

ASSESSING PSYCHOLOGICAL TRAUMA AND PTSD

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Gender Issues in the Assessment of Posttraumatic Stress Disorder

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INTRODUCTION

The study of posttraumatic stress disorder (PTSD) has expanded considerably to include the effects of trauma on different populations. In recent years, females, in particular, have received increasing attention in terms of their distinctive exposure to certain types of trauma (e.g., sexual assault, domestic abuse) and their particular response to severe stress. To date, the construct of PTSD has been extensively formulated around the experiences of male combat veterans while the manifestations of traumatic stress in females have been approached in a comparative fashion. Some research has suggested that females are distinctly vulnerable to adverse reactions or stress disorders following stressor exposure, while other studies have alluded to findings that PTSD symptomatology appears more severe in females than males (Breslau, Davis, Andreski, & Peterson, 1991). Few empirical studies to date, however, have investigated differential outcome following exposure to similarly stressful events in males and females, and there are limited data addressing mechanisms or factors that might explicate why females appear more susceptible to this anxiety disorder. Finally, problems with existing instrumentation may influence findings to the degree that format or content do not identify salient concerns for females. Gender-based findings of differential risk factors in PTSD or its severity suggest that significant gaps exist in current conceptualizations of this disorder. We suggest that the construct of PTSD be reevaluated to include symptoms and characteristics of both genders.

This chapter begins by reviewing portions of the extant literature on prevalence, etiology, and diagnostic characterizations associated with PTSD

in females. We consider probable effects of stressor exposure in terms of developmental stages for females, exploring how both exposure and response set may vary across points in the lifespan. Next, we review the relationship of PTSD in females to various functional correlates and domains (e.g., disposition, affect regulation, reporting style, psychosocial functioning, revictimization, perceptions of physical health, and overall psychiatric comorbidity) and discuss associations and findings as they apply differentially to females. Then, basic parameters of existing PTSD assessment methodologies are considered, with an emphasis on salient constructs and specialized diagnostic issues in the evaluation of female PTSD. The chapter concludes by suggesting a model whereby the interaction between gender and PTSD is viewed as a complex, multidimensional topic in need of further scientific study. We recommend a number of areas in which additional study and research can contribute significantly to refining current understanding of gender issues in the assessment and diagnosis of PTSD. These inquiries can advance the understanding of normative responses to trauma across genders, avoiding the bias inherent in focusing on one category of experiences. On a practical level, these efforts can enhance diagnostic efforts and help refine treatment interventions that focus on both symptom remediation and improved functional well-being.

GENDER AND PREVALENCE

Studies Comparing Males and Females

Adult Community Studies

Of the few studies directly comparing the prevalence of PTSD between women and men, some preliminary differences have emerged. Breslau and colleagues (Breslau et al., 1991; Breslau & Davis, 1992) used the Diagnostic Interview Schedule (DIS; Spitzer, 1981; Robins, Helzer, Croughan, & Ratcliffe, 1981) to study a large urban sample ($n = 1,007$) of male and female health maintenance organization (HMO) members ages 21–30. They found that 39% ($n = 394$) of the combined sample described exposure to an event consistent with a traumatic stressor. Of individual respondents, nearly 24% met DSM-III-R criteria for PTSD (American Psychiatric Association, 1987), yielding a lifetime sample prevalence of 9.2%. Nearly 57% ($n = 53$) of those with the disorder were classified as “chronic,” defined in this instance as symptom duration of greater than 1 year. Several important findings emerge from these data. First, PTSD chronicity was associated with a variety of factors, including greater symptom severity, increased likelihood of a comorbid anxiety or affective disorder, and more medical problems. Second, the PTSD diagnosis was linked to certain respondent characteristics, notably female gender: Women were four times more likely than men to develop chronic, but not nonchronic, forms of PTSD following Criterion A stressor exposure. Other

PTSD “risk” factors were defined as early separation from parents, a positive family history of anxiety disorders or antisocial personality, preexisting anxiety or depression in the proband, and “neurotic style.” No gender differences emerged for the development of PTSD following specific types of exposure apart from the aftermath of rape, where approximately 80% of the sample met criteria for the disorder. However, analyses did not address differential rates of gender-linked exposure or any comparisons in the willingness of men versus women to report PTSD symptoms associated with particular experiences. Study results may also have been affected by the tendency of the DIS to underestimate rates of PTSD (Weiss, 1993).

Cottler, Compton, Mager, Spitznagel, and Janca (1992) utilized the St. Louis-area sample from the National Institute of Mental Health’s Epidemiologic Catchment Area (ECA) study to explore PTSD rates and their relationship to substance abuse in men and women. The authors used the DIS and DSM-III criteria (American Psychiatric Association, 1980) to evaluate a relatively ethnically diverse sample of young and middle-aged men and women. Results indicated that female gender and cocaine or opiate use were the two strongest predictors of both exposure to a traumatic stressor and the subsequent development of PTSD. Significant first-order correlations were obtained for younger age, Caucasian race, antisocial personality (ASP) diagnosis, and depression; however, no gender interactions were found among outcomes. Similar to the work by Breslau et al. (1991; Breslau & Davis, 1992), Cottler et al. (1992) based PTSD prevalence estimates on the most common traumatic life events, a method that potentially limits knowledge about the broader variety of stressor events. In addition, neither rape nor sexual assault—typically very strong predictors of PTSD in women—were distinctively classified, possibly constraining results of interactions among gender, event prevalence, and their sequelae.

Norris (1992) employed more rigorous diagnostic and stressor definitions to characterize traumatic exposure and PTSD in a large sample ($n = 1,000$) of men and women. Using an ethnically diverse, urban Southern U.S. data set of various age groups, the author classified numerous stressor events into broader categories encompassing violence, hazard/natural disaster, or accidental occurrences. Norris then obtained continuous measures of global distress and PTSD symptomatology, as opposed to earlier studies that relied exclusively on dichotomous classifications. Findings revealed gender differences in both traumatic exposure and associated traumatic stress. Women were more likely to have suffered sexual assault, whereas men were at greater risk for motor vehicle accidents, physical assault, and combat exposure, experiences producing higher overall exposure rates for males. In addition, a number of significant interactions pertaining to gender, event typology, and distress emerged. First, rape yielded the highest rates of PTSD, although stated rates (14%) were lower than those found by other authors (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). Second, although failing to reach statistical significance, women demonstrated a trend for higher

rates of PTSD. Third, among participants with criminal victimization, women were significantly more likely to meet PTSD criteria than men. Thus, these data suggest a differential gender risk for stressor exposure as well as for the subsequent development of PTSD. This study also reported differential risk by gender for the development of PTSD symptoms when exposure was controlled. However, these comparisons rest on the assumption that there is little qualitative difference among rape, sexual assault, and other forms of victimization.

In summary, most studies reviewed were not well controlled for differing rates of gender-linked exposure. Accordingly, it is possible that the high rates of sexual assault in women and the extremely high rates of PTSD in sexual assault survivors contribute to the appearance that female gender is a risk factor for PTSD. Also, although female gender emerged as a risk factor for the development of PTSD symptoms, the majority of these studies did not statistically control for gender effects (i.e., analyzing risk factors separately by gender). Since there are data showing that the PTSD diagnosis or PTSD chronicity have different prevalences with respect to gender, it remains important to compile data that directly compare differential, gender-based prevalence rates in terms of risk factors for PTSD. This issue could be effectively explored by examining data in conjunction with findings from studies of special populations that have experienced a specific stressor (e.g., war veterans). Similarly, knowledge of PTSD risk factors appropriate to women should be examined among studies of female populations.

Other potential methodological or assessment issues in these prevalence studies relate to instrumentation and subject response characteristics, specifically, the finding that the definition of Criterion A stressor events fluctuated across studies. The inclusion of rape and sexual assault as Criterion A events, for example, was inconsistent. Similarly, certain diagnostic instruments are less valid and reliable for identifying PTSD (e.g., standard administration of the DIS). Moreover, the potential reporting differences in men's and women's ability or willingness to describe traumatic events using various evaluation formats (e.g. interview, self-report) have not been studied. Gender-role socialization may contribute to the individual's impression of the acceptability of either reporting victimization experiences or psychological distress related to such experiences. All of these issues represent methodological concerns that could substantially impact outcome findings.

Special Populations

Disasters. The relevance of gender as a factor in outcome following natural or technological disasters is equivocal, although some authors have shown an association between female gender and poorer recovery (e.g., Burger, 1992; Steinglass & Gerrity, 1990). Realmuto, Wagner, and Bartholow

(1991), for example, evaluated a community 13 months after its exposure to a technological disaster and found that PTSD was significantly more common among females overall. Positively diagnosed individuals also were more likely to be older and to have histories of prior psychiatric problems. In another study involving two communities exposed to a severe natural disaster, female gender was again associated with higher rates of PTSD, although PTSD for the total sample decreased over time at 4- and 16-month follow-ups (Steinglass & Gerrity, 1990). Thus, there is preliminary information suggesting poorer postdisaster recovery in females in community samples when event characteristics are relatively stable.

War Veterans. The National Vietnam Veterans Readjustment Study (NVVRS) offers some of the most comprehensive data on the long-term functioning of male and female veterans following war exposure (Kulka et al., 1988, 1990). Secondary analyses by Weiss et al. (1992) found surprisingly few differences in PTSD lifetime prevalence between men and women: Male Vietnam theater veterans demonstrated a lifetime PTSD rate of 30.9%, whereas that of female theater counterparts was 26%. Lifetime rates for partial PTSD also were comparable: Just over 22% of men met partial PTSD criteria compared to 21.2% of women. Thus, although current diagnostic rates were disparate (15.2% for men, 8.7% for women), the likelihood of having had the disorder at some point following the war was similar. However, these analyses do not consider differences in PTSD base rates or interactions of gender by stressor type (Wolfe, Brown, Furey, & Levin, 1993a).

These data raise questions about whether certain precursors or postwar factors influence the subsequent expression of men's and women's traumatic stress syndromes in some unique way. NVVRS data on comorbidity and physical health, although not definitively resolving these questions, offer clues about possible answers. For example, although rates of comorbid, lifetime depression in male veterans with PTSD are high, female veterans in the NVVRS had appreciably higher rates of both lifetime and current depressive syndromes (42% lifetime, 23% current depression; Kulka et al., 1990). Furthermore, although theater veterans with high war-zone stress consistently reported more postwar health problems than theater cohorts with lower war-zone exposure, there is preliminary evidence that women's health complaints surpassed those of men (Wolfe & Young, 1993; Wolfe, Brown, & Kelley, 1993; Wolfe, Proctor, & Skinner, 1994c; Wolfe, Proctor, Sullivan, & Duncan Davis, 1995). Thus, although fewer women than men currently met PTSD criteria, there appear to be pre- and postwar factors that are distinctively associated with PTSD in female veterans or that interact with specific dimensions of women's war-zone experiences. Analyses of these data may illuminate factors associated with PTSD outcomes and links between these processes and gender status.

