CONCEPTUAL STRUCTURE OF HIV+ WOMEN WITH PTSD:

TRAUMA CONSTRUCT ELABORATION

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Deborah Jones, B.A., M.A., M.Ed.
Denton, Texas
August, 1998

Human immunodeficiency virus (HIV) can result in posttraumatic stress disorder (PTSD) as events related to illness act as traumatic stressors. This study tested some basic hypotheses of Sewell and Cromwell's personal construct model of PTSD in HIV+ women both with and without diagnoses of PTSD. Trauma-related constructs of HIV+ women with PTSD with HIV+ non-PTSD controls at varying stages of illness were compared. The elaboration, rankings, and valence of trauma-related constructs were examined using the Life Events Repertory Grid (LERG) procedure. Findings provided evidence that a clinical diagnosis of PTSD in women was not associated with the degree of construct elaboration. These findings may imply a qualitative difference in cognitive processing of social stressors and violent stressors. Additionally, this study provided evidence that PTSD in this sample was associated with traumatic events being perceived as more distinct from other negative events, negative emergent construing, and more extreme evaluations. In contrast to previous research, events both prior and subsequent to diagnosis were significantly more distinct, or far apart, for women with PTSD than for those not meeting the criteria for PTSD. Results support previous literature in Vietnam veterans that extreme evaluations of negative events are associated with PTSD. Results of the negative valence measure indicate a predisposition to evaluate events negatively, in
support of previous literature regarding bias to threat, the development of fear networks and negative schemas based on prior experiences. Participants with less social support were more likely to evaluate events negatively and more extremely, and to perceive them as more distinct from other life events. Higher levels of available social support were associated with lower incidence of PTSD and symptoms of avoidance in HIV+ women, emphasizing the role of social support, coping, perceived control, and personal responsibility in the alleviation of PTSD symptoms. The high incidence of PTSD in participants in this research underscores the importance of social support in low income women confronting traumatic events.
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CHAPTER 1

INTRODUCTION

A comprehensive analysis of stressors leading to posttraumatic stress disorder (PTSD) encompasses a wide variety of life threatening situations in which an individual's access to safety is restricted or unavailable, and his or her capacity to respond is exceeded (reviewed in Green, 1990). Some types of traumatic stressors are acute or transient, such as disasters (Marmar et al., 1996), violent crime (Sewell, 1996), and accidents (McFarlane, 1992), although others are recurrent or chronic, as in the case of military conflict (Sewell, 1991; Sewell et al., 1996), serious or terminal illnesses (Starr et al., 1992; Kelly & Raphael, 1993; Shalev, Schreiber, & Galai, 1993), abuse (Moes-Williams, 1997), and the experiences of hostages or prisoners of war (Shalev, 1992). It is estimated that 4 of 10 individuals experience major trauma during their lifetimes, of whom about 9% have symptoms of PTSD (Davidson & Foa, 1993). Of these affected individuals, up to 19% attempt suicide (Davidson & Foa, 1993). Other sources (American Psychiatric Association, 1994) cite community based studies to suggest a lifetime prevalence for PTSD of 1 to 14%; and within at-risk individuals, such as combat veterans and victims of violent crime, prevalence rates range from 3 to 58%. In addition, stress-related chronic medical disorders and immune system dysfunction may result from chronic PTSD (OLeary, 1990).
Personal construct theory (Kelly, 1955) suggests that human beings behave as "personal scientists" and attempt to create personal constructs that enable them to interpret, predict, and respond to the world. The organization of personal constructs and the flexibility of the constructs is specific to each individual, tempered by the individual’s view and categorization of the world. Necessary to categorization and anticipation is the formation of conceptual dimensions, or bipolar constructs, which allow the individual to organize the world into poles such as good and bad, safe and unsafe. Kelly suggested that experiences for which the individual has no applicable constructs create anxiety, one of the foundations of PTSD. Sewell and Cromwell (1990) extended the applicability of personal construct theory to other aspects of PTSD, such as mood disturbances, including irritability, anxiety, and depression. This model postulates that in the event of a traumatic experience for which there are no pre-existing constructs, the individual attempts to shift the self and/or the experience along their construct dimensions to integrate and understand the trauma, resulting in mood disturbance. Anxiety, the product of unconstrued experience, occurs to the extent that the shifting is unsuccessful in understanding the trauma; threat, the fear of the invalidation of core constructs, results. 

Acute stress responses, PTSD (Starr et al., 1992; Tross & Hirsch, 1988), and traumatic distress (Ironson et al., 1990, 1994; Jones, 1996) in persons with human immunodeficiency virus (HIV) have been the focus of recent clinical research. Suicidal ideation (Brown & Rundell, 1989; Perry, Jacobsberg, & Fishman, 1990), depression, anxiety (Marzuk, 1991; Morris et al., 1994), and substance abuse (Faulstich, 1987; Fullilove, 1989; reviewed in Kelly & Raphael, 1993) have also been observed in HIV+
individuals at the time of and subsequent to initial diagnosis (Duffy, 1993, Jones, 1996).
HIV+ patients report death anxiety (Catania, Turner, Choi, & Coates, 1992; Hayslip, Servaty, Christman, & Mumy, 1996) and apprehensive anxiety regarding the first symptoms of disability, delirium, or dementia (Faulstich, 1987), at a time in the life cycle when most are unprepared for death (Kelly & Raphael, 1993).

Psychologically critical episodes specific to women living with HIV have been hypothesized to be the basis of PTSD and traumatic distress in female populations with HIV (Jones, 1996; Pergami et al., 1993; Sherr et al., 1993). Women face additional stressful adaptive challenges due to socioeconomic demands which may include single parenting, varied medical problems, and less access to HIV support services (Pergami et al., 1993). The spectrum of potential and actual HIV-related stressors, including psychosocial disruption, discrimination, financial destitution, disability, chronic medical conditions, and death, greatly increases the probability of occurrence of distress and psychological disorders in HIV+ individuals (Catalan et al., 1992; Kelly & Raphael, 1993; Fleishman & Fogel, 1994). Acute stress, anxiety, depression, distress, substance abuse, as well as suicidal ideation and behavior have been found to be present in women with HIV as well as those and at risk for HIV infection (Pergami et al., 1993).

The sections that follow present, first, a review of HIV/AIDS and specific traumatic events during disease progression are identified; HIV/AIDS is then conceptualized as a traumatic stressor. Second, HIV and the immune system is reviewed. HIV+ populations at risk for traumatic stress responses, including women in poverty, are then identified. Third, the traumatic stress response is defined, and theories and
conceptual models of PTSD are presented. Recent studies are then reviewed that have attempted to substantiate Sewell and Cromwell's (1990) personal construct (Kelly, 1955) model of PTSD. Next, a conceptual model of the present study and its hypotheses are presented. Finally, the study methods, results, and implications are presented.

HIV/AIDS as a Traumatic Stressor

A variety of terminal or chronic disease diagnoses, symptoms, or treatments may result in traumatic stress responses as aspects of illness act as traumatic stressors (Duffy, 1994; Kelly & Raphael, 1993; Miller & Belak, 1993; Tross & Hirsch, 1988). Stressors have been identified in both cancer and HIV that extend beyond the initial diagnosis, and these likely represent the presence of significant stressors throughout the course of illness (Fullilove, 1989; Greer, 1991; Kelly & Raphael, 1993.) Perceptions of lack of personal control can act to increase feelings of helplessness (Abramson, Seligman, & Teasdale, 1978) and depression, and to decrease involvement and problem focused strategies (Folkman, Chesney, Pollack, & Coates, 1993). Failure to cope with illness often results in avoidant behaviors and cognitions--traumatic stress responses identified with PTSD (Horowitz, 1979; McFarlane, 1992; reviewed in Pergami et al., 1993; Shalev et al., 1993).

The majority of patients diagnosed as HIV+ can anticipate the onset of frank symptoms of acquired immune deficiency syndrome (AIDS) within a six month to ten year period, followed by serious illnesses usually requiring hospital admission, occasional brief recoveries, a rapid decline in health, and ultimately, death. The threat of AIDS may exist for years prior to the development of frank symptoms of illness, and may result in HIV-related anxiety and depression (Fullilove, 1989), compounding the physical and
psychological disabilities of the disorder itself (Kelly & Raphael, 1993). HIV+ individuals report a sense of rapidly approaching death, often without overt symptoms of illness (Shelby, 1992). Some persons with HIV respond by engaging in hypervigilant behaviors, including self-monitoring for the physical onset of symptoms of various illnesses, such as the appearance of rashes, fungi, lesions, unchecked weight loss, or respiratory infections. With AIDS, these signs are often portents of rare types of pneumonia or tuberculosis, cancers, lymphoma, herpes, candidiasis, bacterial infections, and thrush. Some HIV+ persons anxiously alternate between intrusive unproductive rumination about themes related to HIV and avoidant denial of the meaning of their diagnosis (Earl, Martindale, & Cohn, 1991; Fullilove, 1989; Gossmann, 1995; Tross & Hirsch, 1988). The psychological impact of HIV-related stressors can dominate the life of the HIV+ individual throughout the course of illness (ODowd, 1988; Siegel & Krauss, 1991; Tross & Hirsch, 1988).

A variety of HIV-related traumatic stressors have been identified. Milgram and Barnea (1994) posited both stress responses and PTSD responses in Israelis being tested for HIV in reaction to identified HIV-related stressors, including certainty of death, threat of AIDS, threat of physical debility, social stigma, concern about transmission to others, fears by the public of transmission, loss of social supports, loss of job or housing, and financial insecurity. Duffy (1994) found specific crisis points among patients during the course of HIV infection. Listed in rough chronological order, they include: becoming aware of risk behavior; the decision to test; the procedure of HIV testing; disclosure of serostatus to others; necessary lifestyle changes; symptoms of physical illness; obtaining
medical care; the onset of medication; HIV illness symptoms; onset of AIDS; terminal
care decisions; friends or acquaintances test positive; and others' death from AIDS. The
first hospitalization has also been identified as a serious stressor, causing confrontation
with fear of death, helplessness, and depression (Duffy, 1994; Shalev et al., 1993; Shelby,
1992). Earlier studies focused primarily on the reactions of gay males with HIV; more
recent studies have addressed issues specific to female and ethnic minority populations
with HIV. These are described below.

The effects of HIV as a chronic illness may be compounded by distressing
cognitions and by additional demographic and psychosocial factors (Catalan et al., 1992).
For gay men living within the gay "community," this painful process is often
accompanied by the vicarious trauma of witnessing the equally unpredictable deaths of
friends and community members with HIV. The repeated experience of bereavement has
been found to further increase or compound already elevated psychological distress and
physical illness, including traumatic stress responses of avoidant and intrusive thoughts
(Martin, 1988). Contrary to a stress inoculation conception, this repeated bereavement
does not appear to lend itself to the development of an adaptive response (Dean, Hall, &
Martín, 1988; Martin, 1988; Martin & Dean, 1993; Shelby, 1992). The special
circumstances and challenges facing both men and women with this terminal illness make
addressing the psychological issues underlying the experience of HIV both complex and
especially urgent.

Women are a rapidly expanding HIV+ population. The World Health
Organization (WHO, 1993) estimates that by the year 2000, more than 13 million women
will have been infected by HIV, of whom more than 4 million already will have died. An HIV+ diagnosis carries disease specific psychological, physiological, and psychosocial stressors (Fullilove, 1989). Following diagnosis, patients may live over ten years prior to the onset of symptoms (Kelly & Raphael, 1993); this period may include the development of traumatic stress responses including hyperarousal, intrusive thoughts, and avoidant behaviors due to exposure to traumatic stressors (Earl et al., 1991; Ironson et al., 1990; Ironson et al., 1994; Jones, 1996).

Studies of HIV+ women (Jones, 1996; Semple et al., 1993) found their primary HIV-related stressors to be: testing and learning of serostatus; disclosure of serostatus to family, friends, and partners; medical or psychological treatment; discrimination; the death of others from HIV; and chronic financial stress. As the majority of HIV+ women are living in poverty, HIV may also be perceived as an acute stressor to be added to a long list of other significant stressors (reviewed in Jenkins & Coons, in press; Jones, 1996). As HIV progresses and symptoms become noticeable, a sequence of extreme life events may result from necessary disclosure of HIV+ status, such as job or housing loss, increased discrimination, rejection by others, legal battles, dwindling health related resources, and the need for home health care (reviewed in Jenkins & Coons, in press). The plethora of stressors and traumatic incidents that occur in the lives of individuals with HIV suggest that HIV+ individuals experience a process of constant confrontation and accommodation (more or less adequately) during the course of illness.

The AIDS accommodation syndrome was conceptualized by Miller and Belak (1993) as psychological accommodation to living with AIDS. They described a series of
psychological stages, consisting of: (a) secrecy due to stigmatization, self blame, and subjective feelings of being contaminated and avoided by others; (b) helplessness, encompassing depression and suicidality; (c) avoidance, the conscious or unconscious denial and avoidance of treatment; and (d) accommodation in the form of acceptance, care seeking, and the organization of personal affairs. These tasks of accommodation suggest that patients may experience the need to cognitively process the stressors encountered in HIV.

Conceptually, the AIDS accommodation syndrome model addresses cognitive processing of AIDS-related traumatic information in a manner similar to cognitive processing models (reviewed in a later section; Creamer, Burgess, & Pattison, 1992; Horowitz, 1993; Wilson, 1980), and suggests positive resolution and adaptation, as do many negative life events models (reviewed in Inglehart, 1991, Siegel & Krauss, 1991). In contrast to this adaptation model, it is perhaps also realistic to consider a model of confrontation with HIV-related stressors over the course of illness with no assumption of resolution or adaptation. This model may promote the identification of extreme events that may be distressing to patients without presupposing a traumatic stress response or lack thereof, due to the diversity of AIDS/HIV patients and their unique life stressors. The proposed model may also provide the foundation for an explanation of the presentation of PTSD in individuals with HIV.

