12	13.3	78	86.7
15	2	2.2	80	88.9
15.5	1	1.1	81	90.0
16	7	7.8	88	97.8
17	1	1.1	89	98.9
19	1	1.1	90	100.0

Frequency Missing = 2

INCOME	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1800	1	1.2	1	1.2
6000	1	1.2	2	2.5
10000	2	2.5	4	4.9
12000	2	2.5	6	7.4
12500	1	1.2	7	8.6
12596	1	1.2	8	9.9
12800	1	1.2	9	11.1
13000	2	2.5	11	13.6
14000	2	2.5	13	16.0
15000	3	3.7	16	19.8
15132	2	2.5	18	22.2
15288	1	1.2	19	23.5
16000	2	2.5	21	25.9
17000	1	1.2	22	27.2
18000	1	1.2	23	28.4
18300	1	1.2	24	29.6
18500	1	1.2	25	30.9
19000	1	1.2	26	32.1
19476	1	1.2	27	33.3
19500	1	1.2	28	34.6
19669	1	1.2	29	35.8
20000	9	11.1	38	46.9
20400	1	1.2	39	48.1
21000	2	2.5	41	50.6
22000	1	1.2	42	51.9
23000	2	2.5	44	54.3
24000	8	9.9	52	64.2
25000	4	4.9	56	69.1
26000	1	1.2	57	70.4
26550	1	1.2	58	71.6
28000	1	1.2	59	72.8
28800	1	1.2	60	74.1
29000	2	2.5	62	76.5
30000	4	4.9	66	81.5
32000	1	1.2	67	82.7
33000	1	1.2	68	84.0
34000	1	1.2	69	85.2
35000	1	1.2	70	86.4
35233	1	1.2	71	87.7
36560	1	1.2	72	88.9
36600	1	1.2	73	90.1
37000	1	1.2	74	91.4
38000	1	1.2	75	92.6
40000	2	2.5	77	95.1
45000	1	1.2	78	96.3
46000	1	1.2	79	97.5
48000	1	1.2	80	98.8
50000	1	1.2	81	100.0

Frequency Missing = 11

Univariate Procedure

Variable=AGE

Moments

N	89	Sum Wgts	89
Mean	31.67416	Sum	2819
Std Dev	5.828565	Variance	33.97217
Skewness	0.284177	Kurtosis	-0.22874
USS	92279	CSS	2989.551
CV	18.40164	Std Mean	0.617827
T:Mean=0	51.26707	Pr>|T|	0.0001
Num ^= 0	89	Num > 0	89
M(Sign)	44.5	Pr>=|M|	0.0001
Sgn Rank	2002.5	Pr>=|S|	0.0001

Quantiles(Def=5)

100% Max	47	99%	47
75% Q3	35	95%	42
50% Med	32	90%	39
25% Q1	28	10%	24
0% Min	20	5%	22
		1%	20
Range	27		
Q3-Q1	7		
Mode	28		

Extremes

Lowest	Obs	Highest	Obs
20(	1)	42(	34)
21(	41)	43(	19)
22(	90)	43(	81)
22(	43)	46(	40)
22(	11)	47(	29)

Missing Value	.
Count	3
% Count/Nobs	3.26

Appendix B. Measures of Stress

Name: _____

Social Security Number: ___/___/___ Today's Date: ___/___/___

COMBAT EXPOSURE SCALE

Please circle one answer for each item.

1. Did you ever go on combat patrols or have other very dangerous duty? (drive in convoys, in a combat zone, patrol rivers. helicopter assaults, perimeter guard duty, etc.)

1	2	3	4	5
NO	1-3 TIMES	4-12 TIMES	13-50 TIMES	MORE THAN 50 TIMES

2. Were you ever under enemy fire?

1	2	3	4	5
NEVER	< 1 MONTH	1-3 MONTHS	4-6 MONTHS	MORE THAN 6 MONTHS

3. Were you ever surrounded by the enemy?

1	2	3	4
NO	1-2 TIMES	3-12 TIMES	MORE THAN 12 TIMES

4. What percentage of the men in your unit were killed (KIA), wounded, or missing in action (MIA)?

1	2	3	4
NO ONE	1-25%	26-50%	MORE THAN 50%

5. How often did you fire rounds at the enemy?

1	2	3	4	5
NEVER	1-2 TIMES	3-12 TIMES	13-50 TIMES	51 OR MORE

6. How often did you see someone hit be incoming or outgoing rounds? (at the moment it happened or very soon afterwards, enem or American)

1	2	3	4	5
NEVER	1-2 TIMES	3-12 TIMES	13-50 TIMES	51 OR MORE

7. How often were you in danger of being injured or killed? (i.e., pinned down, ambushed, near miss, an incident where you thought you were not going to make it, a really close call, etc.)

1	2	3	4	5
NEVER	1-2 TIMES	3-12 TIMES	13-50 TIMES	51 OR MORE

8. Were you involved in handling dead bodies?

1	2	3	4
NO	1-2 TIMES	3-12 TIMES	MORE THAN 12 TIMES

Combat Exposure Scale (Con't)

Please answer the following questions about atrocities that you may have heard of, witnessed, or participated in during your military experience. Circle the answer that is most appropriate to your experience.

1. Torturing prisoners of war:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

2. Torturing civilians:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

3. Killing prisoners of war:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

4. Killing civilians:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

5. Mutilating corpses:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

6. Killing children:
   (a) no experience
   (b) heard about it
   (c) witnessed it
   (d) participated in it

TRAUMATIC EVENTS SCREEN INVENTORY (TESI)*

Many times people experience life events which may be distressing and upsetting to them. We have developed a list of some of these events and would like for you to check whether these events have happened to you. We believe this information will help us understand how people deal with stress in their lives and will assist us in developing better services for you. Take your time in filling this out, and don't hesitate to talk to the therapist working with you if you have any questions or concerns about this survey.