Homelessness. Recently, several authors have found that female veterans, like their male counterparts, comprise noteworthy subsets among the home-

less in this country (Leda, Rosenheck, & Gallup, 1992). Like homeless male veterans, homeless women suffer from substantial comorbid depression and psychosocial dysfunction. Furthermore, homeless female veterans may be at greater risk than men for major psychiatric illness, although they are less likely to have had that illness diagnosed (Leda et al., 1992). North and Smith (1992) used the DIS and found higher rates of PTSD among women than Leda et al., with rates of PTSD diagnoses and PTSD symptoms exceeding those of men. In addition, both women and men had a high incidence of comorbid, lifetime psychiatric illness. Nearly three-fourths of men and women alike had PTSD diagnoses that preceded homelessness, suggesting that the homeless population in general is at considerable risk for psychosocial difficulties.

PTSD and Children. Only a few epidemiological studies have examined the topics of gender and PTSD in children. Cappelleri, Eckenrode, and Powers (1993) reviewed child abuse data from 19 U.S. states and found that age, family income, and ethnicity were risk factors for the occurrence of both sexual and physical childhood abuse. Consistent with other studies (e.g., Rose, 1991), female gender emerged as a strong risk factor for sexual, but not physical, abuse. Livingston, Lawson, and Jones (1993) studied 43 girls and boys ages 6–15 who were prior victims of sexual or physical abuse by a parent or parenting figure. Using a well-validated child assessment instrument (Diagnostic Interview for Childhood Adjustment—Revised; DICA-R; Herjanic & Reich, 1982), they found that a PTSD diagnosis was best predicted by the total number of stressors plus abuse, rather than by the type of child abuse per se, a finding not typical in samples limited to girls. In a 14-year longitudinal study of older adolescents, Reinherz, Giaconia, Lefkowitz, Pakiz, and Frost (1993) found that numerous teenagers met criteria for a lifetime DSM-III-R Axis I disorder, with substance abuse among the most common, and PTSD and obsessive-compulsive disorder the least frequent, diagnoses. Still, gender differences were found for three Axis I disorders—major depression, PTSD, and alcohol abuse/dependence—with female gender significantly associated with the first two. Using a sample of young adults, Fischer (1992) evaluated college students and determined that among child abuse victims, women were significantly more likely than men to have suffered incest. Furthermore, heterosexual forms of abuse were far more common in girls than boys. Unlike their male counterparts, women's attributions about the childhood event were less likely to evidence blame for the perpetrator. Finally, childhood sexual abuse was a significant predictor of subsequent teenage or adult sexual abuse for women, suggesting that earlier traumatic exposure is a factor in the adult exposure–outcome relationship. Still, distinctions between extrafamilial and familial forms of abuse and the relationship to PTSD require further study.

Data on gender and PTSD in childhood are also available from studies of natural disasters. Shannon, Lonigan, Finch, and Taylor (1994) assessed

cohorts of children after exposure to a destructive hurricane and found wide variation in PTSD symptom rates based on race, gender, and age: Girls and younger children were each at greater risk for the disorder. The authors also found variations in symptoms between girls and boys: Girls were more likely than boys to report problems with emotional processing and affective reactivity posttrauma, suggesting that PTSD may be associated with female gender or, alternatively, related to the reporting or experiencing of emotional distress following exposure. In studies involving survivors of the Buffalo Creek Dam collapse, Green et al. (1991) studied children ages 2–15 and determined that 37% of the children met diagnostic criteria for PTSD 2-years postevent. Consistent with Shannon et al.'s (1994) findings, investigators confirmed that girls reported more symptoms of distress than boys, although younger girls and boys in general had the fewest symptoms. When models predicting PTSD were derived, experiences of life threat, female gender, younger age, and parental psychopathology (e.g., depression), were significantly associated with the PTSD diagnosis. These findings are similar to those obtained in young adults (e.g., Breslau et al., 1991; Resnick, Kilpatrick, Best, & Kramer, 1992), and suggest that characteristics of both the event and the environment distinctively influence gender-linked outcomes.

The relationship of PTSD and gender in children may be associated with reporting characteristics. At least one study (Pillitteri, Seidl, Smith, & Stanton, 1992) examined the effects of both the victim's and abusing parent's gender on subsequent event reporting by medical personnel and found that, although parental gender was *not* a factor in abuse documentation, emergency room personnel were significantly less likely to report abuse when the child was female. Also, reporting was decreased when the family was viewed as middle- (vs. lower- or upper-) socioeconomic class.

In summary, prevalence data in special populations suggest that rates of PTSD in women are appreciable, often exceeding levels found in men. Methodological issues (e.g., failure to account for multiple stressor exposures, differential impact ascribed to exposure categories), however, may currently limit the reliability of these findings. It is increasingly clear that assessment of both respondent characteristics (e.g., social desirability, response styles, test formats) and the social context (e.g., family status; relationship to perpetrator) are needed to help elucidate etiologies associated with gender differences, especially those involving sequelae of childhood trauma.

Studies of Women

Sexual and Physical Assault

A growing number of studies of PTSD in women have addressed the effects of particular stressors, notably rape and sexual assault. One of the most comprehensive studies to date used random digit dialing to obtain a national

probability sample of 4,008 American women (85.2% White, 11.6% Black; Resnick et al., 1993). Data were weighted by age and race to approximate the 1989 distribution of these characteristics among U.S. women. Using telephone interviews, women were queried about PTSD using the PTSD assessment module from the National Women's Study (NWS; Kilpatrick, Resnick, Saunders, & Best, 1989) which offered a number of methodological improvements: Histories of traumatic events were queried in greater detail for possible Criterion A events, and symptom measures were expanded for congruence with DSM-III-R criteria (NVVRS; Kulka et al., 1990). Also, DIS exclusionary criteria that had previously diminished the instrument's sensitivity for PTSD were deleted (see Resnick et al., 1992). These advances led to important findings on rates of current and lifetime exposure and trauma in women. First, the lifetime rate for exposure to trauma was 69%, with 36% of women reporting exposure to sexual or aggravated assault, or the homicide of a close friend or family member. Thus, severe personal assault or loss were common. Second, the sample's prevalence for lifetime PTSD was 12.3%, 4.6% of whom had the disorder within the past 6 months. Consistent with previous findings, rates of PTSD were appreciably higher for survivors of crime- versus noncrime-related traumas (26% vs. 9%). As shown earlier (e.g., Cohen & Roth, 1987), experiences involving direct threat to life or the receipt of physical injury emerged as the strongest risk factors for PTSD.

A growing number of studies confirm that initial rates of PTSD following *completed sexual assault* (i.e., rape) are inordinately high (> 90%), a finding confirmed in numerous female samples (Foa, 1994; Foa & Riggs, 1993; Hanson, 1990; Kilpatrick et al., 1989; Kramer & Green, 1991; Resick, 1993; Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). Despite the clearly traumatic effects of these assaults, recent research offers important data on patterns of recovery and adjustment. By 3-months postassault, initial PTSD rates are likely to decrease by as much as half (e.g., 47%), suggesting that rapid recovery occurs for a subset of survivors in the early postassault period (Rothbaum et al., 1992). Although assessment methods and research into these mechanisms are still evolving, a range of premorbid factors appears to influence psychological outcome. Resnick et al. (1992) assessed 295 female crime victims aged 18 and older for their precrime psychiatric status, level of crime stress, and subsequent PTSD. The authors found that high crime stress (defined as perceived threat to life, actual injury, or completed rape) was more strongly associated with a PTSD diagnosis than low crime stress exposure (35% vs. 13%). Although precrime psychiatric status was not associated with high crime *exposure*, a significant interaction was found among crime stress level, precrime depression, and PTSD: PTSD was greatest in women in the high crime group with preexisting histories of depression. Thus, at least for women, there is preliminary evidence that preexisting affective status impacts adaptation following subsequent trauma exposure, with depression in particular contributing to the risk for developing PTSD.

Battering and Domestic Violence

The deleterious effects of domestic abuse in women have been well studied and confirmed. Walker (1991) documented high rates of PTSD in women exposed to spousal or partner abuse, and West, Fernandez, Hillard, Schoof, and Parks (1990), using interviews and rating scales, found that 37% of women in a local battered women's shelter met criteria for major depression at the time of assessment. Of note, 47% of the sample met criteria for PTSD, confirming the strong association between domestic abuse and posttraumatic stress. Similar to outcome models of rape, certain components of domestic violence appear to contribute to the prediction of PTSD. Degree/extent of abuse, level of subjective distress, perceived life threat, and overall event severity, for example, all predict negative outcomes following battering (e.g., Browne, 1993; Houskamp & Foy, 1991; Kemp, Rawlings, & Green, 1991). To the degree that women are more widely subjected to these experiences, female gender could appear to constitute an increased risk for PTSD outcomes.

Childhood Sexual Abuse

There is considerable consensus that childhood sexual and physical abuse in females, primarily incest, is widely associated with a propensity for revictimization and the diagnosis of PTSD in adulthood (Albach & Everaerd, 1992; Chu, 1992; Kendall-Tackett, Williams, & Finkelhor, 1993; O'Neill & Gupta, 1991). Several investigators have found that as many as 73% of female childhood abuse survivors meet criteria for PTSD at some point, although onset is often delayed. Also, severe forms of female child sexual abuse have been strongly linked to a number of comorbid psychiatric conditions, particularly depression and substance abuse (e.g., Hanson, 1990). Briere and Runtz (1987) sampled 391 women using the DIS and a structured interview, and found that one-third of the sample reported sexual abuse or molestation before the age of 18. These individuals were more likely than nonvictims to meet lifetime criteria for depression, phobia, obsessive-compulsive disorder, and sexual disturbances, with depression the most strongly associated with childhood abuse.

Clinical Samples

The majority of PTSD studies involving clinical samples to date have involved males, typically treatment-seeking Vietnam combat veterans (e.g., McFall, Mackay, & Donovan, 1991, 1992; Foy & Card, 1987; Mueserk, Yarnold, & Foy, 1991; Zaidi & Foy, 1994). In other settings, Rose (1991) studied a sample of persistently mentally ill individuals and found that gender was related to certain types of earlier abuse, notably childhood sexual abuse in females. Briere and Runtz (1987) found that nearly 44% of female clients at a mental health crisis center reported childhood sexual victimization. These histories

were strongly associated with more symptoms of dissociation, anxiety, rage, sleep disturbance, substance abuse, suicidality, and revictimization. Gordon (1990) found that certain demographic characteristics were specific to female (but not male) adult childhood sexual abuse survivors, defined as occurring before age 18. Women were substantially more likely to have been younger and assaulted by a family member or relative rather than a non-relative. In contrast, male victims were typically older and closer in age to the perpetrator of the assault. Perpetrators for both genders were overwhelmingly male, a finding confirmed by large-scale studies of sexual assault victims (e.g., National Victim Center [NVC], 1992). The clear impact of these characteristics, however, (i.e., younger age, perpetrator familiarity) on longer range outcome is not known at this time.