Traumatic Stress, HIV, and the Immune System

Psychoneuroimmunology is the study of the impact of mental states on the modification of immune defenses and viral replication within the immune system.
Viruses affecting the immune system can be influenced by mental and physiological states (e.g., stress levels), leading to earlier onset of illness. Depression and other positive and negative mental states may have an effect on the immune system through the hypothalamic-pituitary-adrenal axis, the autonomic nervous system, and other avenues. Stress and other nervous system afflictions may alter immune function in both animal models and humans (reviewed in Auerbach et al., 1994; McCabe, Schneiderman, Field, & Skyler, 1991). Acute stressors have been found to produce mixed immunologic effects (reviewed in O'Leary, 1990), although chronic stress is more consistently associated with suppression of immune functioning, and the effects of stress accompanying social disruption and depression appear consistently adverse.

Early medical research demonstrated a clear connection between critical life events, stress, and somatic disease (reviewed in Inglehart, 1991). Some recent review articles of psychological stressors and stress responses, such as acute and chronic negative life events, have found a reliable association with immune suppression (Herbert & Cohen, 1993a, 1993b; Kiecolt-Glaser & Glaser, 1988; O'Leary, 1990). Additional findings imply that a chronic psychosocial burden may have negative effects on immunity (Bliemeister, Frey, Aschenbach, & Koller, 1992; Goodkin, Blaney, Feaster, & Fletcher, 1992; Goodkin, Fuchs, Feaster, Leeka, & Rishel, 1992; reviewed in Mulder & Antoni, 1992; McKinnon, Weisse, Reynolds, Bowles, & Baum, 1989; Perry, Fishman, Jacobsberg, & Frances, 1992; Rabkin et al., 1991). Reviews of the effects of stress on susceptibility to infectious disease have also identified studies reporting no link between psychosocial stressors and immune measures of T-cell counts (Burak et al., 1993; Perry et
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al., 1992; Rabkin et al., 1991; Schleifer, Keller, McKegney & Stein, 1979; Bartrop, Lockhurst, Lazarus, Kiloh, & Penny, 1977). In individuals diagnosed with HIV, frequent traumatic stressors may repeatedly provoke traumatic stress responses, and may negatively affect the immune system (Ironson et al., 1990; Ironson et al., 1994), making the onset of AIDS more likely.

In HIV patients, symptoms of illness, as well as psychosocial issues, contribute to emotional distress (Perry et al., 1992). Some of the variability in the rate of progression from HIV to AIDS has been found to be attributable to psychological mediation of the immune system's functioning, of which psychosocial and behavioral variables are cofactors (Kiecolt-Glaser & Glaser, 1988). The psychologically and immunologically adverse effects of acute and chronic stressors (Burack et al., 1993; Herbert & Cohen, 1993a, 1993b) associated with immune system illnesses (Epping-Jordan, Compas, & Howell, 1994; Ironson et al., 1994) may be related to a heightened susceptibility to immune-mediated diseases, such as AIDS. Patients may also be more vulnerable to HIV-related traumatic stress responses of avoidance and denial when HIV-related stressors occur in combination with pre-existing life stressors, such as those found in low income women (Kalichman, Hunter, & Kelly, 1992; Rose, 1993; Sherr et al., 1993). Ironson et al. (1994) found the use of denial to be the strongest predictor of immune status and deterioration in HIV+ gay men; published research on the immune response to denial in women coping with a seropositive diagnosis does not yet exist. Nonetheless, it seems clear that extreme stressors likely play an important role in HIV disease progression.
Populations at Risk for Traumatic Stress Responses to HIV

Exposure to HIV usually is the result of specific risk-associated behaviors (such as IV drug use or sex) or of contagion in a medical setting (via blood transfusions or needle stick injuries). Groups which show the most rapid increase in their rate of HIV infection are often those with the greatest vulnerability to traumatic distress due to environmental and personal stressors. These include: intravenous drug users (IDUs) (Earl et al., 1991; Gala et al., 1993; Tross & Hirsch, 1988); homeless youth; ethnic minorities; low income women; and sex workers. Current situational stressors, prior trauma, and traumatic life events increase the potential for traumatic distress in response to a subsequent extreme life stressor (reviewed in Brown & Harris, 1989; Creamer et al., 1992; Gala et al., 1993; Green, 1991), and may increase the negative effects of HIV-related stressors. In lower income subgroups, psychosocial and environmental factors may provide the individual with greater resilience or a greater vulnerability to the development of traumatic stress. The variability in at-risk populations suggests the importance of more group-specific assessment of the impact of HIV, rather than generalization across groups.

Women with limited financial resources, insufficient practical support, and unstable living arrangements are a rapidly increasing group coping with the traumatic stressor of HIV (Krueger, Wood, Diehr, & Maxwell, 1990). Women may experience more shame, guilt, and social stigma associated with an HIV+ diagnosis than men, resulting in further constriction of support resources and coping strategies. They often anticipate maintaining secrecy and emotional isolation rather than choosing to disclose
their serostatus and risk rejection (reviewed in Jenkins & Coons, in press). Beevor and Catalan (1993) found that most women initially avoided HIV testing, and ultimately sought an HIV test due to unprotected sex or a desire for STD testing. About half of those women found to be HIV+ had already become symptomatic. Thus they tended to be more seriously ill than men when first diagnosed as HIV+. As many as 22% of women diagnosed as HIV+ did not disclose their results to anyone else, due to anxieties including stigma, concern for others’ well being and negative reactions. During the progression of HIV, psychological crises are frequent, often in the form of AIDS-related bereavement and diagnoses of partners and children (Sherr et al., 1993). An HIV+ diagnosis can also include a concomitant pregnancy, and force the issue of terminating pregnancy. Some HIV+ women have limited access to health care; when existing services do not meet their needs, they often avoid seeking health care altogether.

Rose (1993) found low-income women’s stressors to be limited finances, rejection, lack of supports, risky neighborhoods, suicidal ideation, and poor health. These findings suggest that a combination of preexisting adversity and vulnerability to distress are present in many low-income women. Low SES and ethnic minority women might even be more vulnerable to having traumatic stress responses following an HIV+ diagnosis as additional traumatic stressors may arise and affect their efforts to cope. They may respond with negative coping strategies, such as emotion-based or avoidant coping, due to the scarcity of the resources available to them. Low SES female patients infected with HIV frequently face unemployment, crime (Kalichman et al., 1992), and problems in securing shelter, food, and protection. These HIV+ women sometimes have to reveal
illicit drug use, past sexual behavior, and face the social stigma associated with HIV. These factors might be considered environmental rather than a part of being HIV positive, yet they can act as factors affecting the HIV-related outcome of posttraumatic stress disorder (Green, 1991).

Posttraumatic Stress Disorder

Traumatic stressors include a variety of events and experiences that are psychologically interpreted and processed by the individual. Conceptually, stress is a nonspecific response of the body to any demand, and stressors are the agents that lead to stress (reviewed in Inglehart, 1991). A traumatic event challenges the assumptions individuals hold about themselves and the world, and creates a psychological crisis (Janoff-Bulman, 1992).

The response to traumatic stressors can be amplified and coping complicated by (a) personality characteristics of the individual and his or her prior experiences; (b) situational elements of the traumatic event and the demands it places; (c) psychobiological mechanisms affected by the trauma and personal resources for response available, and (d) sociocultural responses to those victimized (reviewed in Wilson & Raphael, 1993). Traumatic stressors vary in their significance and centrality for the survivors involved, who may have identical responses to differing events and dissimilar reactions to the same event (reviewed in Janoff-Bulman, 1992). Survivors of the same event can be at unequal risk for post-traumatic stress disorder (PTSD) or acute stress disorder based upon the event's frequency, their proximity to the traumatic event, the
degree of perceived threat, the degree of loss, and the degree of perceived responsibility (reviewed in Wilson & Raphael, 1993).

An extreme traumatic stressor in PTSD and acute stress disorder is defined by the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; American Psychiatric Association, 1994) as "an event that involves actual or threatened death or serious injury" (p. 424). Clinically significant diagnostic traumatic distress symptoms may include, but are not limited to, hyperarousal, avoidant behavior, recurrent or intrusive thoughts, sleep problems, loss of interest in the future, mood changes, difficulty concentrating, anxiety, depression, and emotional distancing. Symptoms include recurrent intrusive thoughts and nightmares, avoidant thoughts or feelings about the trauma, psychic numbing, detachment, restricted range of affect, and increased arousal symptoms including sleep difficulty, irritability, hypervigilance, increased startle reaction, and difficulty concentrating. Researchers disagree as to the role of symptoms of arousal, denial, and intrusive recollections in the process of either incorporating a traumatic experience or developing a stress-related psychiatric disorder.

PTSD was formally recognized and codified by the American Psychiatric Association as an anxiety disorder in the Diagnostic and Statistical Manual of Mental Disorders-Third Edition (DSM-III) in 1980. But even prior to 1980, the syndrome had a long historical tradition; its various names were often associated with battle, such as soldier's heart, battle fatigue, shell shock, war neurosis (Davidson & Foa, 1993). All presentations of the disorder involved previous exposure to a life threatening experience. It is now recognized that traumatic disorders can occur as a response to a variety of types
of events, but the concept of an extreme psychological reaction to a catastrophic occurrence was first demonstrated exclusively in the context of war (Figley, 1995).

**The Development of Theoretical Conceptualizations of PTSD**

A variety of models have been proposed which address the experience and integration of traumatic episodes into the individual's conceptualization of the world and self. Janet (1886) is credited as the first psychological practitioner to study and treat traumatic distress in the form of hysterical and dissociative symptoms. Janet (1924) identified hysterical symptoms as beginning with "the occasion of particularly affecting agents" (p. 97) which generated fear in the individual, both during and subsequent to the event. Hysteria was characterized by Janet as the maintenance of a fixed idea which was "below consciousness" and remained outside the realm of normal awareness, having a subconscious character. He noted that it was necessary to attack the subconscious phenomena, and that it was not possible to treat the hysterical accident without reaching within the deep layers of thought (Janet, 1901).

Breuer and Freud (1920) were the first to publish on the phenomenon of psychic conflict within the unconscious, and focused the treatment of hysteria on the identification of the precipitating cause of the illness. They asserted that the key to treating symptoms was the demonstration to the patient of the connection between symptoms and the traumatic event. They concluded that symptoms of hysteria were alleviated when memories of the trigger event were awakened, and the patient was allowed to discuss the event and express their emotions.
The first descriptions of the disorder as traumatic neuroses emphasized the Freudian belief that psychological disturbances were rooted in unresolved intrapsychic conflicts in which symptoms represented unconscious defensive workings (Wolfe & Keane, 1990). Following the dictates of psychoanalysis, World War I casualties were treated with a combination of hypnosis and psychotherapy. For some, unremitting classic symptoms persisted, such as sleep disturbance, recurrent nightmares, intrusive thoughts, hyperarousal, irritability, angry explosiveness, and the propensity for exacerbation of symptoms following exposure to similar traumatic stimuli.

A second theory evolved which addressed traumatic neurosis within the framework of traumatic stress. In 1865, Claude Bernard posited the idea of the body being an internal milieu, within which a variety of events occur. Sixty years later, Cannon further elaborated on this theory with the concept of homeostasis, in which the body is organized to maintain its own equilibrium, adjusting automatically in the healthy person to internal and external change (reviewed in Flache, 1990). Hans Selye is credited with the first definition of the stress syndrome, the stereotyped bodily response to demand which is associated "with the wear and tear on the human machinery that accompanies any vital activity." He described the general adaptation syndrome as having 3 stages, 1) alarm reaction, 2) resistance, 3) exhaustion (Selye, 1966).

Presentations of insomnia, irritability, and exaggerated startle response in World War I and II veterans with combat stress reaction prompted the evolution of further understanding of traumatic neuroses (Kardiner, 1941). Forsyth (1915) described them as arising from wartime situations which derived their psychological importance from the
association with the risk of death. He posited that in such situations, the instinct for self-preservation rebels against the requirements of war, "dictating an immediate flight from the danger arousing it" (p. 1781). Drawing from previous models, a new paradigm was posited in which unconditioned emotional, behavioral, and physiologic responses to an initially severe trauma become conditioned to otherwise neutral internal and external stimuli. These conditioned stimuli were understood to come to elicit elements of the original fight/flight response, including sympathetic nervous system activation (Keane, Zimering & Caddell, 1985; Schwab, 1919). In addition to positive symptoms, negative symptoms were found to include diminished interest in significant activities, interpersonal detachment, restricted affective range, and a sense of foreshortened future. It was proposed that these symptoms represented a state of learned helplessness (Giller, 1990). Severe stress, acute and chronic, was found to lead to acute and chronic responses. This response came to be understood as an adaptive reaction to environmental threat (Cannon, 1929). It was concluded that when a threat was overwhelming and traumatic, objectively or subjectively, PTSD could develop.

From World War II until about 1980, the approach to understanding the effects of massive psychological trauma on the individual was based primarily upon psychopathologic descriptions (Grinker, 1945), hypotheses based upon learning and psychoanalytic theory, and epidemiology and treatment (both psychotherapeutic and psychosocial; Flach, 1990). From 1980 to the present, it has been further posited that chronic suffers have undergone some type of brain dysfunction, or a change in the functioning of the brain. Unusual reactivity of the sympathetic nervous system and
perceptual impairment have also been observed to accompany exposure to traumatic stimuli with World War II veterans in a laboratory setting (Giller et al., 1990). Although PTSD was originally identified predominantly in victims of war and disasters, it is now evident that PTSD occurs subsequent to a variety of traumatic events. The pathogenesis of the phenomenon of PTSD is less clear, and several theoretical models have evolved.

Theoretical Models of PTSD

A variety of cognitive and information processing theoretical models of PTSD have been postulated. Many of these models have evolved in association with traumatic distress in combat veterans. The following narrative presents a summary of these theories, and a basis for a more comprehensive theory applicable to a more diverse PTSD population.