	NO	YES	IN THE LAST SIX MONTHS
1. At any time in your life, have you ever been a victim of crime? (This includes robbery, burglary, mugging, physical attack.)	___	___	___
2. Has a close friend or family member of yours been seriously injured or murdered?	___	___	___
3. Before you were 14 years of age, were you ever sexually threatened? (This includes being touched, grabbed, or kissed against you wishes or performing any kind of sexual act against your wishes.)	___	___	___
4. After you turned 14, were you ever sexually threatened? (Again, this would include being touched, grabbed, or kissed against your wishes or performing any kind of sexual act against your wishes, or being threatened to perform any of these.)	___	___	___
5. At any time in your life were you psychologically abused? (This includes being insulted, humiliated, or ridiculed by someone at least five years older, or witnessing someone being insulted, humiliated, or ridiculed.)	___	___	___
6. At any time in your life, were you ever physically abused? (This includes hitting, spanking, punching, restraining you with ropes, or locking you up.)	___	___	___
7. Have you ever witnessed anyone else being abused?	___	___	___
8. Have you ever had an accident at work, in a car, etc.?	___	___	___

	NO	YES	IN THE LAST SIX MONTHS
9. Have you ever been in a natural or manmade disaster? (This includes tornado, hurricane, flood, earthquake, train crash, building collapse, fire, bank robbery.)	___	___	___
10. Have you ever been exposed to dangerous chemicals or radioactivity that might have threatened your health or home?	___	___	___
11. Have you ever been in any situation in which you were seriously injured or in which you feared you might be seriously injured or killed?	___	___	___
12. Have you ever seen someone seriously injured or killed?	___	___	___
13. Have you ever seen dead bodies (except at a funeral)?	___	___	___
14. Have you had a close friend or family member murdered?	___	___	___
15. Have you had a spouse, romantic partner, or parent die?	___	___	___
16. Have you had a serious life-threatening illness?	___	___	___
17. Have you ever been in combat?	___	___	___
18. Have you ever lost your home or had to live on the street?	___	___	___
19. Have you lost a child through abortion, miscarriage, death, or adoption? (Please circle which apply.)	___	___	___
20. Have you experienced parental divorce?	___	___	___
21. Has anyone in your family had a drug/alcohol problem?	___	___	___
22. Have you ever experienced any other stressful life event not mentioned above? (Please describe on the back of this page.)	___	___	___

*Kramer T, Grace MC, Green BL, Wooley OWW, Voss C.

THE LIFE EXPERIENCES SURVEY

Listed below are a number of events which sometime bring about change in the lives of those who experience them and which necessitate social readjustment. Please check those events which you have experienced within the last year and indicate whether this event occurred either more than or less than six months ago in the appropriate space. Be sure that all check marks are directly across from the times they correspond to.

Also, for each item checked below, please indicate the extent to which you viewed the event as having either a positive or negative impact on your life at the time the event occurred. That is, indicate the type and extent of the impact that the event had. A rating of -3 would indicate an extremely negative impact. A rating of 0 suggests no impact either positive or negative. A rating of +3 would indicate an extremely positive impact. If you do not understand the directions, ask your research assistant.

	0 TO 6 MONTHS	7 MONTHS TO 1 YEAR	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
1. Marriage	___	___	-3	-2	-1	0	+1	+2	+3
2. Detention in jail or comparable institution	___	___	-3	-2	-1	0	+1	+2	+3
3. Death of spouse	___	___	-3	-2	-1	0	+1	+2	+3
4. Major change in sleeping habits (much more or much less sleep)	___	___	-3	-2	-1	0	+1	+2	+3
5. Death of close family member:									
a. mother	___	___	-3	-2	-1	0	+1	+2	+3
b. father	___	___	-3	-2	-1	0	+1	+2	+3
c. brother	___	___	-3	-2	-1	0	+1	+2	+3
d. sister	___	___	-3	-2	-1	0	+1	+2	+3
e. grandmother	___	___	-3	-2	-1	0	+1	+2	+3
f. grandfather	___	___	-3	-2	-1	0	+1	+2	+3
g. other (specify)	___	___	-3	-2	-1	0	+1	+2	+3
6. Major change in eating habits (much more or much less food intake)	___	___	-3	-2	-1	0	+1	+2	+3
7. Foreclosure on mortgage or loan	___	___	-3	-2	-1	0	+1	+2	+3
8. Death of close friend	___	___	-3	-2	-1	0	+1	+2	+3
9. Outstanding personal achievement	___	___	-3	-2	-1	0	+1	+2	+3
10. Minor law violations (traffic tickets, disturbing the peace, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
11. Male: Wife, girlfriend's pregnancy	___	___	-3	-2	-1	0	+1	+2	+3
12. Female: Pregnancy	___	___	-3	-2	-1	0	+1	+2	+3

	0 TO 6 MONTHS	7 MONTHS TO 1 YEAR	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
13. Changed work situation (different work responsibility, major change in working condition, working hours, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
14. New job	___	___	-3	-2	-1	0	+1	+2	+3
15. Serious illness or injury of close family member:									
a. mother	___	___	-3	-2	-1	0	+1	+2	+3
b. father	___	___	-3	-2	-1	0	+1	+2	+3
c. brother	___	___	-3	-2	-1	0	+1	+2	+3
d. sister	___	___	-3	-2	-1	0	+1	+2	+3
e. grandmother	___	___	-3	-2	-1	0	+1	+2	+3
f. grandfather	___	___	-3	-2	-1	0	+1	+2	+3
g. spouse	___	___	-3	-2	-1				
h. other (specify)	___	___	-3	-2	-1	0	+1	+2	+3
16. Sexual difficulties	___	___	-3	-2	-1	0	+1	+2	+3
17. Trouble with employer (in danger of losing job, being suspended, demoted, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
18. Trouble with in-laws	___	___	-3	-2	-1	0	+1	+2	+3
19. Major change in financial status	___	___	-3	-2	-1	0	+1	+2	+3
20. Major change in closeness of family members (increased or decreased closeness)	___	___	-3	-2	-1	0	+1	+2	+3
21. Gaining a new family member	___	___	-3	-2	-1	0	+1	+2	+3
22. Change of residence	___	___	-3	-2	-1	0	+1	+2	+3
23. Marital separation from mate (due to conflict)	___	___	-3	-2	-1	0	+1	+2	+3
24. Major change in church activities (increased or decreased attendance)	___	___	-3	-2	-1	0	+1	+2	+3
25. Marital reconciliation with mate	___	___	-3	-2	-1	0	+1	+2	+3
26. Major change in number of arguments with spouse (a lot more or a lot less arguments)	___	___	-3	-2	-1	0	+1	+2	+3
27. Married male: change in wife's work	___	___	-3	-2	-1	0	+1	+2	+3