Preclinical Studies

Animal studies have used tests of learned helplessness, sensitization, startle, seizure potential, and olfactory threshold to offer provocative preclinical data on gender and traumatization. Some preclinical studies with rats found gender differences in vulnerability to exogenous hazardous chemicals (e.g., Bell, Miller, & Schwartz, 1992; Matthews, Dixon, Herr, & Tilson, 1990); in one study, for example, female rats were more sensitive to hippocampal damage after exposure to an organophosphate flame retardant (tris[2-chloroethyl]phosphate; TRCP) than were males. Based on these data, Tilson, Veronesi, McLamb, and Matthews (1990) administered a single dose of TRCP to female rats and found that females experienced a range of adverse events including acute seizures, permanent damage to hippocampal neurons, and persistent impairment in the acquisition of a spatial memory task. Several authors (e.g., Bell et al., 1992; van der Kolk & Saporta, 1993) have conjectured that these data provide compelling support for kindling or sensitization etiologies of traumatization. These models propose that acquired sensitization is linked to the development of the autonomic hyperreactivity observed in both multiple chemical sensitivity syndrome (MCS) and PTSD (Friedman, 1991; Friedman, 1994b). One possible explanation is that hormonal differences account for much of the variability in certain response parameters (e.g., changes in seizure threshold following administration of convulsants such as TRCP). Some investigators (e.g., Newmark & Penry, 1980) have demonstrated that estrogen, but not testosterone, lowers seizure thresholds and other reactions across various species. Similarly, findings showing that ovariectomies produce little change in the sensitization of adult female rats, compared to increased sensitization in males following gonadectomies (Robinson & Becker, 1986), has led some authors to conclude that the presence of male hormones constitutes a kind of neuroendocrine "buffer" for certain stressors, potentially mitigating sensitization after exposure to novel, aversive stimuli.

The preliminary nature of these investigations, as well as their focus

to date on only limited classes of exposure, suggests that far more research is needed to understand the complexities of neuroendocrine status as it relates to behavioral exposure, reactivity, and trauma based on gender. Optimally, such research would illustrate both individual and interactive effects of hormones, including bidirectional effects (e.g., the neuroprotective impact of progesterone during the menstrual cycle in regulating epilepsy). Thus, information is needed on how hormones can serve protective versus irritative functions to improve understanding of the biology of gender and its links to behavioral response (Friedman, 1991, 1994a; Murburg, Ashleigh, Hommer, & Veith, 1994a; Murburg, McFall, & Veith, 1994b; van der Kolk & Saporta, 1993; Yehuda et al., 1994).

In summary, extant studies of PTSD in women have outlined a number of critical predictor variables, including the range of traumatic events most prevalent in women, salient event characteristics that increase the risk of PTSD, and other susceptibility factors. Specific exposure dimensions include the threat to life, injury, completed rape, and prolonged duration of stressor exposure. The association of these characteristics with high rates of exposure may contribute to the greater prevalence of PTSD in women. Whether a differential vulnerability for PTSD in women relates to underlying or intrinsic characteristics (e.g., hormonal or genetic diatheses) as opposed to external factors remains unclear. Little research to date has addressed differential rates of multiple trauma in males and females or levels of PTSD symptoms following multiple rather than single events. When examined in conjunction with data regarding early childhood victimization, this gap in the conceptualization of traumatic exposure underlines the importance of including within the PTSD construct the experiences of multiply victimized individuals as well as the investigation of mechanisms by which such experiences contribute to PTSD vulnerability and chronicity across gender.

ANTECEDENTS AND CORRELATES OF PTSD IN FEMALES

Developmental and Behavioral Precursors

Early family environment is increasingly thought to play a role in the development and progression of trauma symptoms in females. Nash, Hulsey, Sexton, Harralson, and Lambert (1993) studied adult psychopathology in 105 abused and nonabused women to assess the relationship of childhood abuse experiences to later symptoms and found that although early sexual abuse influenced the development of somatic symptoms and schema distortions, the presence of a dysfunctional family environment (e.g., substance abuse in parents, pronounced emotional neglect, witnessing domestic stress/violence) was a stronger predictor of severe psychiatric distress, including dissociation. Often characterized as more subtle forms of "environmental" deprivation, early neglect and abuse thus appear to impact development

significantly in some girls from the outset. A growing number of studies show that young girls' exposure to these dysfunctional family environments is strongly associated with a wide range of trauma *spectrum* disorders, only a portion of which are PTSD (Graziano, 1992). In these instances, marked psychosocial, affective, and behavioral disturbances are common, although their manifestations vary widely by individual and developmental stage.

The most telling sequelae of disturbed home settings in girls include serious problems with shame, guilt, stigmatization, and self-blame (Moscarello, 1992). Certain cognitive problems (e.g., highly biased or negative self-attributions) also figure prominently in young girls suffering interpersonally based trauma. Fischer (1992) found that young female abuse survivors were substantially less likely than male survivors to attribute blame to the perpetrator and more apt to blame themselves, showing confusion over what constituted bona fide abuse and assaultive behavior by others. These attributions have often been associated with subsequent development of even more serious affective and behavioral problems, for example, dysphoria, depression, shame, guilt, and social isolation. Beyond the adverse impact of these symptoms, the emergence of severe depression and guilt is likely to increase the risk for revictimization by disrupting social mastery and positive, active coping.

Engel et al. (1993) have provided comparative data on the effects of early childhood abuse following adult trauma. The authors assessed the effect of male and female veterans' premilitary (childhood) trauma on adjustment to military/war-zone stressors and found that, although men described more combat exposure, women reported higher rates of premilitary childhood abuse and associated psychiatric problems. Furthermore, gender significantly modified the impact of premilitary childhood abuse on war-related PTSD symptomatology. With differences in psychiatric history and combat levels controlled, women (but not men) with prior childhood abuse had significantly more PTSD symptomatology than either men or women without these backgrounds. However, it is unclear to what degree this interaction stems from differences in traumatic military experiences among women and men (e.g., sexual harassment or assault for women, injury or life threat for men) or from a particular interaction with gender-linked characteristics of earlier abuse (e.g., sexual vs. physical). Still, there appear to be complex relationships among gender, early trauma experiences, and adult outcomes.

Major Symptom Correlates and Related Functional Domains

Affective Disorders

Major depression and dysthymia continue to be recognized as among the most common comorbid features of PTSD in both male and female trauma survivors. Similar to substance abuse, it is often difficult to determine whether depression following trauma constitutes an independent disorder, or whether

affective symptoms are primarily a correlate of the posttrauma syndrome. This dilemma is compounded by the fact that many comorbid features of PTSD (e.g., substance abuse) are highly represented in depressive disorders (see Kofoed, Friedman, & Peck, 1993). In a study of female alcoholics, researchers documented extensive incest histories. Furthermore, those with comorbid depression were significantly more likely to meet criteria for PTSD than counterparts who were not clinically depressed (Kovach, 1986). Recent biological evidence suggests that it may be possible to distinguish primary depression from depression associated with PTSD. Murburg et al. (1994b) were able to differentiate PTSD patients with comorbid depression from individuals with primary major depression by using a number of sympathoadrenal neurobiological measures. Expanded use of these paradigms with other samples is likely to clarify the contribution of gender to diagnostic distinctions.

Borderline Personality Disorder

The diagnosis of borderline personality disorder (BPD) shows considerable overlap with PTSD in both etiology and symptom expression, especially among women. To date, women typically constitute about 75% of individuals diagnosed with BPD and researchers estimate that 80% of individuals with BPD have notable childhood trauma (e.g., childhood physical or sexual abuse; Gunderson, Zanarini, & Kisiel, 1991). These estimates involve samples that are largely female, however, and rates are considerably lower when men are included (Goldman, D'Angelo, DeMaso, & Mezzacappa, 1992). Up to one-third of borderline individuals also meet criteria for PTSD (Gunderson, & Sabo, 1993; Blank, 1994). In addition, childhood trauma both with and without accompanying borderline symptomatology seems to confer a greater likelihood of experiencing adult trauma as well as the development of PTSD (Albach & Everaerd, 1992; Bremner, Southwick, Johnson, Yehuda, & Charney, 1993; O'Neill & Gupta, 1991).

The distinction between BPD and PTSD is often complicated, especially in cases of chronic traumatic stress. Numerous features— affective instability, dissociation, impulsivity, self-injurious behavior, severe disruptions in relationships— are common in both disorders and in women with either childhood or adult trauma (Blank, 1994; Landecker, 1992). To date, the literature suggests preliminary methods for differentiating the two disorders, by detailing the trauma history with respect to the onset of symptoms. Since the diagnosis of BPD connotes notable characterological problems, for example, it is conceivable that histories of relatively healthy relationships and stable functioning prior to stressor exposure support a diagnosis of PTSD. This distinction is likely to be exceedingly difficult when the stressor occurs early in childhood and effects are pervasive throughout personality and emotional development (Herman, Perry, & van der Kolk, 1989).

Herman (1992) has argued that the current construct of PTSD is based

largely on research studying highly circumscribed, single events (e.g., combat, rape, natural disaster). Thus, it ignores the probable impact of earlier or more chronic exposure on outcome. As indicated in this chapter, females appear to be at greater risk for serious revictimization across the lifespan. Accordingly, current PTSD conceptualizations may not adequately capture the spectrum of female stressor exposure and posttrauma responses, contributing to misdiagnosis of primary borderline personality. This phenomenon is likely to be compounded by elements of clinician bias, which show that professionals more readily ascribe Axis II disorders and BPD in particular to women than men (Adler, 1990; Becker, 1994).

Recent reconceptualizations of BPD have been offered in attempts to lessen inaccurate and potentially pejorative aspects of diagnostic labeling. These models view early family environment and traumatic experiences in an etiological framework whereby borderline symptomatology reflects formerly adaptive responses to multiple, recurrent, and chronic stressors (Arntz, 1994; Landecker, 1992). Despite these advances, the phenomenological and etiological overlap between PTSD and BPD requires further investigation in several areas. For example, childhood sexual and physical abuse tend to occur within distinctive family environments (Finkelhor & Baron, 1986); yet abuse and family environment each have been shown to independently predict PTSD symptomatology (Weaver & Clum, 1993). Whether symptoms of BPD result from chronic childhood trauma in the presence of more disturbed—versus relatively more functional—family environments remains unclear. Also lacking is an understanding of differences between BPD patients who report abuse and those who do not. If such differences exist, it is possible that two subtypes of the disorder exist, one reflecting predominantly post-trauma symptomatology and the other reflecting more characterological dimensions (Gunderson & Sabo, 1993). Rates and correlates of these subtypes and their relationship to gender, chronic early trauma, and sex-role socialization warrant more explication.

Substance Abuse

Substance abuse has been widely observed in both men and women diagnosed with PTSD (e.g., Brown & Wolfe, 1994; Keane, Caddell, Martin, Zimering, & Fairbank, 1983; Kofoed et al., 1993; Kulka et al., 1990). However, like depression, causal relationships are difficult to ascertain (e.g., Keane & Wolfe, 1990). Of the few studies comparing men and women, Recupero, Brown, Stout, Wolfe, and Morello (1994), found that 59% of carefully diagnosed substance-abuse patients confirmed experiences of trauma across the lifespan. Moreover, 40% reported continuing to experience extreme distress from the event in the past year. Twenty-five percent of participants overall met diagnostic criteria for PTSD. Among these, however, women reported more trauma across the lifespan and were significantly more likely than men to meet PTSD criteria at the time of substance-abuse treatment. Still, possible

differential severity of trauma was not statistically controlled. Thus, gender differences may have emerged because women had more frequent or severe trauma exposure. Cottler et al. (1992) used data from the St. Louis Epidemiologic Catchment Area (ECA) Survey to assess the prevalence of PTSD in substance abusers. Sixteen percent of respondents described exposure to a DSM Criterion A event. When other variables were statistically controlled, female gender and use of either cocaine or opiates significantly predicted a PTSD diagnosis. Given the magnitude of substance-abuse problems in society generally, the relationship of these conditions to traumatization and gender (or gender experiences) are areas for further study.