Erikson's (1968) model of psychosocial development served as the foundation for the model of PTSD by Wilson (1980). This model, used with combat veterans, suggested that individuals have not completed the stage of "identity versus role confusion" within which individuals establish a sense of self. The model also incorporated Piaget's concepts of assimilation and accommodation. Assimilation references integration of experiences into an understanding of the self and the world. Accommodation addresses the alteration of assumptions about the self and the world to incorporate a new experience. In this paradigm, the failure to assimilate or accommodate traumatic experiences results in an inability to resolve the stage of "identity versus role confusion," triggering the PTSD stress reaction. This model presupposes an incomplete resolution of role confusion, and
fails to explain the occurrence of PTSD in older or more experienced service members following military conflict.

Horowitz (1993) suggested that a characteristic pattern of response follows the onset of an unexpected serious life event. Distress, psychic overload, and subsequent denial and avoidance form the initial symptomology and is followed by a phase of "working through" the trauma. Pathology, as a traumatic stress response, is then that state in which the responses do not decrease over time, and avoidant behavior and intrusive thoughts remain present and interfere with normal functioning. He termed the responses and symptoms that occur after a serious or threatening life event "stress-response syndromes" (p. 269). The symptoms of stress response syndromes are included in PTSD, acute anxiety, and adjustment disorders. In this context, intrusive thoughts are defined as intrusively experienced ideas, unwanted images, dreams, and waves of feelings; and avoidant behavior is consciously recognized as avoidance of specific ideas, feelings, or circumstances related to a specific life stressor or event (Zilberg, Weiss, & Horowitz, 1982). Intrusion acts as a stimulus for increased avoidance, resulting in avoidant strategies, and thus leading to a pattern of oscillations between intrusive and avoidant states. These oscillations either gradually decrease over time as the event is worked through, or continue, if the individual becomes fixated at one phase. Five phases are here defined as points in the sequence: encountering a traumatic stressor; responding to it; experiencing denial and intrusion; working through and acceptance; and completion and reduction of negative mental states. Within this model, individuals become fixated by remaining at the points of avoidance and/or intrusion in the progression. Thus, within this
paradigm, the presence of avoidant behavior and intrusive thoughts indicates the presence of a traumatic stress response. Conceptually, this model provides a foundation for the occurrence of traumatic stress response, but fails to address individual and situational differences that result in fixation in some, but not all, individuals.

McCann, Sakheim, and Abrahamson (1988) further elaborated on Horowitz's (1993) model, focusing on cognitive "schemas" into which traumatic information is integrated. They propose that the schemas have negative or positive aspects, which are activated by precipitating events. McCann et al.'s model outlines a process in which schemas affect psychological adaptation, which affect future life events. To complete the circle, life events then affect the schemas. This model proposes that therapy must therefore include a process of clinical assessment and alteration of schemas. Although schemas explain the propensity for negative thought processes and a predisposition for negative evaluation of future events, the model fails to explain the development of PTSD as a result of a negative adaptive process.

Green additionally noted that trauma is affected by prior experiences (1991). Green, Wilson, and Lindy's (1985) PTSD model is based on Horwitz's model, but adds the variables of situation and individual disposition to the individual's ability to resolve trauma. Creamer et al. (1992) also revised Horowitz's processing model. They proposed that following initial exposure to a traumatic stressor, the experience is interpreted by the individual in terms of personal meaning, which may also be affected by other mediating factors. The traumatic stressor is then processed via the occurrence of intrusive thoughts. Personal meaning is determined by the characteristics of the experience (e.g., its threat or
duration). Mediating factors include pre-trauma personality and prior traumatic experiences, which can increase vulnerability to PTSD. Intrusive thoughts are here conceptualized as cognitive processing, their function being to allow the individual to assimilate and integrate traumatic information. These intrusive thoughts may be functional and result in more effectively processing stressful information and reducing symptoms; or they may be dysfunctional, and lead to increased avoidance and hyperarousal. In a longitudinal study of individuals exposed to a shooting, Creamer et al. (1992) found that the higher the level of initial symptoms and the more frequent the intrusive memories, the more reduced the PTSD symptomatology in the future. The strategy of avoidance, as an attempt to block traumatic memories, was additionally found to reduce the level of symptomatology over time. This model appears to suggest a fundamental difference in cognitive processing, brain structure, and functioning in individuals predisposed to PTSD.

The intensity of intrusive thoughts may act to affect the incidence of chronic stress responses and symptoms in the absence of an ongoing stressor. Baum (1990), in a study of Vietnam veterans, found intrusive thoughts to create and maintain a state of chronic stress which outlived the stressor event itself. In a related study of Three Mile Island (TMI) victims, Baum (1990) found chronic stress, psychological and physiological distress to be correlated with both psychological and physiological arousal, but their effects to be mediated by variables related to social support, coping style, and perceived control and responsibility for distress. Denial was found to be associated with increased stress levels. Baum (1990) found evidence of chronic stress six years following the TMI
disaster in participants with high levels of intrusive thoughts, and suggested that intrusive thoughts may create chronic stress by forcing the individual to relive the initiating stressor. Chronic stress was described by Baum as a demand, threat, perception of threat, or response, which is present for a long period of time. Baum, Cohen, and Hall (1993) conceptualized chronic stress as having three dimensions: duration of the stressor, the persistence of threat or demand, and the duration of the response. Thus, chronic stress requires that the duration of the event is long term, its perceived threat is present over time, and the response is of a longer duration than the trigger event. They found that the chronicity of the stressor or its threat is not required to create a chronic stress response, and that in some vulnerable individuals, some stressors are resistant to the adaptation posited by Creamer et al. (1992).

Especially relevant to chronic traumatic distress is a model based on the perception of threat and threat bias. Chemtob, Roitblatt, Himada, Carlson, and Twentyman (1988) proposed a hierarchical model of cognitive action, in which mental network structures are developed following experiences. Such structures may increase the likelihood of a bias towards more rapid reactivation of trauma-related structures in subsequent threatening and ambiguous situations. Within this model, the individual seeks and interprets evidence of threat, and symptoms of PTSD arise from a maladaptive cycle in which ambiguous situations are misinterpreted as the individual attempts to validate trauma structures. Litz and Keane (1989) proposed a similar model of bias to interpret information as threatening. They postulated that this attentional bias results from patterns of information processing, storage, accessibility, activation, and retrieval. Similarly, it has
been hypothesized that PTSD may involve the development of a sensitive fear network which acts to stimulate other fear memories in ambiguous or threatening situations (Foa, Steketee, & Rothbaum, 1989).

In summary, information processing models suggest that factors affecting the association between an extreme stressor and the occurrence of traumatic stress response symptoms include: characteristics of the event; individual vulnerability including social supports and coping style; individual response specificity based upon psychosocial factors (Baum et al., 1993; Brown & Harris, 1989; Creamer et al., 1992); and bias towards the interpretation of threat. The effects of psychosocial factors and vulnerability on the response to a traumatic event may be mediating (Creamer et al., 1992), additive (Baum, 1990; reviewed in Inglehart, 1991), or may over time become moderating.

A variable which has an effect on the direction or strength of an association between an independent or predictor variable and a dependent or criterion variable is a moderator. A moderator is a third variable which affects the zero-order correlation between two other variables, or a moderator effect can be described as an interaction between a focal independent variable and a second factor which creates conditions for the focal variable to have an effect. A variable which accounts for the relationship between predictor and criterion variables is said to have a mediating effect. Mediation can also be interpreted as a causal path in which the predictor is linked both directly to the criterion, and through the mediating variable (Baron & Kenny, 1986). Life events have been posited to have mediating effects which may be moderated or mediated by other variables to affect psychological impairment (Baum, 1990; Norbeck, 1984; reviewed in Saranson et
Traumatic stress responses have been found to be mediated by the presence of prior traumatic experiences (Creamer et al., 1992) or affected by prior experiences (Green, 1991). Clearly, disagreement exists as to the role of prior life events as mediators or moderators of traumatic stress responses to traumatic stressors. Cognitive processing of the event appears to occur in the form of intrusive thoughts (Baum, 1990; Creamer et al., 1992; Horowitz, 1993), and respite from the traumatic distress of intrusive cognitions appears to occur in the form of avoidance (Creamer et al., 1992). The failure of the level of traumatic stress response symptoms to decline over time is indicative of a traumatic stress disorder.

Most of these theories address the processing of trauma, rather than the underlying mechanisms which result in PTSD. Examination of the mechanism of PTSD appears to be the next step in the establishment of a connection between psychological processing and the psychological and behavioral presentations of PTSD. A theoretical model based on personal construct theory (Kelly, 1955) which sought to explain the mechanisms of PTSD has been proposed by Sewell and Cromwell (1990).

**Personal Construct Theory and PTSD**

Personal construct theory (Kelly, 1955) suggests that human beings behave as "personal scientists" and attempt to create personal constructs that enable them to interpret, predict, and respond to the world. The organization of personal constructs and the flexibility of the constructs is specific to each individual, tempered by the individual's view and categorization of the world. Necessary to categorization and anticipation is the formation of conceptual dimensions, or bipolar constructs, which allow the individual to
organize the world into poles such as good and bad, safe and unsafe. Over time, the individual adjusts or refines constructs so that they can be applied to unique/novel experiences, and overlapping dimensions allow the person to construe experiences in shades of grey. Kelly suggested that experiences for which the individual has no applicable constructs create anxiety, one of the foundations of PTSD. Sewell and Cromwell (1990) extended the applicability of personal construct theory to other aspects of PTSD as well.

Mood disturbances, such as depression, anxiety, and irritability, common to PTSD are theorized to result from "slot movement," the shifting of the assignment of an element along a construct dimension from positive to negative or vice versa (Space & Cromwell, 1980). One type of slot movement is present when the individual moves their evaluation of the self or an experience along the positive/negative poles of existing constructs to incorporate new information or events. Within Sewell and Cromwell's (1990) model, anxiety in PTSD may be experienced following exposure to experiences for which no constructs exist, or due to the effect of these experiences generating slot movement within an isolated trauma subsystem. This model postulates that in the event of a traumatic experience for which there are no pre-existing constructs, the individual attempts to shift the self and/or the experience along their construct dimensions to integrate and understand the trauma, resulting in mood disturbance. Anxiety, the product of unconstrued experience, occurs to the extent that the shifting is unsuccessful in understanding the trauma; threat, the fear of the invalidation of core constructs, results.
Sewell and Cromwell (1990) suggested that a dissociated construct or construct subsystem may develop in response to trauma, and may remain isolated from the individual's main construct system. PTSD is thus represented as a failure to create and/or to integrate new constructs into the whole construct system. In this fashion, the individual with PTSD might also cluster similar trauma constructs. Using measurement procedures established by Kelly (1955) that allow the investigation of the construction process, and newer methods to establish the number of construct classes linked to a traumatic event, it is theoretically possible to detect the presence of isolated trauma constructs. This method of assessment is derived from the repertory grid using hierarchical classes analysis, described in more detail in the methods section.

In initially testing the isolated trauma construct hypothesis, Sewell (1991; also cf. Sewell et al., 1996) found that Vietnam veterans with PTSD tended to use less elaborated implicit pole constructs of traumatic life events in comparison to non-PTSD veterans. Less elaboration of constructs would imply that the construct is isolated from the greater system. Elaboration is the degree to which a construct can be applied to events other than that from which it arose. When elaborated, the meaning of the label that is applied to the original construct can be freely used in association with other constructs. Elaboration integrates the construct system by giving the experience meaning in relation to other life events and the construction of the self (Sewell, 1991). Less elaboration involves a narrower construing of events than that utilized with other life events in the past or present. Also, Vietnam veterans with PTSD showed an over-use of negative emergent
construct poles and an under-use of gray (less positive, rather than purely positive and negative) poles than controls (Sewell, 1991).

Emergent construct poles are those poles spontaneously offered by the subject in describing event similarities, rather than those which are the implied opposites, or implicit poles. The preponderance of negative emergent poles were suggested by Sewell (1991) to indicate perception of threat—the anticipation that core constructs may be invalidated and require revision. This eventuality would cause individuals to tighten their construing of core constructs. Sewell (1991) theorized that an interaction between events within the isolated subsystem and events that remain unconstrued would exist, generate anxiety, be attributed to the self, and ultimately cause mood disturbance as well. He proposed that recovery is contingent on developing new constructs for trauma that can be integrated into the whole of the person's system. Within this paradigm, treatment may also address integration of the isolated trauma subsystem into the entire construct system via the integration of superordinate, or more highly developed, constructs.

Kelly (1955) theorized that when individuals are faced with threat of the invalidation of constructs, the individual might cope with threat by abandoning higher order or more sophisticated constructs, and resort to earlier core constructions. More simplistic constructs and extreme polarization may then result, as opposed to the development of newer constructs to address new experiences. The attempt to cling to the core would cause the individual to regress to an earlier level of construing (Guidano, 1987) to protect the core. Anticipations would be focused on the negative poles of the constructs, becoming self-fulfilling. Thus, for the individual with PTSD, threat becomes
the result of the individual's personal construction rather than the actual environment.

Subsequent negative experiences are viewed as validation of this negative predisposition, causing the construction to be frozen at a core level, with limitation on the ability to develop new or higher order constructs.

Dissociated trauma subsystems were hypothesized by Sewell and Cromwell (1990) to be comprised of relatively simplistic constructs. They suggested that the individual might try to integrate the traumatic experience with the whole system by continuing to attempt constructions; this takes the form of flashbacks and intrusive cognitions. Kelly (1955) describes a process of "loosening" current constructions, exploring alternative constructions, and "tightening" and confirming new constructs. Within this process, the construction of the symptomatic experience is loosened to promote its integration. An example of this process might necessitate the traumatized individual viewing intrusive thoughts as productive and a necessary part of the process of integration of isolated or unconstrued events in the overall construct system.