	0 TO 6 MONTHS	7 MONTHS TO 1 YEAR	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
28. Married female: change in husband's work (loss of job, beginning new job, retirement, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
29. Major change in usual type and/or amount of recreation	___	___	-3	-2	-1	0	+1	+2	+3
30. Borrowing more than $10,000 (buying home, business, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
31. Borrowing less than $10,000 (buying car, TV, getting school loan, etc.) .	___	___	-3	-2	-1	0	+1	+2	+3
32. Being fired from job	___	___	-3	-2	-1	0	+1	+2	+3
33. Male: Wife/girlfriend having abortion	___	___	-3	-2	-1	0	+1	+2	+3
34. Female: Having abortion	___	___	-3	-2	-1	0	+1	+2	+3
35. Major personal illness or injury . .	___	___	-3	-2	-1	0	+1	+2	+3
36. Major change in social activities, e.g., parties, movies, visiting (increased or decreased participation)	___	___	-3	-2	-1	0	+1	+2	+3
37. Major change in living conditions of family (building new home, remodeling, deterioration of home, neighborhood, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
38. Divorce	___	___	-3	-2	-1	0	+1	+2	+3
39. Serious injury or illness of close friend	___	___	-3	-2	-1	0	+1	+2	+3
40. Retirement from work	___	___	-3	-2	-1	0	+1	+2	+3
41. Son or daughter leaving home (due to marriage, college, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
42. Ending of formal schooling	___	___	-3	-2	-1	0	+1	+2	+3
43. Separation from spouse (due to work, travel, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
44. Engagement	___	___	-3	-2	-1	0	+1	+2	+3
45. Breaking up with boyfriend/ girlfriend	___	___	-3	-2	-1	0	+1	+2	+3

	0 TO 6 MONTHS	7 MONTHS TO 1 YEAR	EXTREMELY NEGATIVE	MODERATELY NEGATIVE	SOMEWHAT NEGATIVE	NO IMPACT	SLIGHTLY POSITIVE	MODERATELY POSITIVE	EXTREMELY POSITIVE
46. Leaving home for the first time . . .	___	___	-3	-2	-1	0	+1	+2	+3
47. Reconciliation with boyfriend/ girlfriend	___	___	-3	-2	-1	0	+1	+2	+3

Other recent experiences which have had an impact on your life. List and rate.

48. _____ _____ . . .	___	___	-3	-2	-1	0	+1	+2	+3
49. _____ _____ . . .	___	___	-3	-2	-1	0	+1	+2	+3
50. _____ _____ . . .	___	___	-3	-2	-1	0	+1	+2	+3
51. Beginning a new school experience at a higher academic level (college, graduate school, professional school, etc.)	___	___	-3	-2	-1	0	+1	+2	+3
52. Changing to a new school at same academic level (college, graduate school, professional school, etc.) .	___	___	-3	-2	-1	0	+1	+2	+3
53. Academic probation	___	___	-3	-2	-1	0	+1	+2	+3
54. Being dismissed from dormitory or other residence	___	___	-3	-2	-1	0	+1	+2	+3
55. Failing an important exam	___	___	-3	-2	-1	0	+1	+2	+3
56. Changing a major	___	___	-3	-2	-1	0	+1	+2	+3
57. Failing a course	___	___	-3	-2	-1	0	+1	+2	+3
58. Dropping a course	___	___	-3	-2	-1	0	+1	+2	+3
59. Joining a fraternity, sorority . . .	___	___	-3	-2	-1	0	+1	+2	+3
60. Financial problems concerning school (in danger of not having sufficient money to continue)	___	___	-3	-2	-1	0	+1	+2	+3

AGE: _____

SEX: _____

Your Hassles

Directions: Hassles are irritants that can range from minor annoyances to fairly major pressures, problem, or difficulties. They can occur few or many times.

Listed on the next few pages are a number of ways in which a person can feel hassled. First, put an "X" beside each hassle that has happened to you **in the past month**. Then look at the numbers on the right of the items you marked and indicate by circling a 1, 2, or 3 how SEVERE this hassle was for you.

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
1.___Misplacing or losing things	1	2	3
2.___Troublesome neighbors	1	2	3
3.___Social obligations	1	2	3
4.___Inconsiderate smokers	1	2	3
5.___Troubling thoughts about your future	1	2	3
6.___Thoughts about death	1	2	3
7.___Health of a family member	1	2	3
8.___Not enough money for clothing	1	2	3
9.___Not enough money for housing	1	2	3
10.___Concerns about owing money	1	2	3
11.___Concerns about getting credit	1	2	3
12.___Concerns about money for emergencies	1	2	3
13.___Someone owes you money	1	2	3
14.___Financial responsibility for someone who doesn't live with you	1	2	3
15.___Cutting down on electricity, water, etc.	1	2	3
16.___Smoking too much	1	2	3