Dissociation

Dissociation is a moderately common correlate of severe trauma (Putnam, 1989). Although some research suggests that dissociative experiences are relatively frequent in the general population (Vanderlinden, Van Dyck, Vandereycken, & Vertommen, 1993), dissociation has been most widely documented within highly distressed clinical samples (Chu & Dill, 1990; Saxe et al., 1993, 1994; Spiegel & Cardena, 1991; Classen, Koopman, & Spiegel, 1993), with women represented more than men (Saxe et al., 1993, 1994). The presence of dissociative tendencies at the point of trauma, however, now appears to have particular significance. Marmar et al. (1994) and others (e.g., Koopman, Classen, & Spiegel, 1994) found that dissociation during exposure constituted a significant predictor of poorer outcome (i.e., chronic PTSD), a finding substantiated in at least one study of female childhood incest survivors (Albach & Everaerd, 1992). Thus, numerous experiential factors reported by women may impact trauma outcome.

Eating Disorders

Several authors have concluded that victimization in females, particularly sexual assault, may be related to the emergence of eating disorders, including anorexia, bulimia, and body dysmorphia (e.g., Root, 1991). Similar to other disorders, however, the exact nature of this association remains unclear and may vary depending on certain characteristics, for example, explicit avoidance/aversion to trauma cues versus alterations in satiety secondary to neurochemically based mood disturbances. Regardless, current rates of eating problems among females in the general population and the mortality associated with this disturbance confirm that the interface between eating disturbances and PTSD is critically important for a variety of health reasons.

Attributional Style

Cognitive attributions about traumatic events are commonly associated with the nature of trauma outcomes in women and men (see Chapter 18, this

volume, Roth, Lebowitz, & DeRosa). For women, preexisting beliefs about the significance of interpersonal relationships are frequently impacted. Gidycz and Koss (1991) examined the contribution of cognitive attributions to posttrauma outcomes in a large sample of college-aged women. Taking into consideration certain robust predictors (e.g., preexisting mental health history, assault-related degree of force), the authors found that alterations in certain aspects of cognitive style contributed to additional outcome variance: Cognitive attributions about oneself, others, and the world, for example, differentiated the stress responses of abused female versus male children. Hunter, Goodwin, and Wilson (1992) studied similar constructs in age-stratified groups of sexually abused boys and girls. Although children in general did not show marked self-blame, results showed an association between female gender and the tendency to attribute causal implications to oneself.

Individuals exposed to trauma often experience social alienation stemming from a perception that they have been rendered permanently different (Herman, 1992). In women, stigmatization and alienation frequently emerge when the victim or members of her social network ascribe blame, presumably in an effort to make sense of the event. In rape in particular, survivors often describe feeling permanently "marked." Such perceptions of social stigma can be readily reaffirmed by reduced interpersonal contact (Jones et al., 1984): When social withdrawal occurs, for example, opportunities for positive reframing become significantly reduced, increasing the likelihood that faulty attributions are entrenched.

Other Functional Domains

Social Support

Social support is critical in the assessment of posttrauma functioning. Social support has been widely theorized to buffer the deleterious effects of stress (Cohen & Wills, 1985), in some cases preventing chronic PTSD. Although pretrauma support is influential in determining subsequent social support, factors such as gender and the type of trauma also can create obstacles for obtaining posttrauma support from the community and family. In this section, we review important sources of support for individuals exposed to trauma, highlighting areas of particular significance for women.

In relationships with both family and friends, the manifestations of PTSD symptoms often erode existing support systems. Research with male Vietnam War veterans shows that symptoms of emotional numbing, increased irritability, and angry outbursts (or rage) significantly affect marital discord, substantially decreasing a partner's support (Herndon & Law, 1985). Individuals in the larger social network often respond to the trauma survivor's reluctance to disclose aspects of the trauma with feelings of estrangement or even resentment. Although it has not yet been empirically studied (see Harkness,

1993), this effect may be more pronounced with female trauma survivors, in whom symptoms of unpredictable, rageful outbursts are considered surprising, socially undesirable, inconsistent with role, and less deserving of external validation (Herman, 1992). Still, the family remains an important source of support for the trauma survivor (Figley, 1985; Mitchell, 1991; Resick, 1981), particularly for women. In many cases, the family helps shape the immediate environment, particularly if vocational role and family tradition emphasize this involvement. Consequently, the ability of the family to support a female survivor can have considerable impact. Educating family members about the process of coping with trauma is likely to improve the quality of support, although further study of the specific applicability of this to women with PTSD is needed.

The survivor's family may also suffer a wide range of posttrauma consequences as a result of their concern for the woman. The rage of male partners toward the perpetrator or the uncontrollability of the event can temporarily impede the ability to offer support. Also affected are family members who themselves experience secondary traumatization, possibly to the point of developing PTSD symptoms (Figley, 1985). In these cases, the female survivor may feel compelled to resume a prior caregiver role at the expense of her own psychosocial needs (Wolfe, Mori, & Krygeris, 1994a).

Although much of the attention paid by clinicians to social support focuses on the immediate social network, support from the survivor's community is also critical in facilitating adjustment. In cases of sexual and physical assault, the perpetrator is frequently a friend or partner (National Victim Center, 1992). Thus, a former source of intimate support has evolved rapidly into a threat. On a broader scale, previously available social networks can be disrupted, especially if the assailant is popular with others. In domestic violence in particular, support can be eroded by social and cultural pressures to maintain the integrity of the marital or family structure. Similarly, in work-based sexual harassment, contact with supportive individuals may be lost when a woman must leave her place of work to protect herself from continued contact with the perpetrator. All of these experiences are likely to impact the development of symptoms.

It is possible that stigmatization occurs more often with female trauma survivors, especially in cases of sexual assault or marital violence in which the perpetrator is known. These victims, in particular, appear highly sensitive to implicit social schemas (e.g., rape myths) that convey responsibility on the part of the survivor, intensifying feelings of social detachment (Calhoun & Atkeson, 1991; Lebowitz & Roth, 1994; Roth & Lebowitz, 1988). In such cases, support groups offer unique opportunities for improving social comparisons and the quality of social support.

Health Status

The stress literature points strongly to an association between stressor exposure and increased reporting of physical symptoms and poor health in

survivors. Decreased immunocompetence has been found using a variety of laboratory and *in vivo* stressors as well as a variety of self-report health measures (for reviews, see Ader & Cohen, 1993; Cohen & Williamson, 1991; Kiecolt-Glaser & Glaser, 1987). Reports of poor health are especially pronounced in women who describe exposure to high-magnitude events such as physical assault, criminal victimization (Koss, Woodruff, & Koss, 1991; Randall, 1990), and sexual assault (Kimerling & Calhoun, 1994; Waigandt, Wallace, Phelps, & Miller, 1990).

Nearly all studies examining the relationship between reports of stressor exposure and health status have documented poor global health perceptions or increased reports of physical symptoms in traumatized women when compared to matched normal control subjects. Waigandt et al. (1990) found that female victims reported significantly more illnesses postassault than non-victims, and twice as many reproductive physiology symptoms measured by the Cornell Medical Index (CMI; Bartone, Ursano, Wright, & Ingraham, 1989). Koss et al. (1991) replicated these results, showing marked elevations on all CMI subscales except for dermatological and ophthalmological problems. Randall (1990) noted increases in self-reported health problems, including chronic headaches, abdominal pain, sexual dysfunction, and recurrent vaginal infection among women with repeated physical abuse by a partner.

To date, one prospective, longitudinal study has investigated the health status of women with trauma (Kimerling & Calhoun, 1994). A group of female sexual assault victims and an age-matched comparison group were repeatedly assessed by clinicians starting from 2 weeks postassault until 1 year postincident. The authors found that sexual assault victims reported significantly more somatic symptoms than did nonvictimized women. Furthermore, survivors rated their problems as more severe. Despite a trend showing that the frequency and severity of physical symptoms declined over the year, a number of health problems remained constant, including headaches, allergies, skin problems, nausea, and gynecological problems. Thus, initial and continuing health problems separated women with sexual trauma from those without these experiences.

Numerous investigators have found increments in heterogeneous physical symptoms of male veterans with PTSD compared to matched cohorts without the disorder (e.g., Kulka et al., 1990; Litz, Keane, Fisher, Marx, & Monaco, 1992; Shalev, Bleich, & Ursano, 1990; Solomon, 1988; Stretch, 1991). Similar associations have been observed among American female military personnel (Wolfe et al., 1994b; Wolfe, Schnurr, Brown, & Furey, 1994d). Wolfe et al. (1994d) found that female veterans with PTSD reported significantly more cardiovascular, gastrointestinal, gynecological, dermatological, ophthalmological, and pain symptoms than women without this diagnosis. Few studies, however, have compared the posttrauma health status of men and women directly, an important opportunity for tests of gender-linked issues.

The documented association between reported poorer health following trauma exposure or traumatic stress is important, particularly in light of emerging evidence that stress reactions substantially mediate the relation-

ship between the exposure to trauma and resulting health concerns. Wolfe et al. (1994d) used demographic variables and health status before Vietnam as covariates and found separate, robust effects of both war-zone exposure and PTSD when each variable was entered simultaneously into a model. However, when PTSD and exposure were controlled for each other, PTSD most strongly predicted poor health, substantially reducing the association between war-zone exposure and health. This effect suggests a mediating role for PTSD in the association between exposure and perceived health. Friedman and Schnurr (1995) reanalyzed these data using pathanalytic techniques to determine how much of the trauma–health relationship was direct, that is, not accounted for by the association between trauma and PTSD. For health perceptions, 56% of the total effect of exposure was mediated by PTSD (standardized path coefficient = $-.295$; $p < .001$); for number of current health problems, only the indirect effects of exposure reached statistical significance, with PTSD mediating 76% of the effect of exposure (standardized path coefficient = $.326$; $p < .001$). These empirical findings are among the first to suggest that the intensity of individual stress reactions influences the development of adverse changes in health status, at least in female veterans.

In conclusion, studies of symptoms associated with trauma exposure and PTSD in women show significant disturbances in posttrauma recovery related to reported health status, eating disorders, substance abuse, depression, and disrupted social and family functioning. In some cases, these difficulties seem distinctive for women. Accordingly, these symptoms are areas for careful clinical assessment. To the extent that associated symptoms impact primary symptoms of PTSD, they may contribute significantly to chronicity in this disorder.