In summary, within the personal construct PTSD model, individuals with PTSD would be expected to utilize simplistic constructs that tend to polarize their experiences. They would be more likely to perceive and organize their world as black and white rather than gray, relying on less sophisticated constructs. They might adopt a negative anticipatory stance, anticipating negative rather than positive events (Chemtob et al., 1988; Foa et al., 1989; Keane et al., 1985; McCann et al., 1986; Moes-Williams, 1997). They may have a unintegrated trauma subsystem or a threat-related return to their core constructs. It would be anticipated that they would undergo the symptoms of PTSD, in the
form of mood disturbances, intrusive cognitions, and a state of hyperarousal, with a
tendency to become avoidant of trauma reminders. Individuals more able to integrate
traumatic experiences into their construction of the self or to form new constructs may
therefore not develop PTSD.

**Personal Construct Model of PTSD Illustrated in a Woman with HIV**

This section proposes a conceptual sequence of events in a woman, Eve,
diagnosed with HIV, and the emergence of PTSD symptoms. The narrative is designed to
incorporate the personal construct model of PTSD as experienced following an HIV
diagnosis.

Eve sees herself as a person who may be able to achieve something in her life, or
be able to offer a better life to her children or others. Her constructs about (her) life
represent it as offering opportunities, giving the time to better one's self or others' lives, to
achieve. She believes she is safe and has control of her destiny (as opposed to life being
hopeless and dead-end, and herself unsafe and as having no control over events.)

Eve is diagnosed as HIV+. The diagnosis causes her to be confronted with her
own mortality. She sees herself as unable to achieve her dreams, to care for children,
family, or self, and to have no future. (Her) life has no opportunities; she has no ability to
live a long and useful life, and no chance to achieve her goals. She is unsafe and has no
control over her destiny.

The HIV diagnosis is construed in isolation, or in combination with other earlier
life threatening events which involved a perception of having no control and intense fear,
such as sexual abuse, assault, or violent relationships. When construing information from
within the HIV construct subsystem, she feels damaged and terrified. When construing from the larger construct system, she feels hopeless, depressed, and bitter. She assigns her own life (self) the negative poles of being hopeless and dead-end.

Eve avoids thinking of HIV, being reminded of it, or talking about it. She becomes highly aroused, irritable, jumpy, and anxious. She experiences intrusive dreams and thoughts about becoming ill, being hospitalized, and her own death. She is forced to re-experience her confrontation with her life threatening diagnosis when exposed to additional traumatic events, such as disclosure of her status to others and rejection or abandonment, health related issues such as life threatening illness, hospitalization, or symptoms of illness, and the deaths of other HIV+ individuals. Additional events create additional emotional disturbance, and the events are further confined to the isolated trauma construction.

Proposal of a Model of HIV and PTSD

The personal construct model of PTSD has been tested using several different populations, including combat veterans, victims of violent crime, and rape survivors. Studies have tested the model using the level of elaboration as a dependent measure, controlling for the overall level of non-trauma elaboration. As described in the preceding section, Sewell (1991; Sewell et al., 1996) tested male Vietnam veterans with and without a diagnosis of PTSD, and identified lower levels of implicit construct elaboration indicative of an isolated trauma subsystem in veterans with PTSD. Sewell (1996) also tested the model with individuals exposed to a mass shooting incident, both with and without PTSD, in a longitudinal study of the integration of trauma. Both combat veterans
and victims of violent crime with persistent symptoms of PTSD were found to utilize lesser degrees of implicit construct elaboration in association with the traumatic events. Moes-Williams (1997) has also tested the model with PTSD and non-PTSD diagnosed female survivors of sexual assault. This study did not obtain results to support the elaboration hypothesis of the PTSD model, which may have been a function of a variety of methodological differences; or potentially it may be that surviving sexual assault yields a qualitatively different trauma response.

The following study tested the personal construct model of PTSD hypothesis using HIV+ women both with and without diagnoses of PTSD, in regards to the degree of elaboration of traumatic events. This study identified PTSD in HIV+ women throughout the course of illness, in relation to events that are temporally dissimilar. In addition, the study addressed a variety of HIV-related and non-HIV related events. The investigation of the presence of isolated trauma constructs or unintegrated traumatic events using the personal construct model of PTSD, sought to provide a basis for proactive intervention with HIV+ patients.

Research hypotheses were the following:

1. HIV+ women with PTSD were predicted to be more likely to have an isolated trauma subsystem or a lack of trauma integration. Thus, HIV+ women with PTSD were predicted to have a lower level of elaboration of implicit trauma-related constructs than HIV+ women without PTSD.
2. It was predicted that HIV+ women with PTSD would see post-trauma events as being more closely related to the trauma subsystem than pre-trauma events than would non-PTSD participants.

3. HIV+ women with PTSD were predicted to be more likely to have extreme evaluations of life events than non-PTSD participants.

4. HIV+ women with PTSD were predicted to have a greater frequency of negative ratings assigned to the emergent poles than non-PTSD participants.
CHAPTER 2

METHOD

Participants

Women with HIV (N = 60) comprised the sample in this study (see Table 1, Appendix G). The mean age of the obtained sample was 38, ranging from 17 to 54 years of age. Just over 63% of the sample was single, 18.3% in committed relationships, and 18.3% were married. Ninety-five percent of those sampled had children, of whom none were HIV positive, although 5% were being monitored for seroconversion. Participants surveyed had completed from a seventh grade education to more than four years of college, while most, 63.3%, had completed high school. The majority of cases, 61.7%, fell at or below $8,000 annual income and relied upon Social Security Disability payments. Most women in the sample identified sexual transmission, 48.3%, or IV drug use, 48.3%, as their mode of infection. Fifty percent of women sampled identified themselves as Caucasian, 38.3% as African American, 8.3% as Hispanic, 1.7% as Native American, and 1.7% as Pacific Islander. The majority of cases, 80%, reported having experienced domestic violence. Nearly half, 48.3%, of the sample had been sexually assaulted as adults, and 48.3% had been sexually assaulted as children. A slight majority of women in the sample, 51.7%, were seeing a counselor or therapist for personal problems. Most participants were long-term HIV patients, with dates of diagnosis ranging from one month
from one month to fifteen years previous. Current symptoms of HIV-related illnesses were reported by 93.3% of the sample.

Using previous data analyses (Sewell, 1991) for effect size estimates, a sample \( N = 60 \) was deemed sufficient to provide adequate power (.80) for a one-tailed test at the 5% alpha level to detect an effect size comparable to a Pearson correlation of .35.

**Measures**

Participants were interviewed using a self-report questionnaire that included: two PTSD measures; a social support measure; and demographic data. Participants were then administered a repertory grid, from which measures of the criterion variables were drawn.

**Demographic data.** Demographic data was obtained to explore the need to control for the variables of socioeconomic status (SES), education, marital status, abuse history, and mode of disease transmission. The demographic questionnaire (see Appendix A) asked participants to provide specific demographic characteristics, such as ethnicity, income, age, marital status, number of children, presumed mode of infection, time since initial diagnosis, symptoms, abuse history and use of counseling services.

**Social support.** A brief social support measure (SSM; Zich & Temoshok, 1987) was administered to assess the level of experienced social support by the participant. The SSM was based on four categories of support; emotionally sustaining behavior, problem solving behavior, indirect interpersonal influence, and environmental action. The measure identified the desirability and availability of social support, and its use and usefulness to the participant. The social support availability score was derived from participants’ assigning a rating of the availability of each of eight items derived from the
four support categories on a weighted five item Likert-like scale ranging from not at all, one, to constantly, five. In the calculation of the social support availability score of the SSM, a total score was computed based on the assigned self-weighted rating for each item. The social support score was the sum of all items. The theoretical range for the social support availability scale was 0-40, higher scores indicating greater availability of social support. The obtained range of the SSM availability scores was 8 to 40, the mean score was 27.83, and the standard deviation was 11.97. A Cronbach alpha of .94 was calculated from the obtained data for the items used in the SSM availability score, indicating internal consistency. The SSM score was treated as a continuous scale, and the total impact score was used as a predictor or independent variable of interest.

PTSD measures. Two measures of PTSD were used, the Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1996) and the Structured Clinical Interview for DSM-III-R (SCID; Williams et al, 1992) PTSD module. The SCID was used as the diagnostic measure of PTSD presence or absence. The PDS is a continuous measure, and was used to provide trauma-specific stress severity information.

The SCID PTSD module combines symptoms and diagnoses, including: exposure; reexperiencing (intrusion); avoidance; hyperarousal; distress or impairment; and severity. The organization of the measure is hierarchical, with decision trees for discontinuing administration of the module. The scoring system is a 3 point rating system: 1, absent or false; 2, subthreshold; and 3, threshold or true. Symptoms describe both previous and current status. The hierarchical structure provides standard questions, branching questions, optional probes, and unstructured questions. The obtained range of the SCID
was 1 to 3, and the mean score was 1.73 (see Table 3, Appendix D). The SCID score was
treated as a dichotomous scale, 3 meeting diagnostic criteria, below 3 being subthreshold.
The obtained score was used as a predictor or independent variable of interest.

The SCID has had a variety of reliability tests, the primary study (reviewed in
Rogers, 1995) of test-retest reliability found weighted kappas for current diagnoses
ranged from .40 to .86, with a median kappa of .59. Interrater reliabilities ranged from
83% to 99%. Validity of the SCID with the PTSD Inventory ranged from 84% to 85%
(Solomon, Benbenishty, Neria, & Abroamowitz, 1993). The SCID corresponds directly
with DSM-III-R criteria.

The PDS was validated on individuals aged 18 to 65, and can be administered in
10 to 15 minutes. The measure is designed to correspond to the PTSD diagnostic criteria
of the DSM-IV (American Psychiatric Association, 1994). The PDS consists of 49 self-
report items, including: self-report of traumatic events experienced, symptoms
(avoidance, intrusion, and hyperarousal), and impairment. The PDS avoidance, intrusion,
and hyperarousal scores were derived from participants' assigning a rating of the
frequency of each of seventeen items on a weighted four point Likert-type scale ranging
from not at all or only one time (0) to five or more times a week/almost always (3). Test
results provide data on six areas including; a diagnosis of PTSD, symptom severity score,
number of symptoms endorsed, chronicity specifiers, symptom severity rating, and level
of impairment of functioning. The theoretical range for the symptom severity score was
0-51, and the severity ratings ranged from no rating to severe (36-51). The obtained range
of the severity scores was 4 to 43, and the mean score was 22.72. The majority of the
scores, 53.3, fell above 21 (see Table 4, Appendix D). The severity score was treated as an ordinal scale, and the total severity score was used as the predictor or independent variable of interest. The scale means for the symptom severity index and number of items endorsed were correlated with SCID criteria, $r = .57$, $p < .001$. A Cronbach alpha of .81 was calculated for the items used in the symptom severity score, indicating acceptable internal consistency.

In previous analyses, Foa, 1996, found the test-retest reliability of the PDS, using kappa, was .74, a chance-corrected measure of agreement. The percentage of agreement between two administrations was 87.3%, indicating good reliability. The diagnostic performance of the PDS was tested against the SCID, and a kappa of .59 was obtained, with 79.4% agreement between the two measures. The sensitivity of the PDS was 82.0%, and its specificity was 76.7%, indicating good agreement with the SCID. The PDS was found to have convergent validity with higher scores on the Beck Depression Inventory (BDI; Beck & Steer, 1987), higher scores on the State-Trait Anxiety Inventory (STAI; Spielberger, 1983) and higher scores on the Impact of Event Scale (IES; Horowitz, 1992).

**Repertory grid.** Participants were administered an adapted version of Kelly's (1955) Grid Form of the Role-Construct Repertory Test (repertory grid) via computer (Sewell, Adams-Webber, Mitterer, & Cromwell; 1992). The repertory grid was used as a technique for assessing conceptual structure (Fransella & Bannister, 1977) and elicited constructs which participants used to interact with their world. For the purposes of this research, the Life Events Repertory Grid (LERG) was administered (Sewell, 1991). The
LERG procedure, in which subjects sorted and labelled sets of life events according to systematic instructions, was then submitted to hierarchical classes analysis (HICLAS).

The elements of the LERG were 20 important, personally relevant events, positive and negative, at specific stages of life. The categories of the elements were provided to participants. The elements included: events from each stage of development preceding diagnosis; HIV diagnosis; and HIV-related health, friendship, disclosure, and discrimination events. The event descriptions used to elicit the elements are listed in Appendix E. Bipolar constructs were elicited from participants via the triad method (Kelly, 1955). The constructs were then applied to the elements of experience identified by each individual, in which HIV diagnosis was designated the traumatic event. This process is described more fully below.

The administration of the LERG consisted of the presentation of twenty different triads of the elicited elements to each participant. Five of the triads contained the identified traumatic event and two positive elements; five contained the traumatic event and two negative elements; five contained the traumatic event, a positive element, and a negative element; and the remaining five were composed of elements excluding the traumatic event. This administration most closely approximated that of previous research (Sewell, 1991). The LERG was completed by each participant and the researcher on a microcomputer, using an adapted version of OMNIGRID-PC Version 1.5 (Mitterer, & Adams-Webber, 1988; Mitterer, Adams-Webber & Sewell, 1989; Sewell et al., 1991). Each subject was prompted from the program, and their responses were entered by the researcher.
Using the technique proposed by Kelly (1955), as each of the twenty triads were presented, the participant was asked, "How are two of these alike in some important way in which they are different from the third?" (Kelly, 1955). The response obtained was defined as the "construct," or emergent pole. Each participant was then asked "What is the opposite of (the obtained construct)?" This response was defined as the "opposite," or implicit pole. Participants were asked to indicate whether the construct or the opposite was positively valued, and whether the other pole was "negative" or "less positive." The participants were then asked to identify which two of the triad elements were alike.

The LERG was numerically rated using a "Cromwell Format" (Sewell, 1991), in which each participant rated each element in terms of construct/opposite pairs, using a six-point Likert-type scale. Within the scale, a rating of 1 was assigned to the construct pole, and a rating of 6 corresponded to the opposite pole. The life events repertory grid thus represents a 20 x 20 rating matrix of each element on each bipolar construct.