Page 2. Hassles Inventory

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
17.___Use of alcohol	1	2	3
18.___Personal use of drugs	1	2	3
19.___Too many responsibilities	1	2	3
20.___Decisions about having children	1	2	3
21.___Non-family members living in your house	1	2	3
22.___Care for pet	1	2	3
23.___Planning meals	1	2	3
24.___Concerned about the meaning of life	1	2	3
25.___Trouble relaxing	1	2	3
26.___Trouble making decisions	1	2	3
27.___Problems getting along with fellow workers	1	2	3
28.___Customers or clients give you a hard time	1	2	3
29.___Home maintenance (inside)	1	2	3
30.___Concerns about job security	1	2	3
31.___Concerns about retirement	1	2	3
32.___Laid-off or out of work	1	2	3
33.___Don't like current work duties	1	2	3
34.___Don't like fellow workers	1	2	3
35.___Not enough money for basic necessities	1	2	3
36.___Not enough money for food	1	2	3
37.___Too many interruptions	1	2	3
38.___Unexpected company	1	2	3

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
39.___Too much time on hands	1	2	3
40.___Having to wait	1	2	3
41.___Concerns about accidents	1	2	3
42.___Being lonely	1	2	3
43.___Not enough money for health care	1	2	3
44.___Fear of confrontation	1	2	3
45.___Financial security	1	2	3
46.___Silly practical mistakes	1	2	3
47.___Inability to express yourself	1	2	3
48.___Physical Illness	1	2	3
49.___Side effects of medication	1	2	3
50.___Concerns about medical treatment	1	2	3
51.___Physical appearance	1	2	3
52.___Fear of rejection	1	2	3
53.___Difficulties with getting pregnant	1	2	3
54.___Sexual problems that result from physical problems	1	2	3
55.___Sexual problems other than those resulting from physical problems	1	2	3
56.___Concerns about health in general	1	2	3
57.___Not seeing enough people	1	2	3
58.___Friends or relatives too far away	1	2	3
59.___Preparing meals	1	2	3
60.___Wasting time	1	2	3
61.___Auto maintenance	1	2	3

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
62.___Filling out forms	1	2	3
63.___Neighborhood deterioration	1	2	3
64.___Financing children's education	1	2	3
65.___Problems with employees	1	2	3
66.___Problems on job due to being a woman or man	1	2	3
67.___Declining physical abilities	1	2	3
68.___Being exploited	1	2	3
69.___Concerns about bodily functions	1	2	3
70.___Rising prices of common goods	1	2	3
71.___Not getting enough rest	1	2	3
72.___Not getting enough sleep	1	2	3
73.___Problems with aging parents	1	2	3
74.___Problems with your children	1	2	3
75.___Problems with persons younger than yourself	1	2	3
76.___Problems with your lover	1	2	3
77.___Difficulties seeing or hearing	1	2	3
78.___Overload with family responsibilities	1	2	3
79.___Too many things to do	1	2	3
80.___Unchallenging work	1	2	3
81.___Concerns about meeting high standards	1	2	3
82.___Financial dealings with friends or acquaintances	1	2	3
83.___Job dissatisfactions	1	2	3

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
84.___Worries about decisions to change jobs	1	2	3
85.___Trouble with reading, writing, or spelling abilities	1	2	3
86.___Too many meetings	1	2	3
87.___Problems with divorce or separation	1	2	3
88.___Trouble with arithmetic skills	1	2	3
89.___Gossip	1	2	3
90.___Legal problems	1	2	3
91.___Concerns about weight	1	2	3
92.___Not enough time to dot he things you need to do	1	2	3
93.___Television	1	2	3
94.___Not enough personal energy	1	2	3
95.___Concerns about inner conflicts	1	2	3
96.___Feel conflicted over what to do	1	2	3
97.___Regrets over past decisions	1	2	3
98.___Menstrual (period) problems	1	2	3
99.___The weather	1	2	3
100.___Nightmares	1	2	3
101.___Concerns about getting ahead	1	2	3
102.___Hassles from boss or supervisor	1	2	3
103.___Difficulties with friends	1	2	3
104.___Not enough time for family	1	2	3
105.___Transportation problems	1	2	3

Page 6. Hassles Inventory

	Somewhat Severe Hassle	Moderately Severe Hassle	Extremely Severe Hassle
106.___Not enough money for transportation	1	2	3
107.___Not enough money for entertainment and recreation	1	2	3
108.___Shopping	1	2	3
109.___Prejudice and discrimination from others	1	2	3
110.___Property, investment or taxes	1	2	3
111.___Not enough time for entertainment and recreation	1	2	3
112.___Yardwork or outside home maintenance	1	2	3
113.___Concerns about news events	1	2	3
114.___Noise	1	2	3
115.___Crime	1	2	3
116.___Traffic	1	2	3
117.___Pollution	1	2	3
Have we missed any of your hassles : If so write them in below:			
_____	1	2	3
_____	1	2	3
_____	1	2	3
_____	1	2	3

One more thing: Has there been a change in your life that affected how you answered this scale? If so, tell us what it was:

Appendix C. Measures of Psychopathology and Distress

BECK DEPRESSION INVENTORY

INSTRUCTIONS: On this questionnaire are groups of statements. For each group, please read the entire list of statements. Then pick out the one statement which best describes **the way you feel today**, that is **right now**! Circle the number beside the statement you have chosen. If several statements in the group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

A.
0 I do not feel sad
1 I feel sad
2 I am sad all the time and can't snap out of it
3 I am so sad or unhappy that I can't stand it

B.
0 I am not particularly discouraged about the future
1 I feel discouraged about the future
2 I feel I have nothing to look forward to
3 I feel that the future is hopeless and that things cannot improve

C.
0 I do not feel like a failure
1 I feel I have failed more than the average person
2 As I look back on my life all I can see is a lot of failures
3 I feel I am a complete failure as a person

D.
0 I get as much satisfaction out of things as I used to
1 I don't enjoy things the way I used to
2 I don't get real satisfaction out of anything anymore
3 I am dissatisfied or bored with everything

E.
0 I don't feel particularly guilty
1 I feel guilty a good part of the time
2 I feel quite guilty most of the time
3 I feel guilty all of the time

F.
0 I don't feel I am being punished
1 I feel I may be punished
2 I expect to be punished
3 I feel I am being punished

G.
0 I don't feel disappointed in myself
1 I am disappointed in myself
2 I am disgusted with myself
3 I hate myself

H.
0 I don't feel I am any worse than anybody else
1 I am critical of myself for my weaknesses or mistakes
2 I blame myself all the time for my faults
3 I blame myself for everything bad that happens