ASSESSMENT METHODS AND APPROACHES

Conceptual Overview

Based on the findings reviewed here, it is clear that the evaluation of life trauma in women requires a multidimensional approach, particularly when trauma has transpired in childhood. Empirical data clearly highlight the need to assess more than the commonly recognized dimensions of event type, frequency, and overall severity (Resnick, 1992; Riggs, Cascardi, Hearst, & Foa, 1993; Cascardi, Riggs, Hearst-Ikeda, & Foa, 1996). In addition, research demonstrates that individual attributions about stressor causality and etiology have critical effects on both immediate and long-term outcome, as do factors such as self-esteem, self-schema, worldview, trust, social standing, and relational capacity (Wilson, 1994; Wind & Silvern, 1992). Thus, clinicians are urged to go beyond the primary DSM-IV symptom criteria when assessing a survivor's posttrauma adjustment and outcome. This orientation is supported by numerous studies on the effects of trauma exposure on women. Various investigators (e.g., Draucker, 1993; Finkelhor & Browne, 1986; Haz-

zard, 1993) have documented the influence of trauma-related attributions and cognitions (e.g., self-blame/stigmatization, betrayal, powerlessness) in sexually traumatized women and found effects that often exceed traditional symptom expectations. These findings suggest that alterations in the preceding domains have a profound impact on functional outcome in a number of ways, ranging from self-esteem and self-efficacy to mood and interactional style (Hazzard, 1993).

Age is an important factor to consider in the design of assessment protocols. In younger women and girls, disturbances in the preceding domains are commonly associated with affective distress or depression (Nolen-Hoeksema & Girgus, 1994). Although clinical depression may remit in women, findings from research increasingly suggest that effects of depression and associated adaptation play an important (though poorly understood) role in subsequent adult PTSD (Breslau & Davis, 1992; Gidycz & Koss, 1991; Resnick et al., 1993). Thus, the clinician is advised to carefully explore childhood stressor antecedents, accompanying cognitive and behavioral changes, and affective sequelae, even in the absence of etiological models.

Assessing Primary and Associated Features

One of the more challenging issues in assessing PTSD in women relates to definition of the stressor. Although there are excellent instruments for evaluating normative symptom criteria (e.g., the Structured Clinical Interview for DSM-III-R [SCID]; Spitzer, Williams, & Gibbon, 1986; Spitzer, Williams, Gibbon, & First, 1990; and the Clinician-Administered PTSD Scale; [CAPS]; Blake et al., 1990), delineation of Criterion A may remain problematic. Fortunately, several checklist and interview formats are available that help facilitate identification of a range of stressors, for example, the Evaluation of Lifetime Stressors Interview (ELS; Krinsley et al., 1994), the PTSD Symptom Scale (PSS; Foa, Riggs, Dancu, & Rothbaum, 1993), the Women's Military Stress Interview (WMSI; Rosenheck & Wolfe, 1994), and the Life Stressor Checklist (LSC; Wolfe, Kimerling, & Brown, 1993c; see Appendix). Most of these instruments specify high-magnitude events that are easily recognized (e.g., criminal victimization, natural disaster). Events linked to developmental or psychosocial disruptions, however, often are more difficult to elicit despite their importance for female survivors (e.g., permanent separation from a child, abortion). Instruments such as the LSC, which review broader developmental experiences, may help with defining lifespan events (Wolfe et al., 1993c).

Often, when trauma has occurred in the context of an ongoing relationship, stressors may not be readily recognized for their abusive potential. In these instances, the semantics in inquiring about such events have paramount importance. Several community surveys have found that many women do not spontaneously endorse sexual assault or rape when interviewers use these terms and the event has been perpetrated by someone familiar (National

Victim Center, 1992). These studies strongly suggest that behavioral descriptors and queries are needed, for example, "Have you ever been forced, or threatened with force, to have sex against your will? By sex, we mean penetration of the vagina, anus, or mouth, by a penis or other object." Use of this type of inquiry has produced notable increases in reported assaults in a variety of samples.

Recently enacted changes in the DSM-III-R and DSM-IV (American Psychiatric Association, 1987, 1994) diagnostic criteria for PTSD also are likely to have implications for assessing women. Specifically, the incorporation of *witnessing* a traumatic event as a Criterion A event is likely to broaden the range of applicable exposures over the lifespan. When observation of trauma transpires in domestic, caretaking, or vocational settings, this criterion refinement may add ecological validity to the stressors encountered by women, improving both accuracy of detection and diagnosis. Although few empirical data are currently available, women's witnessing of trauma may have distinctive implications for diagnosis and treatment. Wolfe, Brown, and Kelley (1993b) evaluated severe stressors encountered by male and female veterans during their Persian Gulf War deployment and found differences among gender, exposure typology, and PTSD symptomatology. Women were significantly more likely to show an association between generalized clinical distress or PTSD symptoms and the *observation of trauma* involving others, whereas men were more impacted by specific military events (e.g., anticipating or being put on rocket/SCUD alert). In addition, women's (but not men's) PTSD symptomatology at 1-year postdeployment was linked to particular postmilitary life events, for example, subsequent witnessing of a serious accident or injuries involving others (Wolfe & Young, 1993).

The definition of "symptom patterns" requires comparable specificity and sensitivity at the psychometric and clinician levels. The SCID (Spitzer et al., 1986, 1990) and DIS (Helzer & Robins, 1988; von Korff & Anthony, 1982) each provide reliable diagnostic data for Axis I diagnoses and contain specific modules for determining the presence or absence of PTSD (Weiss, 1993). These instruments are limited in part, however, by a reliance on dichotomous classification schemas. In contrast, structured interviews such as the CAPS (Blake et al., 1990), which has excellent psychometric properties, offer continuous measures of all primary PTSD criteria and associated features, enabling assessment of both frequency and severity/intensity dimensions. Other scales such as the PSS (Foa et al., 1993), the PTSD Checklist (PCL; Weathers, Litz, Huska, & Keane, 1991), the Impact of Event Scale (IES; Horowitz, Wilner, & Alvarez, 1979), the Impact of Event Scale-Revised (IES-R; Weiss, Marmar, Metzler, & Ronfeldt, 1995), and the Mississippi Scale for Combat-Related (or Civilian) PTSD (Keane, Caddell, & Taylor, 1988), to name a few, can be used either in interview or self-report formats and possess good to excellent psychometric validity and reliability. The reader is referred to companion chapters in this volume for more detailed discussion of these procedures.

Detailed, careful delineation of symptomatology is especially important when there is repeated victimization or marked symptom chronicity (e.g., following incest or long-term battering). Instruments such as the Trauma Symptom Checklist (TSC; Bagley, 1991) appear to have the ability to differentiate consequences of briefer trauma exposure from sequelae of longer term abuse. Particular attention should also be paid to Axis II disorders, especially borderline personality, in which sequelae of more severe trauma histories are likely to be represented (Gunderson & Sabo, 1993). The SCID II (Spitzer et al., 1986) and structured interviews for complex PTSD (Herman, 1992) are recommended for delineating complicated components of chronic or untreated severe stress disorders.

Social Support

To date, no standardized measures of social support specifically meet the needs of trauma survivors. Although there are a number of social support measures with reasonable psychometric properties, for example, the Social Adjustment Scale (SAS; Paykel, Prusoff, & Uhlenhuth, 1971; Paykel, Weismann, & Prusoff, 1978) and the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983), there are no comparative norms for trauma victims. Hence, assessment of social support might be augmented by using an unstructured interview that focuses on perceptions and status of the woman's relationships with a range of significant individuals (e.g., friends, family, community; McCann & Pearlman, 1990). In particular, reports of support availability, helpfulness, and change should be carefully assessed. When a traumatic stressor has substantially altered a relationship (e.g., through separation or death), it is critical to examine the spectrum of effects on the woman and on those in her immediate network. A single mother, for example, may turn increasingly to a child for support, altering boundaries and demands on the family's operational structure. When trauma occurs in the work or community setting, a woman may be forced to leave existing relationships, losing esteem and support derived from important relationships with colleagues and friends. In all of these cases, the clinician is strongly advised to assess the functional impact of these losses and to evaluate the feasibility of other potential replacement sources.

Psychophysiology

Psychophysiological assessment of the stress response remains one of the more useful methods for assessing posttrauma functional change, because it permits the collection of objective, empirically reliable data along with subjective reports. To date, however, the vast majority of psychophysiological research in PTSD has been conducted with male veterans with combat-related PTSD. These data compellingly demonstrate pronounced psychophysiological reactivity to trauma-relevant stimuli in numerous male

PTSD populations (Gerardi, Keane, Cahoon, & Klauminzer, 1994). However, the relative paucity of data regarding physiological reactivity in women and noncombat PTSD leaves the significance of physiological assessments in these populations as partly unknown (but see Shalev, Orr, & Pitman, 1993). Still, psychophysiological assessment's wide utility in traumatized men suggests considerable promise for this methodology with women. Here we review current methods of psychophysiological assessment in terms of strengths and limitations for assessing women and discuss evidence for gender differences in the psychophysiological response to severe stress.

Current research emphasizes the importance of measuring physiological arousal across multiple channels, typically heart rate (HR), systolic blood pressure (SBP), diastolic blood pressure (DBP), skin conductance (SC), facial electromyogram (EMG), and subjective units of distress (SUDS). Existing theoretical models and empirical data from men recommend the use of similar multimodal assessments in women for determining autonomic parameters in which women are impacted by traumatic stress. Extant literature on physiological response, ranging from nonclinical samples to laboratory stresses, indicate preliminary gender differences in certain parameters. Males, for example, tend to display higher vascular responses (i.e., SBP and DBP) to the presentation of acute behavioral stressors such as mathematical tasks, public speaking, and Stroop color-naming tasks; women, conversely, show more pronounced cardiac (i.e., HR) responsivity to similar tasks (Allen, Stoney, Owens, & Matthews, 1993; Stoney, Davis, & Matthews, 1987; Stoney, Matthews, McDonald, & Johnson, 1988). Menopausal status may also be an additional consideration when assessing women. Postmenopausal women appear to show vascular as well as cardiac reactivity secondary to declining levels of estrogens, suggesting that hormonal status is a significant factor in women's psychophysiological responsivity (Matthews, 1992). Two popular paradigms for psychophysiological assessment of PTSD include the measurement of baseline physiological states followed by the presentation of (standardized) trauma-relevant stimuli and the use of ideographic or self-generated trauma cues. Although use of a standardized technique typically affords greater stimulus control within and across samples, the ideographic technique may be particularly appropriate for female PTSD populations, given the diversity and breadth of stressor exposure and the unusually high degree of personal familiarity with assault perpetrators (Kimerling, Wolfe, Schnurr, Clum, & Chrestman, 1994). This hypothesis awaits empirical validation.

Given preliminary data, physiological reactivity to trauma stimuli appears to be an important indicator of PTSD status and PTSD severity in women. Shalev et al. (1993) assessed physiological reactivity in a small sample of men ($n = 9$) and women ($n = 4$) with PTSD and found that women exhibited psychophysiological responses that were 33% higher on average than male participants on all assessed physiological domains (i.e., HR, SC, facial EMG). Severity of PTSD symptoms, however, were not analyzed. Hence, it

is not yet known whether autonomic differences correlate with PTSD severity in women.

Additional Domains

Investigations into the psychobiology of PTSD are likely to have growing utility. Numerous investigators have begun to delineate disturbances of the hypothalamic-pituitary-adrenal axis (HPA) that appear to be specific to PTSD (e.g., Everly, 1993; Murburg et al., 1994a; Murburg et al., 1994b; Yehuda et al., 1994). In women, these alterations may have antecedents in traumatic childhood experiences. Trickett and Putnam (1993) hypothesized that childhood PTSD in females substantially impacts critical neuroendocrine and biological processes specific to pubertal development (e.g., suppression or acceleration of menses). When linked with disruptions in behavioral, psychosocial, and affective domains, these phenomena may adversely affect capabilities for adapting to later trauma sequelae. As behavioral, developmental, and biological findings are integrated, more will be learned about the role of sex characteristics in these outcomes.