Following the administration of the LERG, the data obtained in the grid was examined to determine the best fitting hierarchical model of the life events within each participants' construct system. HICLAS analysis was used to identify the rank of a model, determined by the number of subordinate classes subsumed. The best-fit model for all subjects was calculated from models ranking from 1 to 6 using HICLAS analysis (Sewell, 1991; De Boeck, 1988). The goodness of fit index (GOF; the replicability of the original matrix based on the hierarchical classes model; Sewell, 1991) determined the rank for final analysis by comparing across ranks and across subjects in both the PTSD and control groups. Level six was identified as the rank at which the levels of the GOF were
converging and leveling off, with the least within subject and within group deviation, and represents the rank from which the construct elaboration index was drawn.

The obtained data from the LERG and HICLAS analysis were used to derive distance, extremity, and elaboration scores, and to calculate the ranking and number of negative emergent poles (see Table 5, Appendix D). Distance scores constituted two categories, pre- and post-HIV diagnosis. Pre- and post-HIV diagnosis distance scores were obtained from the mean of the combination of all elements preceding HIV diagnosis, and the mean of all elements following the HIV diagnosis. Pre-trauma distance scores ranged from 9.96 to 18.19, with a mean score of 13.57. Post-trauma distance scores ranged from 6.12 to 16.27, with a mean score of 12.14. Extremity scores similarly constituted two categories, pre- and post-HIV diagnosis. Pre- and post-HIV diagnosis extremity scores were obtained from the mean of all elements preceding HIV diagnosis, and the mean of all elements following the HIV diagnosis. Extremity scores were calculated as the mean deviation from the midpoint of a scale of one to six for the value assigned to each construct for each of the twenty life events. Pre-trauma extremity scores ranged from 1.21 to 2.76, with a mean score of 2.25. Post-trauma extremity scores ranged from 1.34 to 2.74, with a mean score of 2.13.

The elaboration of the constructs was identified, using the designated traumatic and non-traumatic elements to locate the construct classes. The non-traumatic event used for analysis was the element stating "The best thing that happened to between the age of six and eleven," due to the lack of potential association with HIV and other traumas. An elaboration level was assigned to the traumatic event and to the non-traumatic event,
based on the HICLAS analysis. The level of elaboration was defined as the number of independent implicit construct classes associated with the index element (Sewell et al., 1996). Thus, the two index elements were the two events, (1) the best thing that happened to the participant between 6 and 11, and (2) the HIV diagnosis. The number of implicit constructs associated with each event calculated. The obtained range of the elaboration level of the HIV element was 1 to 7, and the mean elaboration of the HIV element was 2.97. The range of the elaboration of the control element was one to ten, and the mean elaboration of the control element was 4.35. The range of the number of negative emergent poles was 4 to 17, and the mean number of negative emergent poles was 12.27. The distance, extremity, and elaboration scores and the ranking and number of negative emergent poles were used as the criterion or dependent variables of interest.

Procedure

Subjects were recruited from Fort Worth and Arlington AIDS clinics and support groups by both the experimenter and the various HIV clinics’ staff. Data were gathered from participants recruited through community HIV facilities, including the Tarrant County AIDS Outreach Center, Samaritan Housing, and the Arlington AIDS Outreach Center. All subjects participated voluntarily and without any payment.

The majority of participants were drawn from the Tarrant County AIDS Outreach Center. The Center’s services include providing support groups, buddy programs, legal assistance, transportation, nutritional support, housing, counseling, and case management. Women utilizing the Center are primarily low income status (under $10,000), between 30 and 39 years old, and at varying points in illness progression. Recruitment from all sites
was primarily facilitated by the experimenter, who worked with site staff in accessing clients using facility services to provide prospective volunteers with information on the study. Site staff also coordinated with the experimenter to provide referrals. Due to lack of transportation, the majority of interviews were carried out in participant homes. Interviews had a minimum duration of two hours and a maximum of three hours.

After indicating a willingness to participate, subjects first completed an informed consent form, and were administered the demographic questionnaire, social support and PTSD measures, and the repertory grid. The SCID was used to determine group status using measure criteria as cutting scores. Due to the emotional nature of the material discussed, all participants were provided with a copy of their consent form, which included referral information for further therapeutic assistance, and post-participation time to share their emotions with the researcher.

Institutional Review Board (IRB) approval was obtained before beginning this project. American Psychological Association (APA) (1992) ethical guidelines were followed and informed consent was obtained from all participants prior to data collection (see Appendix F).

**Design**

This design was a cross sectional between-groups evaluation of elaboration in the HIV and non-HIV-related traumatic events among PTSD and non-PTSD participants. The scores obtained from the repertory grid served as dependent variables as they measured the construct elaboration of HIV and non-HIV-related traumatic events. Diagnostic status was the primary independent variable. The linear score of the PTSD measures, social
support, and demographic variables including mode of disease transmission, SES, marital status, number of children, abuse history, and frequency of traumatic events served as control and exploratory variables.
CHAPTER 3

RESULTS

Descriptive Analyses

Demographic variables scaled as interval variables included income, education, and age. Demographic variables that were not scaled as interval variables were recoded to binary categories for analysis by point biserial correlation. These binary categories included marital status, risk category of HIV transmission, and race. Race was coded one "1" for Caucasians and "0" for all others. The resulting variable was titled "Ethnicity." As sexual contact and IV drug use were the most frequent mode of transmission in the obtained sample, risk was coded "1" for "sexual contact," and "all other" groups were coded as "2" (including IV drug use, transfusion, exposure on the job, and sexual assault). "Married" was combined with "committed relationship" and coded as "1", and compared to "single," coded as "0."

The PDS severity score was treated as a continuous variable in correlation and regression analysis. The severity score was also recoded as a binary variable at the median for exploratory analysis of variance, covariance, and point biserial correlation. The resulting variable was coded "1" for severity scores of twenty-two or more and "0" for scores less than twenty-two.
The assessment of the correlation matrices did not identify variables requiring control in hypothesis testing analysis. Thus, the correlational findings are presented after the hypothesis testing results.

**Frequencies and means obtained.** Frequencies, means, and standard deviations of demographic variables are detailed in the Methods section, Demographics, and in Table 1 (Appendix D). Scores from the predictor and outcome measures are detailed in the Methods section. The obtained range of the availability of social support measure was 8 to 40, and the mean score was 27.83. The obtained range of the SCID was 1 to 3, and the mean score was 1.73 (see Table 3, Appendix D), a score of two being subthreshold for PTSD diagnosis. The obtained range of the PDS severity scores was 4 to 43, and the mean score was 22.72, the majority of the scores, 53.3, falling above 21 (see Table 4, Appendix D). The mean score falls in the moderate to severe range of PTSD symptom severity.

Distance, extremity, elaboration scores, and number of negative emergent poles are presented in Table 5 (Appendix D). Pre-trauma distance scores ranged from 9.96 to 18.19, with a mean score of 13.57. Post-trauma distance scores ranged from 6.12 to 16.27, with a mean score of 12.14. Distance scores in this context are the distance between elements within the 20 x 20 repertory grid. Pre-trauma extremity scores ranged from 1.21 to 2.76, with a mean score of 2.25. Post-trauma extremity scores ranged from 1.34 to 2.74, with a mean score of 2.13. The obtained range of the elaboration level of the HIV element was one to seven, and the mean elaboration of the HIV element was 2.97. The range of the elaboration of the control element was one to ten, and the mean
elaboration of the control element was 4.35. The range of the number of negative emergent poles was four to seventeen, and the mean number of negative emergent poles was 12.27.

**Hypothesis-testing Analyses**

**Hypothesis 1.** This hypothesis was tested using an analysis of covariance (ANCOVA) and multiple regression. HIV+ women with PTSD (SCID PTSD criteria, independent variable) were predicted to have a lower level of elaboration of implicit trauma-related constructs (ELAHIV12, dependent variable) than HIV+ women without PTSD. The groups were first compared using an ANCOVA, covarying a non-trauma construct elaboration level (labeled ELACON3, elaborated control item number 3). The covariance controlled for the differences between the groups on the non-trauma construct elaboration scores. The PTSD group trauma construct elaboration scores were not found to be significantly different from the non-PTSD group via ANCOVA when covarying the non-trauma construct elaboration level, $F(1, 57) = .32, p = .57$. The PTSD group was also not found to differ significantly from the non-PTSD groups via ANOVA on the trauma construct elaboration level, $F(1, 58) = .38, p = .54$.

Multiple regression, in which the non-trauma construct elaboration (ELACON3) level was entered first and the trauma construct elaboration (ELAHIV) level was entered second, was used to assess the unique variance attributable to elaboration levels on the level of PTSD symptom severity. The elaboration levels did not make an additional unique contribution, $R^2 = .003$, adjusted $R^2 = -.03, p = .93$ (Table 13), when controlling
for the non-trauma construct elaboration level. A one-tailed test was used given the direction of the relationship was predicted.

Hypothesis 2. This hypothesis was tested using an ANOVA and multiple regression. It was predicted that HIV+ women with PTSD would construe traumatic events as less far apart, or distinct, from other negative life events than non-PTSD subjects. The PTSD and non-PTSD groups (SCID PTSD criteria, independent variable) were first compared on pre- and post-trauma distance scores, and total distance scores (PRDSSCR, pre-trauma distance score, and POSTDSSC, post-trauma distance score, dependent variable) from the repertory grid using an analysis of variance (ANOVA). The PTSD group was found to be significantly different from the non-PTSD group, pre-trauma distance score $F(1, 58) = 8.55, p = .005$, post-trauma distance score $F(1, 58) = 7.17, p = .01$, total distance score $F(1, 58) = 10.82, p = .002$. All distance scores were significantly higher for the PTSD group than the non-PTSD group, rather than lower, as hypothesized. The PTSD and non-PTSD groups were then compared on the post-trauma distance score using an ANCOVA, covarying the pre-trauma distance score. The covariance controlled for the differences between the pre-trauma distance scores in PTSD and non-PTSD participants. The PTSD group was not found to be significantly different from the non-PTSD group, $F(1, 57) = 1.96, p = .17$.

Multiple regression, in which the pre-trauma distance score level was entered first and the post-trauma distance score level was entered second, was used to assess the unique variance attributable to distance score levels on the level of PTSD symptom severity. The distance score level did not make an additional unique contribution, $R^2 =$
.10, adjusted $R^2 = .07$, $p = .30$ (Table 15), when controlling for the pre-trauma distance score. A one-tailed test was used given the direction of the relationship was predicted.

Hypothesis 3. This hypothesis was tested using an ANOVA and multiple regression. It was predicted that PTSD participants would be more likely to have extreme evaluations of life events than non-PTSD participants. The extremity scores were averaged (Table 5), to yield a pre-trauma and post-trauma PTSD extremity index (PREEXT, POSTEXT, dependent variable, Cromwell & Caldwell, 1962). The PTSD group was found to be significantly different from the non-PTSD group, pre-trauma $F (1, 58) = 10.63$, $p = .002$, post-trauma $F (1, 58) = 23.20$, $p < .001$. Pre- and post-trauma extremity scores were significantly higher for the PTSD group than the non-PTSD group, as hypothesized. The PTSD and non-PTSD groups were then compared on the post-trauma extremity score using an ANCOVA, covarying the pre-trauma extremity score. The covariance controlled for the differences between the pre-trauma extremity scores in PTSD and non-PTSD participants. The PTSD group was still found to be significantly different from the non-PTSD group, $F (1, 57) = 10.771$, $p = .002$, on post-trauma extremity.

Multiple regression, in which the pre-trauma extremity score level was entered first and the post-trauma extremity score level was entered second, was used to assess the unique variance attributable to the extremity score on the level of PTSD symptom severity. The level of extremity score made an additional contribution, accounting for 3 percent of the total variance in the post-trauma extremity score, $R^2 = .35$, adjusted $R^2 =$
.33, p = .0001 (Table 14), when controlling for the pre-trauma extremity score. A one-tailed test was used since the direction of the relationship was predicted.

**Hypothesis 4.** This hypothesis was tested using an ANOVA and multiple regression. It was predicted that HIV+ women with PTSD would have a greater frequency of negative ratings assigned to the emergent poles than non-PTSD participants. The mean frequency of negative ratings assigned to emergent poles (NEGEMERG, dependent variable) in both PTSD and non-PTSD (SCID PTSD criteria, independent variable) participants was identified. The PTSD group was found to be significantly different from the non-PTSD group, mean negative emergent poles ratings F (1, 58) = 6.31, p = .02. Mean negative emergent pole frequencies were higher in the PTSD group, as hypothesized.

Multiple regression was used to assess the variance attributable to the frequency of negative ratings on the PDS severity scale. The frequency of negative ratings made a unique contribution, accounting for .04 percent of the total variance on the level of PTSD symptom severity, R² = .17, adjusted R = .16, p = .001 (Table 16). A one-tailed test was used since the direction of the relationship was predicted.

**Correlations among demographics.** Obtained correlations (r > .25, p < .05), as shown in Tables 6, 7, and 8 (Appendix D), were evaluated. Age was negatively correlated with being married, and positively correlated with education, having children, recency of diagnosis, and mode of HIV transmission (RISK). Older women were more likely to be single and to be more highly educated, to have less children, and to have contracted HIV through IV drug use, transfusions, or on the job contact. Education was also positively
correlated with income, and negatively with mode of risk. Thus, more highly educated women were more likely to have contracted HIV through sexual transmission.

Women with children were more likely to have been sexually assaulted during childhood and adulthood. Sexual assault during childhood was also positively correlated with income; women having been assaulted were more likely to have higher incomes. Women reporting a history of domestic violence or a less recent HIV diagnosis were more likely to have contracted HIV through IV drug use, transfusions, or on the job contact. Finally, women who were currently seeking therapy were more likely to have less income, which may have been a function of the availability of low cost therapy through the facilities sampled.