I.
0 I don't have any thoughts of killing myself
1 I have thoughts of killing myself but would not carry them out
2 I would like to kill myself
3 I would kill myself if I had the chance

J.
0 I don't cry any more than usual
1 I cry more now than I used to
2 I cry all the time now
3 I used to be able to cry, but now I can't cry even though I want to

K.
0 I am no more irritated now than I ever was
1 I get annoyed or irritated more easily than I used to
2 I feel irritated all the time now
3 I don't get irritated at all by the things that used to irritate me

L.
0 I have not lost interest in other people
1 I am less interested in other people than I used to be
2 I have lost most of my interest in other people
3 I have lost all of my interest in other people

M.
0 I make decisions about as well as I ever could
1 I put off making decisions more than I used to
2 I have greater difficulty in making decisions than before
3 I can't make decisions at all any more

N.
0 I don't feel I look any worse than I used to
1 I am worried that I am looking old or unattractive
2 I feel that there are permanent changes in my appearance that make me look unattractive
3 I believe that I look ugly

O.
0 I can work about as well as before
1 It takes extra effort to get started at doing something
2 I have to push myself very hard to do anything
3 I can't do any work at all

P.
0 I can sleep as well as usual
1 I don't sleep as well as I used to
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep

Q.
0 I don't get any more tired than usual
1 I get tired more easily than I used to
2 I get tired from doing almost anything
3 I am too tired to do anything

R. 0 My appetite is no worse than usual
1 My appetite is not as good as it used to be
2 My appetite is much worse now
3 I have no appetite at all anymore

S. 0 I haven't lost much weight, if any, lately
1 I have lost more than 5 pounds
2 I have lost more than 10 pounds
3 I have lost more than 15 pounds

I am purposely trying to lose weight by eating less Yes___ No___

T. 0 I am no more worried about my health than usual
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation
2 I am very worried about physical problems and it's hard to think of much else
3 I am so worried about my physical problems, I cannot think about anything else

U. 0 I have not noticed any recent change in my interest in sex
1 I am less interested in sex than I used to be
2 I am much less interested in sex now
3 I have lost interest in sex completely

MISSISSIPPI PTSD RATING SCALE

Please circle the number that best describes how you feel about each statement.

1. In the past, I had more close friends than I have now.

01	02	03	04	05
NOT AT ALL TRUE	SLIGHTLY TRUE	SOMEWHAT TRUE	VERY TRUE	EXTREMELY TRUE

2. I do not feel guilt over things that I did in the past.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	USUALLY TRUE	ALWAYS TRUE

3. If someone pushes me too far, I am likely to become violent.

01	02	03	04	05
VERY UNLIKELY	UNLIKELY	SOMEWHAT UNLIKELY	VERY LIKELY	EXTREMELY LIKELY

4. If something happens that reminds me of the past, I become very distressed and upset.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

5. The people who know me best are afraid of me.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	VERY FREQUENTLY TRUE

6. I am able to get emotionally close to others.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

7. I have nightmares of experiences in my past that really happened.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

8. When I think of some of the things I have done in the past, I wish I were dead.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	VERY FREQUENTLY TRUE

9. It seems as if I have no feelings.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	VERY FREQUENTLY TRUE

10. Lately, I have felt like killing myself.

01	02	03	04	05
NOT AT ALL TRUE	SLIGHTLY TRUE	SOMEWHAT TRUE	VERY TRUE	EXTREMELY TRUE

11. I fall asleep, stay asleep and awaken only when the alarm goes off.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

12. I wonder why I am still alive when others have died.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

13. Being in certain situations makes me feel as though I am back in the past.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

14. My dreams at night are so real that I waken in a cold sweat and force myself to stay awake.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

15. I feel like I cannot go on.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	VERY TRUE	ALMOST ALWAYS TRUE

16. I do not laugh or cry at the same things other people do.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMEWHAT TRUE	VERY TRUE	EXTREMELY TRUE

17. I still enjoy doing many things that I used to enjoy.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	VERY TRUE	ALWAYS TRUE

18. Daydreams are very real and frightening.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	VERY FREQUENTLY TRUE

19. I have found it easy to keep a job.

01	02	03	04	05
NOT AT ALL TRUE	SLIGHTLY TRUE	SOMEWHAT TRUE	VERY TRUE	EXTREMELY TRUE

20. I have trouble concentrating on tasks.

01	02	03	04	05
NEVER TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	VERY FREQUENTLY TRUE

21. I have cried for no good reason.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

22. I enjoy the company of others.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

23. I am frightened by my urges.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

24. I fall asleep easily at night.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

25. Unexpected noises make me jump.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

26. No one understands how I feel, not even my family.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMEWHAT TRUE	VERY TRUE	EXTREMELY TRUE

27. I am an easy-going, even-tempered person.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	USUALLY	VERY MUCH SO

28. I feel there are certain things that I have done that I can never tell anyone, because no one would ever understand.

01	02	03	04	05
NOT AT ALL TRUE	SLIGHTLY TRUE	SOMEWHAT TRUE	TRUE	VERY TRUE

29. There have been times when I used alcohol (or other drugs) to help me sleep or to make me forget about things that happened in the past.