As noted earlier, the diversity of health domains affected in the post-trauma period suggests that it is helpful to assess health status along numerous dimensions, including current and past physical status, number of physician-diagnosed disorders, range of health systems affected, number of health symptoms, and degree and type of functional impairment. Also, the relationship or concordance between subjective and objective reporting is likely to be important. A number of health measures are available for these purposes, some of which have been used extensively in a variety of medical and psychiatric groups (e.g., Pennebaker Inventory of Limbid Languidness [PILL; Pennebaker, 1982]; Cornell Medical Index [CMI; Bartone et al., 1989]) and a range of comparative data are available. Reported changes in *functional* health status are especially useful, since they afford the opportunity to compare functional capacities with subjective distress and perceived impairment. Widely validated brief instruments such as the Short Form-36 (SF-36; Ware & Sherbourne, 1992) are useful for this purpose.

Finally, anger and rage constitute important areas for evaluation of PTSD in women. Although widely thought to be primarily problematic in men, rage and associated behavioral disturbances may be more common than anticipated in a subset of traumatized women, particularly those with childhood abuse (Adshead, 1994; Kendall-Tackett et al., 1993). Preliminary descriptive data suggest that these problems involve both self-injurious and outwardly destructive behavior that, if not properly evaluated, leads to serious misdiagnosis and imprecision in treatment.

In conclusion, existing instrumentation has considerable potential for the thorough and valid assessment of PTSD and associated symptoms in women. Still needed are guidelines for the practical use of these instruments with women (e.g., delineation of multiple traumas) along with empirical data on

the sensitivity of these instruments across gender and any potential for gender bias. At present, the CAPS is one of the most comprehensive and reliable instruments available for the measurement of PTSD. For women who are multiply victimized, however, the current structure of such event-focused instruments may make broad-based inquiry and the linkage of various events to diverse symptom patterns especially challenging. Still, the need for this approach is clear.

At least two types of gender bias in instrumentation may exist. First, bias may be content related. The wording and choice of events and symptoms queried may be more reflective of the experience of one gender (Wolfe et al., 1993a). Second, statistical bias may exist; that is, measures may differ by gender in their sensitivity for detecting symptoms or in their predictive power. To date, no empirical PTSD study has addressed this issue. Research in this area is essential for future investigations seeking to validate correlates of gender, rather than method variance, as a factor associated with vulnerability in traumatic stress.

FUTURE DIRECTIONS

Existing literature suggests several possible gender differences in exposure to trauma, PTSD symptoms, and risk factors. These differences can be ascribed to a variety of complex methodological, biological, social, and environmental factors. Consequently, more research is needed to delineate the range and impact of these factors. In particular, rigorous research should examine components of measurement and design—as well as psychological factors—as they relate to gender. In this section, we consider existing data in these areas and highlight a number of research directions for dealing with gender-fair diagnostic measurement of PTSD phenomena, as well as the spectrum of gender-linked biological and social factors that are likely to influence the evolution of this disorder.

On the surface, empirical data preliminarily suggest that the prevalence of PTSD is increased in women under certain conditions. The majority of studies reaching this conclusion use female samples and emphasize two sets of critical but related findings: (1) the existence of greatly elevated rates of rape and sexual assault among females in the United States, and (2) the highly deleterious impact of this type of trauma (e.g., Rothbaum et al., 1992). Careful circumspection of these data suggest, therefore, that event prevalence will be one important factor to consider in any conclusion that female gender is a “risk” factor for PTSD (Resick, 1993).

In contrast to studies of women, investigations comparing PTSD prevalences between men and women yield more equivocal results. Men appear to show an enhanced risk for lifetime exposure to traumatic stressors (e.g., Norris, 1992), whereas female gender has been preliminarily linked to greater PTSD chronicity (Breslau et al., 1991; Kessler, Sonnega, Bromet, Hughes, &

Nelson, 1995). Current conceptualizations of gender may contribute to these assumptions such that, when exposure frequency, severity, and chronicity are taken into account, apparent gender differences could change. Events such as sexual assault and domestic violence are far more prevalent in women than men. Consequently, study designs that employ more robust assessment of exposure parameters (e.g., contact with violence, perceptions of life threat, duration of trauma) are likely to improve analyses of the effect of these experiences. Also, broader assessment designs might optimally tap a wider range of exposure and outcome domains. Based on data reviewed in this chapter, there is good evidence that these domains should include, at a minimum, the total number of traumatic events, duration of exposure (e.g., episodic vs. chronic), and severity of exposure across certain dimensions (e.g., life-threatening vs. non-life-threatening, moderate vs. severe). In particular, measures of stressor exposure should pay increased attention to distinctive stressor experiences across gender. In this vein, the evaluation of role-related, social/contextual, and symbolic or connotative factors associated with prominent stressors for women are likely to be important. If implemented, this type of approach could also facilitate consideration of extant PTSD threshold models that predict the emergence of traumatic stress when certain individual tolerances are exceeded (Houskamp & Foy, 1991; Kulka et al., 1990; Wilson, 1994; Wilson & Krauss, 1985; Wilson, Smith, & Johnson, 1985; Wolfe & Keane, 1993).

Other assessment issues pertain to the context, content, and format of evaluations, in particular, the rationale employed in assessment design, test selection, and test construction. Many currently available psychometric tests for PTSD were developed largely in the context of the experiences of male combat veterans. Hence, questions concerning generalizability can be raised. There is also some empirical evidence to suggest that the testing situation itself can be impacted by factors such as the gender and orientation of the diagnosing practitioner. Several studies have found that medical practitioners diagnose clinical depression more often in women than men, regardless of actual diagnostic status (e.g., Potts, Burnam, & Wells, 1991). This finding is upheld even when depression severity and demographic characteristics are controlled, suggesting that illness intensity is not the only variable to influence diagnostic impressions. In PTSD, judgments about chronicity might also be influenced by certain factors. At this time, it remains unclear whether findings of higher rates of chronic PTSD in women reflect problems in understanding the manifestations of PTSD in this population, in which failure to improve is attributed to gender status.

Some respondent characteristics are likely to influence the interpretation of gender role in PTSD outcomes. Although little is currently known about effects and patterns of disclosure of trauma, recent research from related fields (e.g., health services research) suggest that distinctive gender differences in reporting styles exist. Women, for example, typically endorse more physical and emotional symptoms than do men and also report greater symp-

tom severity (Verbrugge, 1983, 1985). This finding appears to apply (at least preliminarily) to female children as well (Roberts, Andrews, Lewinsohn, & Hops, 1990). Although this finding may suggest overreporting of symptoms in women, it is possible that these data belie actual differences in the physical and psychological status of women and men. It is possible, for example, that gender-role socialization impacts an individual's willingness or ability to disclose trauma exposure or PTSD symptoms. This difference could then be construed as a male tendency to suppress symptom experiences rather than female overreporting. At the present time, there are essentially no data exploring the relationship of gender to trauma reporting or trauma-symptom disclosure, although several studies are currently underway (e.g., Prins, Hearst-Ikeda, Wilson, & Wolfe, 1995). Clearly, more research is required to determine if gender is associated with the reporting or detection of PTSD and whether either group differs in its approach to identifying or disclosing actual experiences (see Lisak, 1994).

One problem on a conceptual level is the relative paucity of testable hypotheses as to how female gender is conceptualized as a "risk" factor for PTSD. Clearly, childhood sexual abuse has been prominently associated with a spectrum of debilitating disorders, including chronic PTSD (Briere & Runtz, 1987; Polusny & Follette, 1995), and prevalence studies confirm that this abuse is vastly overrepresented in women. Yet, apart from increased exposure to certain forms of trauma and violence in women, no specific gender correlates have been defined that permit empirical testing of a vulnerability construct for this disorder. Similarly, no PTSD study that we are aware of has proposed any comprehensive or operational model involving gender that explicitly specifies parameters associated with women's differential risk. Such studies, which are ongoing in research on depression, benefit strongly from the integrated consideration of psychosocial and biological factors (e.g., Nolen-Hoeksema & Girgus, 1994). Consequently, these models might offer useful avenues for empirical tests of the role of gender in PTSD.

In the absence of empirical tests, models elucidating the role of gender in depression may offer preliminary evidence for a possible female "diathesis" in PTSD. These studies emphasize the adverse impact of disturbed family environments (particularly disturbed mother-child interactions and sexual abuse) in the genesis of depressive conditions in young girls as well as the effects of depression on subsequent psychological development. The data are consonant with the general psychiatric literature which, to date, has found higher rates of numerous depressive disorders in women (e.g., Goldman & Ravid, 1980; Nolen-Hoeksema, 1987; Strickland, 1989; Weissman & Klerman, 1977, 1985; Weissman, Leaf, Holzer, Meyers, & Tischler, 1984). Preliminary data from some PTSD studies (e.g., Resnick et al., 1992) have recently suggested that preexisting depression in adult female trauma victims adversely influences outcome following adult sexual assault, specifically the development of PTSD. If findings of greater preexisting depression in women with adult PTSD are eventually confirmed, it is possible that depression, rather

than *female gender* per se, will constitute one factor linked to vulnerability for traumatization following stressor exposure. Clearly, research on this topic will need to address the range of possible antecedent effects that link early psychosocial domains, developmental phenomena, and family background to the establishment of clinical depression, as well as the complex psychological and biological pathways through which clinical affective disturbance mediates traumatic response.

The intricate interaction between more general stress and PTSD may also provide data on the relationship of gender to this disorder. Similar to catastrophic stress, research demonstrates that daily stressors are capable of impacting well-being in a variety of ways. Verbrugge (1985), for example, found that recurrent exposure to daily, negative life events reliably affected women's mood states, along with altering reports of physical well-being, coping, and behavioral repertoires (e.g., the decision to seek medical care). It is possible, therefore, that seemingly routine stressors impact women distinctively (e.g., greater distress in response to perceived competition between social and vocational roles, job discrimination, and fluctuations in social support; Verbrugge, 1989). Lack of economic and social advantage also may distinctively impact coping abilities in women, especially their ability to carry out activities associated with critical caretaking or domestic roles. To what extent this interrelationship extends to the domain of traumatic stressors and, additionally, whether such an interaction differs between men and women, is still unknown.

Clearly, the interplay among gender, personal characteristics, and the content and context of trauma exposure is exceedingly complex. Considerable work is needed to evaluate which domains—or their subsets—are associated with the acquisition or, more critically, the progression of traumatic stress syndromes. Existing diagnostic methods offer a strong footing from which empirical efforts can proceed. These methods suggest that development of increasingly refined but empirically valid and reliable measures of event impact and response characteristics will help substantially in illustrating how gender is linked to trauma outcome. Just as important, these advances can improve our clinical abilities to detect traumatic stress, as well as our appreciation for the most appropriate treatment methods. Continued progress in the development of “ecologically” valid measures and more functional or operational definitions of gender—whether psychological, social, behavioral, or biological—are all areas for future contributions.