Correlations of demographics with predictor and outcome measures. Obtained correlations between the demographic variables and predictor and outcome measures are presented in Tables 9, 10, and 11 (Appendix D). Some intercorrelations ($r > .25$, $p < .05$) between variables were present. As shown in Tables 9, 10, and 11 (Appendix D), the availability of social support, mode of HIV transmission, and education were intercorrelated. This finding suggests that more highly educated women were more likely to have contracted HIV through sexual transmission and to have higher levels of social support available. In addition, social support was positively correlated with income and negatively correlated with a history of childhood sexual assault and current participation in therapy. Thus, women reporting higher levels of available social support were more likely to have higher income, and less likely to have been sexually assaulted or to be currently in therapy.
The level of PDS symptom severity was negatively correlated with income ($r = -0.28, p < 0.05$). Thus, women reporting lower levels of income reported greater severity of symptoms of avoidance, intrusion, and hyperarousal associated with PTSD. The number of traumatic events identified on the PDS was totalled to create the variable, frequency of trauma. The frequency of traumatic events was also negatively correlated with income ($r = -0.35, p < 0.01$), indicating that women reporting lower income were more likely to have experienced a greater number of traumatic events. Interestingly, neither PDS severity nor SCID PTSD criteria were correlated with the reported frequency of trauma. There were no other significant correlations obtained between demographic variables and the SCID PTSD criteria. This suggests that the remaining demographic variables did not confound the relations among variables obtained from HICLAS analysis of the LERG with PTSD diagnosis. No controls of demographic variables were deemed necessary in hypotheses testing between HICLAS variables and PTSD and non-PTSD groups.

The number of negative emergent poles (NEGEMERG) was negatively correlated with participation ($r = -0.23, p < 0.05$) in therapy, thus, women ascribing greater numbers of negative valences to events were less likely to currently be in therapy. This finding may represent a tendency to emphasize and accept a pervasive view of negative life events associated with HIV, rather than seek therapy. Both pre- and post-trauma extremity scores (POSEXTSC and PREEXTSC) were positively correlated with IV drug use as the mode of HIV transmission ($r = 0.25, p < 0.05$, $r = 0.4, p < 0.01$), and negatively correlated with sexual contact as the mode of HIV transmission ($r = -0.27, p < 0.05$, $r = -0.31, p < 0.01$). The correlation with extremity scores suggests women reporting IV drug use transmission
were more likely to evaluate events in extreme terms, whereas those reporting sexual
transmission were more likely to interpret events as having less relative salience. The
level of elaboration of the HIV event, diagnosis, was positively correlated with age,
recency of diagnosis, and mode of HIV transmission. This suggests that for older women
less recently diagnosed having IV drug use-related, on the job, or transfusion-related HIV
transmission, being diagnosed with HIV was more likely to be labelled with constructs
the meaning of which could be more freely used in association with other constructs.
Higher levels of elaboration imply the integration of the construct system by the
individual giving the experience meaning in relation to other life events and the
construction of the self.

**Correlations among LERG variables and between LERG variables, social support, PDS severity scores, and SCID PTSD diagnosis.** A correlation matrix was computed to
determine relationships among the HICLAS variables of distance, extremity, elaboration,
and negative emergent poles, and between HICLAS variables, social support, PDS
severity, and SCID PTSD diagnostic criteria. The results are presented in Table 12
(Appendix D).

Scores derived from the LERG included pre- and post-trauma distance scores,
pre- and post-trauma extremity scores, degree of elaboration of HIV diagnosis event
number 12 (ELAHIV12), and elaboration of control event number 3 (ELACON3), and
number of negative emergent poles (NEGEMERG). As anticipated, pre- and post-trauma
distance scores were intercorrelated ($r > .52, p < .01$), and pre- and post-trauma extremity
scores were intercorrelated, ($r > .57, p < .01$) due to being drawn from the total distance
and extremity scores, respectively. Similarly, the degree of elaboration of the trauma event and the control event were intercorrelated ($r = .3, p < .05$). The number of negative emergent poles, pre- and post-trauma extremity, and pre- and post-trauma distance scores were intercorrelated ($r > .25, p < .05$). Thus, women ascribing greater numbers of negative valences to events were more likely to evaluate events in extreme terms and to perceive them as more distant from other events. The significant intercorrelations found among LERG variables indicates that the LERG variables share a significant amount of variance.

LERG negative emergent poles, extremity scores, and distance scores were positively correlated with PDS symptom severity ($r > .26, p < .05$). Negative emergent poles and extremity scores were negatively correlated with available social support ($r > -.26, p < .05$). The availability of social support was also negatively correlated with meeting the diagnostic criteria for PTSD as identified by the SCID ($r > -.37, p < .01$), and with the level of severity of symptoms related to PTSD identified by the PDS ($r > -.31, p < .01$). Thus, women reporting lower levels of available social support were more likely to have a greater number of symptoms of avoidance, intrusion, and hyperarousal, and to meet the diagnostic criteria for PTSD. Meeting the SCID criteria for PTSD was correlated ($r = .57, p < .01$) with the PDS severity scale. The recoded PDS dichotomous variable was correlated ($r = .61, p < .01$) with the SCID PTSD criteria.

**Correlations of Avoidance, Intrusion, and Hyperarousal Subscales.** The PDS and the SCID scores were also grouped by content category to create subscales of "Avoidance, Intrusion, and Hyperarousal." Scores on the Avoidance, Intrusion, and
Hyperarousal PDS and SCID subscales were examined for correlation. Scores on the subscales of the PDS measure were found to be correlated overall to the severity score, Avoidance (r = .85, p < .01), Intrusion (r = .75, p < .01) and Hyperarousal (r = .75, p < .01). The subscales were correlated with each other (all r's > .29, p < .01). Intrusion was correlated with Avoidance (r = .50, p = .01) and Hyperarousal (r = .38, p < .01), and Avoidance was correlated with Hyperarousal (r = .41, p < .01). Clearly, the intercorrelations illustrate the syndromal nature of the traumatic stress response, justifying the use of the entire scale rather than its subscales, in analysis. Possibly due to the dichotomous scoring system of the SCID, scores on the subscales of the SCID measure were found to be correlated less highly overall to the PTSD diagnosis, Avoidance (r = .71, p < .01), Hyperarousal (r = .54, p < .01); Intrusion did not achieve significance. The subscales were also not consistently correlated with each other. Intrusion was not correlated with Avoidance, and was only moderately correlated with Hyperarousal (r = .24, p < .05), and Avoidance was correlated with Hyperarousal (r = .33, p < .01).

PDS and SCID avoidance subscale scores were positively correlated (r > .26, p < .01) with LERG variables of negative emergent poles, pre- and post-trauma extremity, and pre-and post-trauma distance scores. The PDS intrusion subscale was positively correlated (r > .31, p < .01) with negative emergent poles, pre- and post-trauma extremity, and post-trauma distance scores, but not with pre-trauma distance scores. The correlation between the avoidance subscales and HICLAS variables suggests that an increase in PTSD avoidance symptoms accompanies an increase in negative valence attribution,
salience of events, and perceived distance between events. The correlation between the PDS symptoms of intrusion and LERG variables reflects, in part, the re-experiencing of a traumatic event and its association with an increase in the negative attribution of an event, its salience, and the perception of events following the traumatic event as being more distant from each other.

Exploratory Analyses

Exploratory analyses were conducted to examine associations not included in the original hypotheses. Increased cognitive complexity, associated with more sophisticated construct organization, is present in the grid in the form of intercorrelation among grid constructs. It was conjectured that the PTSD group (SCID PTSD criteria, independent variable) might have a higher degree of intercorrelation among grid constructs, indicating a lesser degree of variety in construing. The PTSD and non-PTSD groups were compared on the number of constructs that underlay the constructs of the grid (the degree of intercorrelation among grid constructs), or intensity of the grid (dependent variable), using an ANOVA. The PTSD group did not differ significantly from the non-PTSD group, $F (1, 58) = .74$, $p = .39$ (mean PTSD = 10,445.18, standard deviation = 3877.86, mean non-PTSD = 9650.25, standard deviation = 3178.79).

It was theorized that the PTSD groups (SCID PTSD criteria, independent variable) would have a lower perceived level of available social support (dependent variable). PTSD and non-PTSD groups were compared using an ANOVA. The PTSD group had a significantly lower level of available social support, $F (1, 58) = 9.26$, $p = .004$
(mean non-PTSD social support = 31.18, standard deviation = 10.59, mean PTSD social support = 22.05, standard deviation = 12.23).

The PDS severity score was recoded using a median split at 22. The recoded PDS severity score identified 56.7% of the participants as scoring at least 21, in the moderate to severe severity range, and 43.3% in the moderate range. It was considered that the PDS severity score (even when dichotomized) might be a more applicable measure of PTSD symptoms, 56.7% of the total sample, than the dichotomous variable of the SCID PTSD criteria, 36.7% of the total sample. HIV+ women with moderate to severe PTSD symptom severity (PDS recoded dichotomous variable, independent variable) were then predicted to have a lower level of elaboration of implicit trauma-related constructs (ELA(HIV12, dependent variable) than HIV+ women with moderate PTSD symptom severity. The groups were first compared using an ANCOVA, covarying a non-trauma construct elaboration level (ELA(CON3). The covariance controlled for group differences between the non-trauma construct elaboration scores. The moderate to severe PTSD symptoms group trauma construct elaboration scores were not found to be significantly different from the moderate symptoms group, $F (1, 57) = .48, p = .49$ (mean moderate = 3.50, standard deviation = 1.61, mean moderate to severe = 2.80, standard deviation = 1.33).

The mean frequency of trauma for the sample was 3, number of traumas ranging from 1 to 7. The frequency of trauma was recoded as a dichotomous variable at the mean; $\leq 3$ or less traumas designated the low trauma group, and $\geq 4$ traumas as the high trauma group. Hypotheses one through four were tested via ANCOVA and ANOVA, substituting
trauma frequency group as the independent variable. Hypothesis one was first tested, and groups were compared using an ANCOVA, covarying a non-trauma construct elaboration level (ELACON3). The high trauma frequency group construct elaboration scores were found to be significantly different from the low trauma frequency group, $F(1, 57) = 4.10$, $p < .05$ (mean high trauma = 3.33, standard deviation = 1.47, mean low trauma = 2.52, standard deviation = 1.22). Hypotheses two, three, and four did not yield significant differences when using high versus low trauma frequency as an independent variable.

Multiple regressions for each of the hypotheses were performed, adding each of the LERG variables, distance scores, extremity scores, and negative emergent poles, and the PDS severity score to each regression. None of the multiple regressions were found to be significant.
CHAPTER 4

DISCUSSION

The purpose of this study was to test some basic hypotheses of Sewell and Cromwell's (1990) personal construct (Kelly, 1955) model of PTSD in HIV+ women both with and without diagnoses of PTSD. The study specifically sought to examine the personal construct model in HIV+ women with regard to the degree of elaboration of traumatic events. In addition, the study examined the personal construct model with regard to the frequency with which emergent constructions are ascribed negative valences and negative events are given extreme evaluations. Assessments identified positive and negative HIV and pre-HIV diagnosis events for women, the incidence of PTSD and the level of PTSD symptom severity. Findings provided evidence that a clinical diagnosis of PTSD in women with HIV was not associated with the degree of construct elaboration. Additionally, this study provided evidence that PTSD in this sample was associated with traumatic events being perceived as more distinct from other negative events. Finally, this study provided evidence that negative emergent construing and extreme evaluations of events were associated with PTSD. The discussion that follows presents, first, a discussion of the present study's specific findings (clinical implications of the obtained results are also discussed). Next, implications for future research are offered; and the role of additional factors in the PTSD model are identified. Finally, implications of the results for the personal construct model are addressed.
Hypothesis 1, that a lower level of elaboration of implicit trauma-related constructs would be associated with PTSD in HIV+ women, was not supported. Women meeting the criteria for PTSD did not report lower levels of elaboration of the implicit poles of the HIV trauma construct than women without PTSD. This suggests that the HIV diagnosis was not unintegrated, or construed as an isolated trauma subsystem in the women sampled. Results support the lack of association between elaboration and PTSD found by Moes-Williams (1997) in female survivors of sexual assault.

The disparity between these results and those previously obtained with Vietnam veterans and victims of violence (Sewell, 1991, 1996; Sewell et al., 1996) may be due to the type of negative events identified by participants. HIV-related traumatic events may qualitatively differ from events associated with military conflict or violence, due in part to their primary association with personal "injury" rather than injury of others, and inability to flee the life threatening nature of infection experienced by women with HIV.

In addition, the severity of symptoms did not account for a unique portion of the variance in the elaboration of the HIV trauma event. Earlier research by Sewell (1991) in a more restricted sample of Vietnam veterans also failed to obtain significance when the severity of symptoms was related to the level of trauma construct elaboration. Unlike the sample of veterans, this study sampled a greater cross section of level of PTSD symptoms, due to its lack of restriction to hospitalized or significantly impaired individuals, and its inclusion of persons living in the community. The study sampled a cross section of age, recency of diagnosis, recency of trauma events, and amount of exposure to trauma related events. The sample was also made up of voluntary
participants, which may have added both a desire to discuss their experiences and a
degree of understanding of ongoing symptoms. Thus, current results, derived from a
broader sample, supported earlier findings that symptom severity is not associated with
elaboration levels.

Elaboration of the construct system is the primary element of Sewell and
Cromwell’s (1990) model. The results of its investigation through hierarchical analyses
may differ from previous research for several reasons. Women may have higher
frequencies of negative interpersonal events (Jones, 1996; Pergami et al., 1993; Sherr et
al., 1993) than male Vietnam veterans, events that may require different cognitive
construction than situational non-social events. These findings may imply a qualitative
difference in cognitive processing of social stressors and violent stressors. In addition,
men and women may differ in their responses to negative events or the precursors to
PTSD. They may also evaluate differing types of events as negative, due to individual
(reviewed in Janoff-Bulman, 1992; reviewed in Wilson & Raphael, 1993) or gender
differences (Gilligan, 1982).