01	02	03	04	05
NEVER	INFREQUENTLY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

30. I feel comfortable when I am in a crowd.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	USUALLY	ALWAYS

31. I lose my cool and explode over minor everyday things.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

32. I am afraid to go to sleep at night.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	ALMOST ALWAYS

33. I try to stay away from anything that will remind me of things which happened in my past.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	ALMOST ALWAYS

34. My memory is as good as it ever was.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMEWHAT TRUE	USUALLY TRUE	ALMOST ALWAYS TRUE

35. I have a hard time expressing my feelings, even to the people I care about.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	ALMOST ALWAYS TRUE

36. At times I suddenly act or feel as though something that happened in the past were happening all over again.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	ALMOST ALWAYS TRUE

37. I am unable to remember some important things that happened in the past.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	USUALLY TRUE	ALMOST ALWAYS TRUE

38. I feel "super alert" or "on guard" much of the time.

01	02	03	04	05
NOT AT ALL TRUE	RARELY TRUE	SOMETIMES TRUE	FREQUENTLY TRUE	ALMOST ALWAYS TRUE

39. If something happens that reminds me of the past, I get so anxious or panicky that my heart pounds hard; I have trouble getting my breath, I sweat, tremble or shake; or feel dizzy, tingly, or faint.

01	02	03	04	05
NEVER	RARELY	SOMETIMES	FREQUENTLY	VERY FREQUENTLY

IMPACT OF EVENTS SCALE

Below is a list of comments made by people after stressful life events. Please check each item, indicating how frequently these comments were true for you DURING THE PAST SEVEN DAYS. If they did not occur during that time, please mark the "not at all" column.

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

BRIEF SYMPTOM INVENTORY

Name: _____ Date: _____

Age: _____ Sex: M F

Below is a list of problems and complaints that people sometimes have. Read each carefully, and select one of the numbered descriptors that best describes HOW MUCH DISCOMFORT THAT PROBLEM HAS CAUSED YOU DURING THE PAST WEEK INCLUDING TODAY. Circle that number. Do not skip any items, and circle the number clearly. If you change your mind, erase your circle completely. Read the example below before beginning. If you have any questions, please ask the technician.

EXAMPLE:

HOW MUCH WERE YOU DISTRESSED BY:

Descriptors
0 - Not at all
1 - A little bit
2 - Moderately
3 - Quite a bit
4 - Extremely

EX:	Body Aches	0	1	2	3	4

HOW MUCH WERE YOU DISTRESSED BY:

1.	Nervousness or shakiness inside	0	1	2	3	4
2.	Faintness or dizziness	0	1	2	3	4
3.	The idea that someone else can control your thoughts	0	1	2	3	4
4.	Feeling others are to blame for most of your troubles	0	1	2	3	4
5.	Trouble remembering things	0	1	2	3	4
6.	Feeling easily annoyed or irritated	0	1	2	3	4
7.	Pains in heart or chest	0	1	2	3	4
8.	Feeling afraid in open spaces	0	1	2	3	4
9.	Thoughts of ending your life	0	1	2	3	4
10.	Feeling that most people can not be trusted	0	1	2	3	4
11.	Poor appetite	0	1	2	3	4
12.	Suddenly scared for no reason	0	1	2	3	4

Brief Symptom Inventory

Descriptors
0 - Not at all
1 - A little bit
2 - Moderately
3 - Quite a bit
4 - Extremely

13.	Temper outbursts that you could not control	0	1	2	3	4
14.	Feeling lonely even when you are with people	0	1	2	3	4
15.	Feeling blocked in getting things done	0	1	2	3	4
16.	Feeling lonely	0	1	2	3	4
17.	Feeling blue	0	1	2	3	4
18.	Feeling no interest in things	0	1	2	3	4
19.	Feeling fearful	0	1	2	3	4
20.	Your feelings being easily hurt	0	1	2	3	4
21.	Feeling that people are unfriendly or dislike you	0	1	2	3	4
22.	Feeling inferior to others	0	1	2	3	4
23.	Nausea or upset stomach	0	1	2	3	4
24.	Feeling that you are watched or talked about by others	0	1	2	3	4
25.	Trouble falling asleep	0	1	2	3	4
26.	Having to check and double check what you do	0	1	2	3	4
27.	Difficulty making decisions	0	1	2	3	4
28.	Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4
29.	Trouble getting your breath	0	1	2	3	4
30.	Hot or cold spells	0	1	2	3	4
31.	Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4
32.	Your mind going blank	0	1	2	3	4

Brief Symptom Inventory

Descriptors
0 - Not at all
1 - A little bit
2 - Moderately
3 - Quite a bit
4 - Extremely

33.	Numbness or tingling in parts of your body	0	1	2	3	4
34.	The idea that you should be punished for your sins	0	1	2	3	4
35.	Feeling hopeless about the future	0	1	2	3	4
36.	Trouble concentrating	0	1	2	3	4
37.	Feeling weak in parts of your body	0	1	2	3	4
38.	Feeling tense or keyed up	0	1	2	3	4
39.	Thoughts of death or dying	0	1	2	3	4
40.	Having urges to beat, injure, or harm someone	0	1	2	3	4
41.	Having urges to break or smash things	0	1	2	3	4
42.	Feeling very self-conscious with others	0	1	2	3	4
43.	Feeling uneasy in crowds	0	1	2	3	4
44.	Never feeling close to another person	0	1	2	3	4
45.	Spells of terror or panic	0	1	2	3	4
46.	Getting into frequent arguments	0	1	2	3	4
47.	Feeling nervous when you are left alone	0	1	2	3	4
48.	Others not giving you proper credit for your achievements	0	1	2	3	4
49.	Feeling so restless you couldn't sit still	0	1	2	3	4
50.	Feelings of worthlessness	0	1	2	3	4
51.	Feeling that people will take advantage of you if you let them	0	1	2	3	4
52.	Feelings of guilt	0	1	2	3	4
53.	The idea that something is wrong with your mind	0	1	2	3	4

Appendix D. Coping Strategies Inventory

COPING STRATEGIES INVENTORY

Please read each item below and determine the extent to which you used this in the previous situation. Mark the number which best represents your answer, with numbers 1 and 5 being the extreme answers. Please give only one answer to each question.