APPENDIX: LIFE STRESSOR CHECKLIST—REVISED¹

Jessica Wolfe, Rachel Kimerling,
Pamela Brown, Kelly Chrestman, and Karen Levin

- 1. Have you ever been in a serious disaster (for example, a massive earthquake, hurricane, tornado, fire, explosion)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 2. Have you ever seen a serious accident (for example, a bad car wreck or an on-the-job accident)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 3. Have you ever had a very serious accident or accident-related injury (for example, a bad car wreck or an on-the-job accident)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO

¹Scoring instructions and normative data for the Life Stressor Checklist—Revised (LSCL-R) are available from Wolfe at the Women's Health Sciences Division, National Center for PTSD, upon request and receipt of a data sharing agreement. As this instrument is currently undergoing psychometric refinement, we ask that those using the LSCL-R share their raw data with us to further these efforts. We are very interested in facilitating the use of the LSCL-R in different populations. Consequently, we will provide consultation, normative data, updated test versions, and scoring instructions to those who are willing to sign a data sharing agreement. This instrument is designed to elicit material that may be disturbing or disruptive for some individuals. Accordingly, we would caution against use of the LSCL-R in settings where a trained clinician is not readily available for debriefing or consultation/referral.

- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
4. Was a close family member ever sent to jail? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
5. Have you ever been sent to jail? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
6. Were you ever put in foster care or put up for adoption? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
7. Did your parents ever separate or divorce while you were living with them? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO

- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 8. Have you ever been separated or divorced?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 9. Have you ever had serious money problems (for example, not enough money for food or place to live)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 10. Have you ever had a very serious physical or mental illness (for example, cancer, heart attack, serious operation, felt like killing yourself, hospitalized because of nerve problems)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 11. Have you ever been emotionally abused or neglected (for example, being frequently shamed, embarrassed, ignored, or repeatedly told that you were "no good")?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____

- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 12. Have you ever been physically neglected (for example, not fed, not properly clothed, or left to take care of yourself when you were too young or ill)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 13. WOMEN ONLY: Have you ever had an abortion or miscarriage (lost your baby)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
- 14. Have you ever been separated from your child against your will (for example, the loss of custody or visitation or kidnapping)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

15. Has a baby or child of yours ever had a severe physical or mental handicap (for example, mentally retarded, birth defects, can't hear, see, walk)? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- | | | | | | |
|---|------------|---|------------|---|-----------|
| e. How upsetting was the event at the time? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
- | | | | | | |
|---|------------|---|------------|---|-----------|
| f. How much has it affected your life in the past year? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
16. Have you ever been responsible for taking care of someone close to you (not your child) who had a severe physical or mental handicap (for example, cancer, stroke, Alzheimer's disease, AIDS, felt like killing him/herself, hospitalized because of nerve problems, can't hear, see, walk)? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- | | | | | | |
|---|------------|---|------------|---|-----------|
| e. How upsetting was the event at the time? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
- | | | | | | |
|---|------------|---|------------|---|-----------|
| f. How much has it affected your life in the past year? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
17. Has someone close to you died suddenly or unexpectedly (for example, an accident, sudden heart attack, murder or suicide)? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- | | | | | | |
|---|------------|---|------------|---|-----------|
| e. How upsetting was the event at the time? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
- | | | | | | |
|---|------------|---|------------|---|-----------|
| f. How much has it affected your life in the past year? | 1 | 2 | 3 | 4 | 5 |
| | not at all | | moderately | | extremely |
18. Has someone close to you died (do not include those who died suddenly or unexpectedly)? YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO

- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
not at all moderately extremely
- 19. When you were young (before age 16), did you ever see violence between family members (for example, hitting, kicking, slapping, punching)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
not at all moderately extremely
- 20. Have you ever seen a robbery, mugging, or attack taking place?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
not at all moderately extremely
- 21. Have you ever been robbed, mugged, or physically attacked (not sexually) by someone you did not know?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
not at all moderately extremely
- 22. Before age 16, were you ever abused or physically attacked (not sexually) by someone you knew (for example, a parent, boyfriend, or husband hit, slapped, choked, burned, or beat you up)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____

- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
23. **After age 16, were you ever abused or physically attacked (not sexually) by someone you knew (for example, a parent, boyfriend, or husband hit, slapped, choked, burned, or beat you up)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
24. **Have you ever been bothered or harassed by sexual remarks, jokes, or demands for sexual favors by someone at work or school (for example, a coworker, a boss, a customer, another student, a teacher)?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
25. **Before age 16, were you ever touched or made to touch someone else in a sexual way because he/she forced you in some way or threatened to harm you if you didn't?** YES NO
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely

How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

26. **After age 16, were you ever touched or made to touch someone else in a sexual way because he/she forced you in some way or threatened to harm you if you didn't?** YES NO

a. How old were you when this first began? _____ b. when it ended? _____

c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO

d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO

e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely

f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

27. **Before age 16, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?** YES NO

a. How old were you when this first began? _____ b. when it ended? _____

c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO

d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO

e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely

f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

28. **After age 16, did you ever have sex (oral, anal, genital) when you didn't want to because someone forced you in some way or threatened to harm you if you didn't?** YES NO

a. How old were you when this first began? _____ b. when it ended? _____

c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO

d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO

e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely

f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

29. **Are there any events we did not include that you would like to mention?** YES NO

What was the event? _____

- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely
30. Have any of the events mentioned above ever happened to someone close to you so that even though you didn't see or experience the event yourself, you were seriously disturbed by it? YES NO
- What was the event? _____

-
- a. How old were you when this first began? _____ b. when it ended? _____
- c. At the time of the event did you believe that *you or someone else* could be *killed* or seriously *harmed*? YES NO
- d. At the time of the event did you experience feelings of *intense helplessness, fear, or horror*? YES NO
- e. How upsetting was the event at the time? 1 2 3 4 5
 not at all moderately extremely
- f. How much has it affected your life in the past year? 1 2 3 4 5
 not at all moderately extremely

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REFERENCES

- Ader, R., & Cohen, N. (1993). Psychoneuroimmunology: Conditioning and stress. *Annual Review of Psychology*, 44, 53-85.
- Adler, D. A. (1990). Clinicians' practices in personality assessment: Does gender influence the use of DSM-III Axis II? *Comprehensive Psychiatry*, 31, 125-133.
- Adshead, G. (1994). Damage: Trauma and violence in a sample of women referred to a forensic service. *Behavioral Sciences and the Law*, 12, 235-249.
- Albach, F., & Everaerd, W. (1992). Posttraumatic stress symptoms in victims of childhood incest. 2nd European Conference on Traumatic Stress. *Psychotherapy and Psychosomatics*, 57, 143-151.

- Allen, M. T., Stoney, C. T., Owens, J. F., & Matthews, K. A. (1993). Hemodynamic adjustment to laboratory stress: The influence of gender and personality. *Psychosomatic Medicine, 55*, 505-517.
- American Psychiatric Association. (1980). *The diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (1987). *The diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.
- American Psychiatric Association. (1994). *The diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Arntz, A. (1994). Treatment of borderline personality disorder: A challenge for cognitive behavioral therapy. *Behavior Research and Therapy, 32*, 419-430.
- Bagley, C. (1991). The prevalence and mental health sequels of child abuse in a community sample of women aged 18 to 27. *Canadian Journal of Community Mental Health, 10*, 103-116.
- Bartone, P. T., Ursano, R. J., Wright, K. M., & Ingraham, L. H. (1989). The impact of military air disaster on the health of assistance workers. *Journal of Nervous and Mental Disease, 177*, 317-328.
- Becker, D. (1994). Sex bias in the diagnosis of borderline personality disorder and posttraumatic stress disorder. *Professional Psychology: Research and Practice, 25*, 55-61.
- Bell, I. R., Miller, C. S., & Schwartz, G. E. (1992). An olfactory-limbic model of multiple chemical sensitivity: Possible relationships to kindling and affective spectrum disorders. *Biological Psychiatry, 32*, 218-242.
- Blake, D., Weathers, F., Nagy, L., Kaloupek, D., Klauminzer, G., Charney, D., & Keane, T. M. (1990). *Clinician-Administered PTSD Scale*. Unpublished scale, National Center for PTSD, Boston.
- Blank, A. (1994, June). Clinical detection, diagnosis and differential diagnosis of PTSD. *Psychiatric Clinics of North America*, pp. 359-383.
- Bremner, J. D., Southwick, S. M., Johnson, D. R., Yehuda, R., & Charney, D. S. (1993). Childhood physical abuse and combat-related posttraumatic stress disorder in Vietnam veterans. *American Journal of Psychiatry, 150*, 235-239.
- Breslau, N., & Davis, G. C. (1992). Posttraumatic stress disorder in an urban population of young adults: Risk factors for chronicity. *American Journal of Psychiatry, 149*, 671-675.
- Breslau, N., Davis, G. C., Andreski, P., & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry, 48*, 216-222.
- Briere, J., & Runtz, M. (1987). Post sexual abuse trauma: Data and implications for clinical practice. *Journal of Interpersonal Violence, 2*, 367-379.
- Brown, P. J., & Wolfe, J. (1994). Substance abuse and post-traumatic stress disorder comorbidity. *Drug and Alcohol Dependence, 36*, 51-59.
- Browne, A. (1993). Violence against women by male partners: Prevalence, outcomes, and policy implications. *American Psychologist, 48*, 1077-1087.
- Burger, L. (1992). *Coping with repetitive natural disasters: A study of the Ladysmith floods*. (Tech. Rep. No. 26). Pretoria: University of South Africa, Psychology Department.
- Calhoun, K. S., & Atkeson, B. M. (Eds.). (1991). *Psychology practitioner guidebooks*. New York: Pergamon Press.
- Cappelleri, J. C., Eckenrode, J., & Powers, J. L. (1993). The epidemiology of child abuse: Findings from the Second National Incidence and Prevalence Study of Child Abuse and Neglect. *American Journal of Public Health, 83*, 1622-1624.