Results of the elaboration analysis may also have been influenced by the positive
association between the level of elaboration of HIV diagnosis and the date of diagnosis.
The greater length of time since diagnosis may have allowed participants more time to
integrate the HIV construct (Starr et al., 1992), although HIV diagnostic recency was not
associated with PTSD diagnosis or PTSD symptom severity. The higher level of
elaboration of the HIV construct may be the result of assimilation and accommodation to
HIV due to repeated confrontation with HIV events, in support of previous literature
(Creamer et al., 1992). Similarly, the frequency of trauma was positively associated with the recency of diagnosis and degree of elaboration, and uncorrelated with PTSD or symptom severity, perhaps indicating integration of the HIV construct when experienced in conjunction with multiple traumas over time. Finally, the current study examined participants with more varied recency of trauma than those found in combat veterans (Sewell, 1991), while similar to those found in rape survivors (Moes-Williams, 1994). Vietnam veterans' PTSD symptoms persisted for greater lengths of time, which may represent a difference in adjustment from that identified in women with more recent diagnoses or sexual assault.

Hypothesis 2, that traumatic negative life events would be construed as less far apart from other negative life events in HIV+ women with PTSD was not supported. In contrast, events both prior and subsequent to diagnosis were significantly more distinct, or far apart, for women with PTSD than for those not meeting the criteria for PTSD. This finding may stem from the characteristics of the sample, and differences between the current and previous samples. Traumatic events identified by participants were disparate, ranging from sexual assault in childhood to domestic violence, rape, disasters, accidents, imprisonment, HIV diagnosis, and the deaths of friends and family members. Earlier studies (Sewell, 1991; 1996; Sewell et al., 1996) of Vietnam veterans and victims of violent crime may not have included high frequencies of individuals with numerous and varied traumatic events before and after the index trauma. In contrast, the severity of symptoms did not account for a unique portion of the variance in the distance between events.
Results of the distance score hypothesis may be explained in part by the association between distance scores and other variables. Post-trauma distance scores were associated with increased incidence of domestic violence and IV drug use, and lower levels of social support. Current poverty guidelines have established $7,890 as the poverty level for an individual. Nearly 62% of women sampled had an income of $8,000 or less, and 65% of the entire sample had at least one dependent child. Low SES female patients infected with HIV may face unemployment, crime, and problems in securing shelter, food, and protection (Kalichman, Hunter, & Kelly, 1992) due to limited finances, rejection, lack of supports, risky neighborhoods, suicidal ideation, and poor health (Rose, 1993). Women diagnosed as HIV+ may then have to reveal illicit drug use, past sexual behavior, and face the social stigma associated with HIV. Clearly, events both pre- and post-HIV diagnosis may be more varied and as such identified as more distinct from each other in the current participants with PTSD than in those sampled in previous research.

Hypothesis 3, that extreme evaluations of life events would be associated with PTSD diagnosis in women with HIV, was supported. Women meeting the diagnostic criteria for PTSD were found to report more extreme evaluations of life events than women without PTSD. Results support previous literature in Vietnam veterans (Sewell, 1991) that extreme evaluations of negative events are associated with PTSD. The severity of symptoms also accounted for a unique portion of the variance in the extremity ratings of events.

The hypothesized results of extremity ratings may be also be due to the association with heightened symptoms of avoidance, intrusion, and arousal identified
with PTSD, which may generate more extreme evaluations of events. In addition, an extended history of negative life events both prior and subsequent to HIV diagnosis may contribute to the symptomatology underlying the PTSD diagnosis, compounding the level of traumatic stress severity reported, the likelihood of PTSD diagnosis, and the level of extremity. High post-trauma extremity scores were associated with lower levels of education, IV drug use, and lower levels of available social support. The association with lower education and IV drug use may be artifacts of lower levels of social support. Less social support may negate the potential for higher education, and IV drug use and HIV may reduce the potential for social support. Women may also be more vulnerable to extreme evaluations following an HIV+ diagnosis as additional traumatic stressors may arise and affect their efforts to cope. They may respond with negative coping strategies, such as emotion based or avoidant coping due to the scarcity of the resources available to them (reviewed in Jenkins & Coons, in press). These findings suggest that a combination of preexisting adversity and vulnerability to traumatic distress in HIV+ women may be associated with extreme evaluations of events.

Hypothesis 4, that the frequency of negative ratings assigned to emergent poles would be associated with PTSD diagnosis in HIV+ women, was supported. Women meeting the diagnostic criteria for PTSD were found to report a higher number of negative ratings for emergent constructs elicited than women without PTSD. Results of the negative valence measure indicate a predisposition to evaluate events negatively, in support of previous literature regarding bias to threat, the development of fear networks (Chemtob et al., 1988; Foa et al., 1989; Litz & Keane, 1989) and negative schemas
(McCann et al., 1988) based on prior experiences (Green et al., 1985). Higher numbers of negative evaluations was also associated with lower levels of available social support and use of therapy, which may also support theories of learned helplessness (Abramson et al., 1978) in response to negative events. The severity of symptoms also accounted for a unique portion of the variance in the negative ratings for constructs.

Overall, results suggest that HIV+ participants with PTSD were more likely to approach events with negative expectations. HIV participants with PTSD were more likely to evaluate events as more extreme and to see HIV diagnosis as more distinct from other negative experiences than participants not meeting the criteria for PTSD. There are a variety of explanations for disparity between the obtained results and previous research.

Less available social support was associated with higher distance and extremity scores, and negative emergent construing. This suggests that participants with less social support are more likely to evaluate events negatively and more extreme, and to perceive them as more distinct from other life events. Results also suggest that higher levels of available social support are associated with lower incidence of PTSD and symptoms of avoidance in HIV+ women, in support of existing literature on the mediating role of social support, coping, perceived control, and personal responsibility in the alleviation of PTSD symptoms (Baum, 1990). Interestingly, social support was not associated with being married or in a committed relationship. Anecdotal information from participants identified partners, families of origin, friends, and neighbors as sources of social support.

Overall, the frequency of trauma was associated with previous domestic violence and sexual abuse, earlier time of diagnosis, and lower income. The obtained association
between the frequency of trauma and income supports previous literature regarding the relationship of increased stressors with poverty (Kalichman et al., 1992). Higher income was associated with increased levels of social support and higher levels of education, whereas lower income was associated with higher levels of severity of PTSD, and higher levels of associated symptoms of PTSD. Thus, low income women were more likely to have higher numbers of traumatic events and levels of PTSD symptoms. Individuals diagnosed earlier were naturally exposed to a higher number of negative events and a greater degree of stress over time (Jones, 1996). Longer term financial strain may be associated with more pervasive and lengthy negative life events in lower income women. The identification of traumas occurring throughout the lifetime underscores the fact that although these women may adapt to trauma, they may be repeatedly confronted with new stressful events. The number of traumas identified by participants results indicates that these women may be experiencing the type of repeated confrontation with trauma postulated by Baum (1990) which are associated with chronic stress.

Results of the study support previous research (Duffy, 1994; Jones, 1996; Miller & Belak, 1993; Pergami et al., 1993; Sherr et al., 1993) regarding the association between traumatic distress, PTSD, and HIV. Major HIV-related stressors identified by all participants included HIV diagnosis, HIV-related health, friendship, disclosure, and discrimination events. The high incidence of PTSD in participants, 36%, and frequency of moderate to severe symptoms, 53.5%, may be due in part to the high frequency of HIV-related symptoms, 96.6%, and the recency of diagnosis, 36.7% having less than three
years since initial diagnosis (Starr et al., 1992). Clearly, the psychological and
physiological impact of HIV on the individual should not be underestimated.

Finally, results obtained in the study may reflect weaknesses present in the sample
including; the cross sectional status of disease progression, the variability in date of
disease diagnosis, and recency of symptoms. In addition, reliance on self report may have
affected the accuracy of information pertaining to educational achievement, income,
"marital" status, and mode of transmission due to issues surrounding the receipt of social
security or federal assistance payments that are contingent on income and "marital" or
partner status, and in some instances, abstinence from illegal drug use.

Clinical Implications

The high incidence of PTSD in participants in this research underscores the
importance of social support in low income women confronting traumatic events.
Interventions, both individual and group, that encourage women to develop networking
skills and increase their levels of personal disclosure and communication are essential in
this and similar populations. The use of expressive/supportive therapy may assist HIV+
women with PTSD symptoms to process and integrate events that have been construed as
separate or distinct from other life events. Similarly, therapies may be helpful that allow
HIV+ women to express and cognitively reframe their experiences in a normalizing
context, allowing the traumatic experience and subsequent events to be reconstrued as
less negative and extreme.

Directions for Further Research
This research examined the personal construct model of PTSD in HIV+ women. Results are consistent with a hypothesis that PTSD may be manifest in differing forms according to the type of trauma associated with its occurrence. Thus, additional research is needed that investigates different types of traumas, to facilitate further comparison between theories. A more focused analysis is needed to address the measurement of cognitive processing as it relates to specific types of events. The examination of multiple traumas remains problematic. The PDS and SCID PTSD measure the magnitude of overall symptoms of traumatic distress to identify pathological distress rather than responses to specific events. Thus, the measures may also reflect the processing of life events and HIV events other than the HIV diagnosis, in contrast to studies of combat veterans and victims of violent crime. It is potentially difficult for multiply traumatized individuals to identify the impact of a specific event on their experience of traumatic distress. Responses such as startle reactions, difficulty sleeping or concentrating, watchfulness and irritability may reflect the overall influence of a variety of life-threatening events. In this way, elaboration of an event as a measure of cognitive processing may be obscured by the influence of extraneous events.

Investigation of the role of coping and social support in the development of PTSD remains merited. Social support was related to a variety of variables in the present study. Traumatic distress associated with partners' and friends' deaths from AIDS may reduce social support and encourage women to become more isolative, a symptom of PTSD. The current research supports existing literature regarding HIV+ women’s self-isolative behavior (Beevor and Catalan, 1993; Fullilove, 1989; reviewed in Jenkins & Coons, in
Analysis of issues related to anxiety may more clearly identify alternative factors in PTSD diagnosis. Normal anticipatory anxiety may have been identified as PTSD, and affected the level of traumatic distress reported by some participants. Current participants may have been experiencing realistic anxiety specific to HIV regarding the contraction of an opportunistic infection, the terminal progression of HIV, and issues related to the future of their children. Participants may have been classified as having PTSD as a function of avoidance of others due to infection, sleeplessness due to medication, cognitive impairment due to HIV-related dementia, and feelings of foreshortened future due to having a terminal illness. In addition, research examining the role of the symptoms of PTSD, such as avoidance, sleep disturbances, and recurring exposure to traumatic memories, in the assimilation of traumatic events may further contribute to understanding of the pathogenesis of PTSD as a disorder. The phenomenon popularly referred to as "denial" in treatment appears to represent a subthreshold presentation of the symptoms of PTSD. Investigation of the role of denial in the assimilation and accommodation of negative information may identify positive and healthy aspects of early response to trauma, prior to the onset of pathological symptoms of PTSD.

Denial appears to be an immediate mechanism of defense in response to a traumatic event. Initially, denial and repression may be functional responses, designed to act as primary defense mechanisms. In hospital settings, patients suffering from severe injury, illness, and loss are reminded that emotional consequences such as shock, denial,
depression, anxiety, and fear are normal reactions to trauma. Symptoms of denial and intrusion immediately following hospital admission of victims of terrorist attack failed to predict PTSD and were not correlated with psychiatric symptoms at the time of follow-up (Shalev, 1992), supporting the potentially functional role of the early denial coping mechanism. Denial may thus represent a healthy separation of affect and cognition, during which time the individual is able to disavow cognition and repress concomitant emotion in an effort to facilitate adaptation and provide relief. It may be that avoidance and denial strategies are less mature coping and defense mechanisms used in dealing with stressors, unless they are utilized temporarily to allow the individual to withdraw from an overwhelming stressor and use time to identify a more mature response.

Stress responses occur between normal adaptive responses and severe pathology. Responses may be chronic or episodic, and worsened by exposure to new traumatic stressors. Denial may rest at the initial stage of a continuum of response to trauma, ranging across obsessive compulsive behaviors, post-traumatic stress disorder, and dissociative disorders. Coping strategies of denial and suppression characterize those having sustained (40 years) military trauma with symptoms of anxiety, depression, and somatic concerns. In POW populations, more active coping strategies have been associated with lower PTSD and psychiatric symptoms, while those coping by denial and detachment were more likely to have higher symptoms. In patients with HIV, increased use of active coping and decreased use of denial and avoidance strategies may predict emotional well-being, and social and physical functioning.
When denial continues over time and becomes established cognitively as a sole coping response, it is deemed maladaptive and may resolve as a psychological disorder. The pathological use of denial occurs when the individual uses the denial coping mechanism to completely avoid any evaluation of the traumatic stressor or when denial fails to reduce levels of trauma-related anxiety over time and symptoms result. Therapies with victims of violence or military conflict involving supportive treatment, confrontation with the traumatic stressor, and fostering adaptive processes to influence control processes have been found to reduce denial and detachment and increase mature, adaptive, or positive coping. In patients with HIV, cognitive behavioral stress management has been associated with reduced denial and avoidance coping immediately following HIV diagnostic notification and in the adjustment period following initial diagnosis.

An ongoing study that identifies the influence of denial of an AIDS diagnosis on adaptive coping in women may represent the next logical study arising from the present research. Pre- and post-intervention study data are being drawn from female participants in the SMART/EST Women's Project, a cognitive behavioral and relaxation training approach to stress management, which incorporates an expressive/supportive therapeutic component.

Results of the study will be evaluated with reference to the following hypotheses: 1) higher levels of denial will be associated with less recent diagnosis, 2) a higher level of denial in women with less recent diagnoses will be associated with decreased coping, and
3) the intervention will be associated with reduced levels of maladaptive coping and increased productive coping in women with AIDS.