	DID NOT USE THIS AT ALL	MIGHT HAVE USED THIS A LITTLE	USED THIS SOMEWHAT	USED THIS TO A GREAT EXTENT	THIS WAS MAIN THING I DID
1. Just concentrated on what I had to do next; the next step.	1	2	3	4	5
2. It was my mistake and I needed to suffer the consequences.	1	2	3	4	5
3. I tried to get a new angle on the situation.	1	2	3	4	5
4. Turned to work or substitute activity to take my mind off things.	1	2	3	4	5
5. I tried to keep my feelings to myself.	1	2	3	4	5
6. I took care of my emotions.	1	2	3	4	5
7. I looked for the silver lining, so to speak; tried to look on the bright side of things.	1	2	3	4	5
8. Talked to someone to find out more about the situation.	1	2	3	4	5
9. Hoped a miracle would happen.	1	2	3	4	5
10. Went along as if nothing were happening.	1	2	3	4	5
11. I slept more than usual.	1	2	3	4	5
12. I accepted sympathy and understanding from someone.	1	2	3	4	5
13. I told myself things that helped me feel better.	1	2	3	4	5
14. I tried to forget the whole thing.	1	2	3	4	5
15. I was inspired to do something creative.	1	2	3	4	5
16. If I wasn't so careless, I know things like this wouldn't happen.	1	2	3	4	5
17. I talked to someone who could do something concrete about the problem.	1	2	3	4	5
18. I looked at things in a different light and tried to make the best of what was available.	1	2	3	4	5

Coping Strategies Inventory

	DID NOT USE THIS AT ALL	MIGHT HAVE USED THIS A LITTLE	USED THIS SOMEWHAT	USED THIS TO A GREAT EXTENT	THIS WAS MAIN THING I DID
19. I got away from it for a while; I tried to rest or take a vacation.	1	2	3	4	5
20. I tried to make myself feel better by eating, drinking, smoking, or taking non-medicinal drugs (including alcohol).	1	2	3	4	5
21. I changed something so that things would turn out alright.	1	2	3	4	5
22. I avoided being with people.	1	2	3	4	5
23. I didn't let it get to me; I refused to think about it too much.	1	2	3	4	5
24. I asked a friend or relative I respect for advice.	1	2	3	4	5
25. I convinced myself that things aren't quite as bad as they seem.	1	2	3	4	5
26. I talked to someone about how I am feeling.	1	2	3	4	5
27. I stood my ground and fought for what I wanted.	1	2	3	4	5
28. I just spent more time with people I like.	1	2	3	4	5
29. I looked to see if I had all the facts; maybe I was seeing things the wrong way.	1	2	3	4	5
30. I refused to believe that it would happen.	1	2	3	4	5
31. I came up with a couple of different solutions to the problem.	1	2	3	4	5
32. I changed the way I felt about the situation.	1	2	3	4	5
33. I wished that the situation would go away or somehow be over with.	1	2	3	4	5
34. I had fantasies or wishes about how things might turn out.	1	2	3	4	5
35. When I re-organized the way I looked at the situation, things didn't look so bad.	1	2	3	4	5
36. I made a plan of action and followed it.	1	2	3	4	5
37. I just took things one step at a time.	1	2	3	4	5
38. I realized that I brought the problem on myself.	1	2	3	4	5

Coping Strategies Inventory

	DID NOT USE THIS AT ALL	MIGHT HAVE USED THIS A LITTLE	USED THIS SOMEWHAT	USED THIS TO A GREAT EXTENT	THIS WAS MAIN THING I DID
39. I felt bad that I couldn't avoid the problem.	1	2	3	4	5
40. I wished that I could have changed what happened.	1	2	3	4	5
41. I stepped back from the situation and put things into perspective.	1	2	3	4	5
42. I found somebody who was a good listener.	1	2	3	4	5
43. I made light of the situation and refused to get too serious about it.	1	2	3	4	5
44. I blamed myself.	1	2	3	4	5
45. I went over the problem again and again in my mind and finally saw things in a different light.	1	2	3	4	5
46. I let my feelings out somehow.	1	2	3	4	5
47. I spent some time doing a hobby that helps me relax.	1	2	3	4	5
48. I talked to someone that I'm very close to.	1	2	3	4	5
49. I criticized myself for what had happened.	1	2	3	4	5
50. Since what happened was my fault, I really chewed myself out.	1	2	3	4	5
51. I knew what had to be done, so I doubled my efforts and tried harder to make things work.	1	2	3	4	5
52. I got in touch with my feelings.	1	2	3	4	5
53. I told myself how stupid I was.	1	2	3	4	5
54. I accepted my strong feelings, but didn't let them interfere with other things too much.	1	2	3	4	5
55. I realized how foolish I must have looked.	1	2	3	4	5
56. I tackled the problem head-on.	1	2	3	4	5
57. I thought about fantastic or unreal things that made me feel better.	1	2	3	4	5
58. I did some nice things for people because that usually makes me feel better.	1	2	3	4	5

Appendix E. World Assumptions Scale

ASSUMPTIVE WORLD VIEW QUESTIONNAIRE

Please use the scale that follows in responding to the statements below. Circle the response that best describes your degree of disagreement/agreement with each statement. For example, if you "agree on the whole," circle the number "7". Please answer honestly; we are interested in your true beliefs.

	DISAGREE COMPLETELY	DISAGREE ON THE WHOLE	DISAGREE SOMEWHAT	DISAGREE SLIGHTLY	AGREE SLIGHTLY	AGREE SOMEWHAT	AGREE ON THE WHOLE	AGREE COMPLETELY
1. The world is a good place.	1	2	3	4	5	6	7	8
2. People are basically kind and helpful.	1	2	3	4	5	6	7	8
3. In general, life is mostly a gamble.	1	2	3	4	5	6	7	8
4. Through our actions we can prevent bad things from happening to us.	1	2	3	4	5	6	7	8
5. By and large, good people get what they deserve in this world.	1	2	3	4	5	6	7	8
6. I am basically a lucky person.	1	2	3	4	5	6	7	8
7. I always behave in ways that are likely to maximize good results for me.	1	2	3	4	5	6	7	8
8. I have reason to be ashamed of my personal character.	1	2	3	4	5	6	7	8
9. There is more good than evil in the world.	1	2	3	4	5	6	7	8
10. Human nature is basically good.	1	2	3	4	5	6	7	8
11. Bad events are distributed to people at random.	1	2	3	4	5	6	7	8
12. People's misfortunes result from mistakes they have made.	1	2	3	4	5	6	7	8
13. People will experience good fortune if they themselves are good.	1	2	3	4	5	6	7	8
14. Looking at my life, I realize that chance events have worked out well for me.	1	2	3	4	5	6	7	8
15. I take the actions necessary to protect myself against misfortune.	1	2	3	4	5	6	7	8
16. I have a low opinion of myself.	1	2	3	4	5	6	7	8
17. The good things that happen in this world far outnumber the bad.	1	2	3	4	5	6	7	8
18. People don't really care what happens to the next person.	1	2	3	4	5	6	7	8
19. The course of our lives is largely determined by chance.	1	2	3	4	5	6	7	8

	DISAGREE COMPLETELY	DISAGREE ON THE WHOLE	DISAGREE SOMEWHAT	DISAGREE SLIGHTLY	AGREE SLIGHTLY	AGREE SOMEWHAT	AGREE ON THE WHOLE	AGREE COMPLETELY
20. When bad things happen, it is typically because people have not taken the necessary actions to protect themselves.	1	2	3	4	5	6	7	8
21. Misfortune is least likely to strike worthy, decent people.	1	2	3	4	5	6	7	8
22. I am luckier than most people.	1	2	3	4	5	6	7	8
23. I almost always make an effort to prevent bad things from happening to me.	1	2	3	4	5	6	7	8
24. I often think I am no good at all.	1	2	3	4	5	6	7	8
25. If you look closely enough, you will see that the world is full of goodness.	1	2	3	4	5	6	7	8
26. People are naturally unfriendly and unkind.	1	2	3	4	5	6	7	8
27. Life is too full of uncertainties that are determined by chance.	1	2	3	4	5	6	7	8
28. If people took preventive actions, most misfortune could be avoided.	1	2	3	4	5	6	7	8
29. Generally, people deserve what they get in this world.	1	2	3	4	5	6	7	8
30. When I think about it, I consider myself very lucky.	1	2	3	4	5	6	7	8
31. I usually behave so as to bring about the greatest good for me.	1	2	3	4	5	6	7	8
32. I am very satisfied with the kind of person I am.	1	2	3	4	5	6	7	8

Janoff-Bulman, Connie (1989). Assumptive Worlds and the Stress of Traumatic Events: Application of the Schema Construct. Social Cognition, 7, 113-136.

Appendix F. Informed Consent Form

SCREENING
PSYCHOSOCIAL MEASURES OF PTSD

THE DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER AND
UNIVERSITY OF CINCINNATI MEDICAL CENTER

I. Before agreeing to participate in this study, it is important that the following explanation of the proposed procedures be read and understood. It describes the purpose, procedures, benefits, risks, discomforts, and precautions of the study. It also describes the right to withdraw from the study at any time. It is important to understand that no guarantee or assurance can be made as to the results. It also understood that refusal to participate in this study will not influence standard treatment for the subject.

II. I, _____, agree to participate in a research project that will improve our understanding of how post-traumatic stress affects individuals lives and functioning. This information will allow for more appropriate assessment of the treatment needs of individuals dealing with post-traumatic stress. The objectives of this research project are (1) to analyze the psychological, social, and medical needs of those affected by the war; (2) to provide a building block for further long-term research; and (3) to provide data which will help the Cincinnati Veterans Affairs Medical Center to provide services appropriate to the needs of returning Desert Storm veterans and their families.

III. Procedures:

I will be participating in the study for approximately 1 hour to 1-1/2 hours. If there is a significant variance from the stated time period, I will be notified. Enclosed is a packet of various questionnaires I will answer for the project. While filling out the questionnaires, I can take as many breaks as I would like and I can refuse to answer any question or stop at any time.

IV. Risks:

I understand that participation in this study may involve risks that are currently unforeseeable. I may feel uneasy as a result of thinking or writing about my experiences and beliefs. If upon completing the packet I feel I need additional help, I may identify myself and assistance will be provided.

V. Confidentiality of records will be maintained and information will not be released. When used for research purposes, my name will be deleted from the packet, and packets will be identified by subject number only. Summary information will be presented for scientific purposes only, but in no case will a specific person be identified.

VI. Any questions that I may have concerning any aspect of this investigation will be answered by Dr. Dewleen Baker (559-5014) or Alice Clark (559-6693).

VII. The University of Cincinnati Medical Center and Cincinnati VA Medical Center follow a policy of making all decisions concerning compensation and medical treatment for injuries occurring during or caused by participation in biomedical or behavioral research on an individual basis. If I believe that I have been injured as a result of research, I will contact Dr. Dewleen Baker (559-5014) or Chairperson of the Institutional Review Board, John W. Vester, M.D. (558-5259).

VIII. Desert Storm veterans may be eligible for specific services at the Cincinnati VA Medical Center. Questions should be addressed to the social worker distributing the information and questionnaire packet.

Outside of specific care for which I may be eligible at the VAMC, funds are not available to cover the costs of any on-going medical care and I remain responsible for the cost of non-VA, non-research related care. Tests, procedures or other costs incurred solely for purposes of research will not be my financial responsibility. If, after discussing this with the social worker, I still have questions about costs relative to research participation, I may contact Dr. Dewleen Baker.

XI. I am free to withdraw from this investigation at any time. Should I wish to withdraw, I have been assured that standard therapy will remain available to me provided that I am eligible for VAMC services, I have been informed of the probable consequences of my withdrawal.

X. Is the subject currently participating in another study?

[ ] Yes. If yes, please provide the Principal Investigator's name and title of study.

_____

[ ] No.

_____
Subject's Signature Date

[ ] Check box if verbal assent obtained by investigator.

_____
Legal Representative/Parent Date

_____
Investigator Date

_____
Witness Date

[ ] Check box if you would like to be contacted for further information or referral.

Name _____

Phone #_____

Address_____

_____