The present paper presents specific information regarding personal construct theory and PTSD in HIV+ women, and highlights the need for further research to better understand the role of cognitive processing and PTSD in diverse populations. PTSD is a resilient disorder that often necessitates specialized therapy to facilitate recovery. Results suggest the need for initiatives designed to assist both the therapist and patient in developing strategies aimed at reducing traumatic symptomatology and assisting the patient in the process of working through their diagnosis.
APPENDIX A

DEMOGRAPHICS
Demographics

A. Today's Date________________________ B. What is your age?________________________
1. Date of your HIV diagnosis______________________________________________________
2. Have you experienced symptoms of HIV/AIDS? 0) No 1) Yes
   Please describe_______________________________________________________________
   1) __________________ Date of most recent symptoms
3. What was your major reason to be at risk for HIV? (check as many as apply to you)
   1) sexual contact 2) IV drug use
   3) transfusion 4) exposure on the job
   5) sexual assault 6) other, please write:

4. Are you married or in a committed relationship? 0) Single
   1) Committed relationship 2) Married
5. Are you currently pregnant? 0) No 1) Yes
   2) Maybe, don't know
6. Do you have children? 0) No 1) Yes
   2) How many? 3) Maybe, don't know
7. Are any of your children HIV+? 0) No 1) Yes
   2) Maybe, don't know
8. What is the highest year of school or degree you completed?

9. What is your approximate income per year?

10. In which ethnic group do you usually place yourself? (check one)
    1) Asian 2) African American
    3) Hispanic/Latina 4) White
    5) Native American 6) Other, mixed
11. Are you seeing a counselor or therapist for personal problems? 0) No 1) Yes
12. Are you a survivor of sexual assault during childhood? 0) No 1) Yes
13. Are you a survivor of sexual assault during adulthood? 0) No 1) Yes
14. Are you a survivor of domestic violence? 0) No 1) Yes
APPENDIX B

LIFE EVENTS DESCRIPTION
Life Events Description

1. What was the best thing that happened to you between birth and age 5?
2. What was the worst thing that happened to you between birth and age 5?
3. What was the best thing that happened to you between age 6 and 11?
4. What was the worst thing that happened to you between age 6 and 11?
5. What was the best thing that happened to you between age 12 and 15?
6. What was the worst thing that happened to you between age 12 and 15?
7. What was the best thing that happened to you between age 16 and 18?
8. What was the worst thing that happened to you between age 16 and 18?
9. What was the best thing that has happened to you prior to your diagnosis?
10. What was the worst thing that has happened to you prior to your diagnosis?
11. What is the best thing that has happened to you around the time you were diagnosed?
12. What is the worst thing that has happened to you around the time you were diagnosed?
13. What is the best health-related thing that has happened to you from the day you were diagnosed to the present?
14. What is the worst health-related thing that has happened to you from the day you were diagnosed to the present?
15. What is the best disclosure-related thing that has happened to you from the day you were diagnosed to the present?
16. What is the worst disclosure-related thing that has happened to you from the day you were diagnosed to the present?
17. What is the best thing that has happened to you related to a friend with HIV from the day you were diagnosed to the present?
18. What is the worst thing that has happened to you related to a friend with HIV from the day you were diagnosed to the present?
19. What is the best discrimination-related thing that has happened to you from the day you were diagnosed to the present?
20. What is the worst discrimination-related thing that has happened to you from the day you were diagnosed to the present?
APPENDIX C

INFORMED CONSENT
Informed Consent

A STUDY OF WOMEN'S HEALTH EXPERIENCES

My name is Deborah Jones, and I am carrying out a survey as part of my doctoral degree in Clinical Psychology with the University of North Texas.

I, ___________________________________________ agree to participate in a study of the relationship between HIV and stress people may feel. I agree to fill out a questionnaire which asks about my background, the effects of HIV on my life, and any problems I may have had in the past. Hopefully, the knowledge from this study will help us understand the effects of HIV and will be used to improve the type of treatment that people with HIV receive. The entire procedure should not exceed 2 hours, most people take about an hour. The main risk or cost to me is that thinking about some topics may be uncomfortable. I understand that my confidentiality will be protected using code numbers on all questionnaires instead of my name. I understand that I should not put my name on any of the materials. My participation is voluntary, and I can withdraw at any time without penalty or prejudice. If I decide to stop participating, this will not cause me to lose any benefits that I have now.

If I have any additional questions, I may call Deborah Jones (phone number 817-565-2631) or Dr. Kenneth Sewell (phone number 817-565-2655).

I can also write to: For counseling services I may contact:
Deborah Jones
Department of Psychology
P.O. Box 13587,
University of North Texas
(817) 335-1994
Denton, TX 76203-3587
AIDS Outreach Center
Fort Worth (817) 335-1994
Fort Worth AIDS Outreach Center
Arlington (817) 275-3311

Date _______ Signed ________________________________

THIS PROJECT HAS BEEN REVIEWED BY THE UNIVERSITY OF NORTH TEXAS COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS
(Phone: 817-565-3940)
Table 1

Demographic Summary of Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Subjects meeting PTSD criteria</th>
<th>Subjects not meeting PTSD criteria</th>
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<tr>
<td></td>
<td>Mean</td>
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</tr>
<tr>
<td>EDUCATION</td>
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<tr>
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<tr>
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</table>

Note. Education is stated in years completed. Recency variables indicate recency in months of time since occurrence of diagnosis or symptoms. Income is stated in dollars. Subjects meeting PTSD criteria, \( n = 22 \), subjects not meeting PTSD criteria, \( n = 38 \).
Table 2

Summary Statistics of SCID

<table>
<thead>
<tr>
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<tr>
<td>REEXPERIENCE</td>
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Note. Avoidance, arousal, and reexperience are PTSD symptoms used as subscales within the SCID PTSD scale. Subjects meeting PTSD criteria, n = 22, subjects not meeting PTSD criteria, n = 38.
Table 3

Summary Statistics of PDS

<table>
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<th>Subjects having PTSD</th>
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</tr>
</thead>
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Note. Avoidance, arousal, reexperience, and severity are PTSD symptoms used as subscales within the PDS.
Table 4

Summary Statistics of HICLAS Analysis

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<th>Subjects not meeting PTSD criteria</th>
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<tr>
<td>PRDISSCR</td>
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</tr>
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</table>

Note. POSTEXITSC = post-trauma extremity score; ELAHIV12 = elaboration of HIV event; ELACON3 = elaboration of control event; POSTDSSC = post-trauma distance score; NEGEMERG = negative emergent poles; PRDISSCR = pre-trauma distance score; PREEXITSC = pre-trauma extremity score.
Table 5
Correlations among demographics

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**Note.** 2-tailed significance. 1 = Age; 2 = Ethnicity, coded 1 for Caucasian and 0 for all others; 3 = Marital Status, coded 1 for married and committed relationship and 0 for single; 4 = Children, 5 = Income, 6 = IV Risk, coded 1 for sexual transmission and 2 for all others; 7 = Education; 8 = Sexual Assault in Childhood; 9 = In Therapy; 10 = Domestic Violence; 11 = Child with HIV; 12 = Pregnant; 13 = Rape History in Adulthood; 14 = Diagnostic Recency; 15 = Current Symptoms. P<0.05 = *, p<0.01 = **.
Table 6

Correlations among demographics: Subjects meeting criteria for PTSD

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Note. 2-tailed significance. 1 = Age; 2 = Ethnicity, coded 1 for Caucasian and 0 for all others; 3 = Marital Status, coded 1 for married and committed relationship and 0 for single; 4 = Children, 5 = Income, 6 = IV Risk, coded 1 for sexual transmission and 2 for all others; 7 = Education; 8 = Sexual Assault in Childhood; 9 = In Therapy; 10 = Domestic Violence; 11 = Child with HIV; 12 = Pregnant; 13 = Rape History in Adulthood; 14 = Diagnostic Recency; 15 = Current Symptoms. $p < .05 = \ast$, $p < .01 = \ast\ast$. 
Table 7

**Correlations among demographics: Subjects NOT meeting criteria for PTSD**

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*Note.* 2-tailed significance. 1 = Age; 2 = Ethnicity, coded 1 for Caucasian and 0 for all others; 3 = Marital Status, coded 1 for married and committed relationship and 0 for single; 4 = Children, 5 = Income, 6 = IV Risk, coded 1 for sexual transmission and 2 for all others; 7 = Education; 8 = Sexual Assault in Childhood; 9 = In Therapy; 10 = Domestic Violence; 11 = Child with HIV; 12 = Pregnant; 13 = Rape History in Adulthood; 14 = Diagnostic Recency; 15 = Current Symptoms. $p < .05 = ^*$, $p < .01 = ^{**}$. 
Table 8
Correlations with predictor and outcome measures

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Table 9

Correlations with predictor and outcome measures: Subjects meeting PTSD criteria

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</table>

Note: 2-tailed significance. 1 = Age; 2 = Ethnicity, coded 1 for Caucasian and 0 for all others; 3 = Marital Status, coded 1 for married and committed relationship and 0 for single; 4 = Children, 5 = Income, 6 = IV Risk, coded 1 for sexual transmission and 2 for all others; 7 = Education; 8 = Sexual Assault in Childhood; 9 = In Therapy; 10 = Domestic Violence; 11 = Child with HIV; 12 = Pregnant; 13 = Rape History in Adulthood; 14 = Diagnostic Recency; 15 = Current Symptoms; 16 = Social Support Availability; 17 = SCID PTSD Diagnosis; 18 = PDS Severity; 19 = Pre-trauma Extremity Score; 20 = Post-trauma Extremity Score; 21 = Pre-trauma Distance Score; 22 = Post-trauma Distance Score; 23 = Negative Emergent Poles; 24 = Elaboration P<.05 = *, P<.01 = **.
Table 11

Correlations of HICLAS, social support, and PTSD variables

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<td>.08</td>
<td>-.10</td>
<td></td>
</tr>
</tbody>
</table>

Note. 1-tailed significance. 16 = Social Support Availability; 17 = SCID PTSD Diagnosis; 18 = PDS Severity; 19 = Pre-trauma Extremity Score; 20 = Post-trauma Extremity Score; 21 = Pre-trauma Distance Score; 22 = Post-trauma Distance Score; 23 = Negative Emergent Poles; 24 = Elaboration of HIV Event. P < .05 = *, P < .01 = **.
Table 12

Summary of Multiple Regression for Elaboration Variables Predicting PTSD Symptom Severity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significance T</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELACON3</td>
<td>-.270</td>
<td>.742</td>
<td>-.050</td>
<td>-.363</td>
<td>.718</td>
</tr>
<tr>
<td>ELAHIV12</td>
<td>-.082</td>
<td>1.003</td>
<td>-.011</td>
<td>-.082</td>
<td>.935</td>
</tr>
</tbody>
</table>

Note. $R^2 = .003$, adjusted $R^2 = .031$. ELAHIV12 = elaboration of HIV event 12; ELACON3 = elaboration of control event 3.
Table 13

Summary of Multiple Regression for Pre- and Post Trauma Extremity Variables Predicting PTSD Symptom Severity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREEXTSC</td>
<td>.306</td>
<td>3.916</td>
<td>.011</td>
<td>.078</td>
<td>.938</td>
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<tr>
<td>POSTEXTSC</td>
<td>14.507</td>
<td>3.451</td>
<td>.590</td>
<td>4.204</td>
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</tbody>
</table>

*Note. R² = .36, adjusted R² = .33. POSEXTSC = post extremity score; PREEXTSCR = pre-trauma extremity score.*
Table 14

Summary of Multiple Regression for Pre- and Post Trauma Distance Variables Predicting PTSD Symptom Severity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRDISSCR</td>
<td>1.320</td>
<td>.950</td>
<td>.205</td>
<td>1.390</td>
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<td>POSTDISSCR</td>
<td>.830</td>
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Note. $R^2 = .097$, adjusted $R^2 = .07$. PRDISSCR = pre-trauma distance score; POSTDISSCR = post-trauma distance score.
Table 15

Summary of Multiple Regression for Negative Emergent Poles Variables Predicting PTSD Symptom Severity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
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<th>Significance</th>
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</thead>
<tbody>
<tr>
<td>NEGEMERG</td>
<td>1.458</td>
<td>0.420</td>
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<td>3.470</td>
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</table>

Note. $R^2 = .17$, adjusted $R^2 = .16$. NEGEMERG = negative emergent poles.
Table 16

Summary of Multiple Regression for Variables Predicting PTSD Symptom Severity

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significance T</th>
</tr>
</thead>
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<tr>
<td>POSTEXTSC</td>
<td>14.250</td>
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<td>.579</td>
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<tr>
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<td>.055</td>
<td>.466</td>
<td>.643</td>
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<tr>
<td>ELACON3</td>
<td>.026</td>
<td>.662</td>
<td>.005</td>
<td>.039</td>
<td>.969</td>
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<tr>
<td>POSTDSSC</td>
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<td>.867</td>
<td>-.010</td>
<td>-0.063</td>
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<tr>
<td>NEGEMERG</td>
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<td>.522</td>
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<td>.236</td>
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<tr>
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<td>5.220</td>
<td>-.060</td>
<td>-.321</td>
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</tbody>
</table>

Note. R² = .38, adjusted R² = .29. POSTEXTSC = post-trauma extremity score; ELAHIV12 = elaboration of HIV event; ELACON3 = elaboration of control event; POSTDSSC = post-trauma distance score; NEGEMERG = negative emergent poles; PRDISSCR = pre-trauma distance score; PREEXTSC = pre-trauma extremity score.
Table 17

Summary of Multiple Regression for Variables Predicting PTSD

<table>
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<tr>
<th>Variable</th>
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<th>Beta</th>
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<td>5.220</td>
<td>-.060</td>
<td>-.321</td>
<td>.750</td>
</tr>
</tbody>
</table>

Note. $R^2 = .38$, adjusted $R^2 = .29$. POSTEXTSC = post-trauma extremity score; ELAHIV12 = elaboration of HIV event; ELACON3 = elaboration of control event; POSTDSSC = post-trauma distance score; NEGEMERG = negative emergent poles; PRDISSCR = pre-trauma distance score; PREEXTSC = pre-trauma extremity score.
REFERENCES


G. Shaw (Eds.), *Cognition and personal structure: Computer access and analysis*. New York: Praeger.