- Cascardi, M., Riggs, D., Hearst-Ikeda, D., & Foa, E. (1996). Objective ratings of assault safety as predictors of PTSD. *Journal of Interpersonal Violence, 11*, 65-78.
- Chu, J. A. (1992). The revictimization of adult women with histories of childhood abuse. *Journal of Psychotherapy Practice and Research, 1*, 259-269.
- Chu, J. A., & Dill, D. L. (1990). Dissociation in relation to childhood physical and sexual abuse. *American Journal of Psychiatry, 147*, 887-892.
- Classen, C., Koopman, C., & Spiegel, D. (1993). Trauma and dissociation. *Bulletin of the Menninger Clinic, 157*, 178-194.
- Cohen, L. J., & Roth, S. (1987). The psychological aftermath of rape: Long-term effects and individual differences in recovery. *Journal of Social and Clinical Psychology, 5*, 525-534.
- Cohen, S., & Williamson, G. M. (1991). Stress and infectious disease in humans. *Psychological Bulletin, 109*, 5-24.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 96*, 310-357.
- Cottler, L. B., Compton, W. M., Mager, D., Spitznagel, E. L., & Janca, A. (1992). Post-traumatic stress disorder among substance users from the general population. *American Journal of Psychiatry, 149*, 664-670.
- Draucker, C. B. (1993). Childhood sexual abuse: Sources of trauma. *Issues in Mental Health Nursing, 14*, 249-262.
- Engel, C. C., Engel, A. L., Campbell, S. J., McFall, M. E., Russo, J., & Katon, W. (1993). Posttraumatic stress disorders symptoms and precombat sexual and physical abuse in Desert Storm veterans. *Journal of Nervous and Mental Disease, 181*, 683-688.
- Everly, G. S., Jr. (1993). Neurophysiological considerations in the treatment of post-traumatic stress disorder: A neurocognitive perspective. In J. W. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 795-802). New York: Plenum Press.
- Figley, C. R. (1985). From victim to survivor: Social responsibility in the wake of catastrophe. In C. R. Figley (Ed.), *Trauma and its wake: The study and treatment of post-traumatic stress disorder* (pp. 398-415). New York: Brunner/Mazel.
- Finkelhor, D., & Baron, L. (1986). Risk factors for child sexual abuse. *Journal of Interpersonal Violence, 1*, 43-71.
- Finkelhor, D., & Browne, A. (1986). The traumatic impact of child sexual abuse: A conceptualization. *American Journal of Orthopsychiatry, 55*, 530-541.
- Fischer, G. J. (1992). Gender differences in college student sexual abuse victims and their offenders. *Annals of Sex Research, 5*, 215-226.
- Foa, E. B. (1994, July). *Psychopathology and treatment of PTSD in rape victims*. Invited Address at the American Psychological Society Convention, Washington, DC.
- Foa, E. B., & Riggs, D. S. (1993). Posttraumatic stress disorder and rape. In J. Oldham, M. B. Riba, & A. Tasman (Eds.), *American Psychiatric Press Review of Psychiatry* (Vol. 12, pp. 273-303). Washington, DC: American Psychiatric Press.
- Foa, E. B., Riggs, D. S., Dancu, C. V., & Rothbaum, B. O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress, 6*, 459-473.
- Foy, D. W., & Card, J. J. (1987). Combat-related posttraumatic stress disorder etiology: Replicated findings in a national sample of Vietnam era men. *Journal of Clinical Psychology, 43*, 28-31.
- Friedman, M. J. (1991). Biological approaches to the diagnosis and treatment of post-traumatic stress disorder. *Journal of Traumatic Stress, 4*, 67-91.

- Friedman, M. J. (1994a). Afterword. In M. M. Murburg (Ed.), *Catecholamine function in posttraumatic stress disorder: Emerging concepts* (pp. 343–356). Washington, DC: American Psychiatric Press.
- Friedman, M. J. (1994b). Neurobiological sensitization models of post-traumatic stress disorder: Their possible relevance to multiple chemical sensitivity syndrome. *Toxicology and Industrial Health, 10*, 449–462.
- Friedman, M. J., & Schnurr, P. P. (1995). The relationship between PTSD, trauma, and physical health outcomes. In M. J. Friedman, D. S. Charney, & A. Y. Deutch (Eds.), *Neurobiological and clinical consequences of stress: From normal adaptation to PTSD* (pp. 507–524). New York: Raven Press.
- Gerardi, R. J., Keane, T. M., Cahoon, B. J., & Klauminzer, G. W. (1994). An *in vivo* assessment of physiological arousal in posttraumatic stress disorder. *Journal of Abnormal Psychology, 103*, 825–827.
- Gidycz, C. A., & Koss, M. P. (1991). Predictors of long-term sexual assault trauma among a national sample of victimized college women. *Violence and Victims, 6*, 175–190.
- Goldman, S. J., D'Angelo, E. J., DeMaso, D. R., & Mezzacappa, E. (1992). Physical and sexual abuse histories among children with borderline personality disorder. *American Journal of Psychiatry, 149*, 1723–1726.
- Goldman, N., & Ravid, R. (1980). Community surveys: Sex differences in mental illness. In M. Guttentag, S. Salasin, & D. Belle (Eds.), *The mental health of women*. New York: Academic Press.
- Gordon, M. (1990). Males and females as victims of childhood sexual abuse: An examination of gender effects. *Journal of Family Violence, 5*, 321–332.
- Graziano, R. (1992). Treating women incest survivors: A bridge between “cumulative trauma” and “post-traumatic stress.” *Social Work in Health Care, 17*, 69–85.
- Green, B. L., Korol, M., Grace, M. C., Vary, M. G., Leonard, A. C., Gleser, G. C., & Smitson-Cohen, S. (1991). Children and disaster: Age, gender, and parental effects on PTSD symptoms. *Journal of the American Academy of Child and Adolescent Psychiatry, 30*, 945–951.
- Gunderson, J. G., & Sabo, A. N. (1993). The phenomenological and conceptual interface between borderline personality disorder and PTSD. *American Journal of Psychiatry, 150*, 19–27.
- Gunderson, J. G., Zanarini, M. C., & Kisiel, C. L. (1991). Borderline personality disorder: A review of the data on DSM-III-R descriptions. *Journal of Personality Disorders, 5*, 967–975.
- Hanson, R. K. (1990). The psychological impact of sexual assault on women and children: A review. *Annals of Sex Research, 3*, 187–232.
- Harkness, L. L. (1993). Transgenerational transmission of war-related trauma. In J. W. Wilson & B. Raphael (Eds.), *International handbook of traumatic stress syndromes* (pp. 635–643). New York: Plenum Press.
- Hazzard, A. (1993). Trauma-related beliefs as mediators of sexual abuse impact in adult women survivors: A pilot study. *Journal of Child Sexual Abuse, 2*, 55–69.
- Helzer, J. E., & Robins, L. N. (1988). The Diagnostic Interview Schedule: Its development, evolution, and use. *Social Psychiatry and Psychiatric Epidemiology, 23*, 6–16.
- Herjanic, B., & Reich, W. (1982). Development of a structured psychiatric interview for children: Agreement between child and parent on individual symptoms. *Journal of Abnormal Child Psychology, 10*, 307–324.
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*, 377–391.

- Herman, J. L., Perry, J. C., & van der Kolk, B. A. (1989). Childhood trauma in borderline personality disorder. *American Journal of Psychiatry*, *146*, 490-495.
- Herndon, A. D., & Law, J. G. (1985). Posttraumatic stress and the family: A multimethod approach to counseling. In C. R. Figley (Ed.), *Trauma and its wake* (pp. 264-279). New York: Brunner/Mazel.
- Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine*, *41*, 209-218.
- Houskamp, B. M., & Foy, D. W. (1991). The assessment of posttraumatic stress disorder in battered women. *Journal of Interpersonal Violence*, *6*, 367-375.
- Hunter, J. A., Goodwin, D. W., & Wilson, R. J. (1992). Attributions of blame in child sexual abuse victims: An analysis of age and gender influences. *Journal of Child Sexual Abuse*, *1*, 75-89.
- Jones, E. E., Farina, A., Hastorf, A. H., Marcus, H., Miller, D. T., & Scott R. A. (1984). *Social stigma: The psychology of marked relationships*. New York: Freeman.
- Keane, T. M., Caddell, J. M., Martin, B. W., Zimering, R. T., & Fairbank, J. A. (1983). Substance abuse among Vietnam Veterans with post-traumatic stress disorders. *Bulletin of the Society of Psychologists in the Addictive Behaviors*, *2*, 117-122.
- Keane, T. M., Caddell, J. M., Taylor, K. L. (1988). Mississippi Scale for Combat-Related Posttraumatic Stress Disorder: Three studies in reliability and validity. *Journal of Consulting and Clinical Psychology*, *56*, 85-90.
- Keane, T. K., & Wolfe, J. (1990). Comorbidity in post-traumatic stress disorder: An analysis of community and clinical studies. Research findings [Special Issue]. *Journal of Applied Social Psychology*, *20*, 1776-1788.
- Kemp, A., Rawlings, E. L., & Green, B. L. (1991). Post-traumatic stress disorder (PTSD) in battered women: A shelter sample. *Journal of Traumatic Stress*, *4*, 137-148.
- Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin*, *113*, 164-180.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the national comorbidity survey. *Archives of General Psychiatry*, *52*, 1048-1060.
- Kiecolt-Glaser, J. K., & Glaser, R. (1987). Psychosocial moderators of immune function. *Annals of Behavioral Medicine*, *9*, 16-20.
- Kilpatrick, D. G., Resnick, H. S., Saunders, B. E., & Best, C. L. (1989). *The National Women's Study PTSD Module*. Charleston: Crime Victims Research and Treatment Center, Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina.
- Kimerling, R. E., & Calhoun, K. S. (1994). Somatic symptoms, social support, and treatment seeking among sexual assault victims. *Journal of Consulting and Clinical Psychology*, *62*, 333-340.
- Kimerling, R. E., Wolfe, J., Schnurr, P. P., Clum, G. A., & Chrestman, K. (1994, May). *Differential effects of lifetime stressors and social support on physical health in women*. Paper presented at the American Psychological Association Conference on Women's Health, Washington, DC.
- Kofoed, L., Friedman, M. J., & Peck, R. (1993). Alcoholism and drug abuse in patients with PTSD. Contemporary topics in drug dependence and alcoholism [Special Issue]. *Psychiatric Quarterly*, *64*, 151-171.
- Koopman, C., Classen, C., & Spiegel, D. A. (1994). Predictors of posttraumatic stress symptoms among survivors of the Oakland/Berkeley Calif., firestorm. *American Journal of Psychiatry*, *151*, 888-894.

- Koss, M. P., Woodruff, W. J., & Koss, P. G. (1991). Criminal victimization among primary care medical patients: Prevalence, incidence, and physician usage. *Behavioral Sciences and the Law*, *9*, 85–96.
- Kovach, J. A. (1986). Incest as a treatment issue for alcoholic women. *Alcoholism Treatment Quarterly*, *3*, 1–15.
- Kramer, T. L., & Green, B. L. (1991). Posttraumatic stress disorder as an early response to sexual assault. *Journal of Interpersonal Violence*, *6*, 160–173.
- Krinsley, K. E., Weathers, F. W., Vielhauer, M. J., Newman, E., Walker E. A., Young, L. S., & Kimerling, R. (1994). *Evaluation of Lifetime Stressors (ELS)—Interview*. Boston: National Center for PTSD, Behavioral Sciences Division, Boston VA Medical Center.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1988). *National Vietnam Veterans Readjustment Study (NVVRS)*. Research Triangle Park, NC: Research Triangle Institute.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990). *Trauma and the Vietnam War generation*. New York: Brunner/Mazel.
- Landecker, H. (1992). The role of childhood sexual trauma in the etiology of borderline personality disorder: Considerations for diagnosis and treatment. *Psychotherapy*, *29*, 234–242.
- Lebowitz, L., & Roth, S. (1994). I felt like a slut—The cultural context and women's response to being raped. *Journal of Traumatic Stress*, *7*, 363–390.
- Leda, C., Rosenheck, R., & Gallup, P. (1992). Mental illness among homeless female veterans. *Hospital and Community Psychiatry*, *43*, 1026–1028.
- Lisak, D. (1994). The psychological impact of sexual abuse: Content analysis of interviews with male survivors. *Journal of Traumatic Stress*, *7*, 525–548.
- Litz, B. T., Keane, T. K., Fisher, L., Marx, B., & Monaco, V. (1992). Physical health complaints in combat-related post-traumatic stress disorder: A preliminary report. *Journal of Traumatic Stress*, *5*, 131–141.
- Livingston, R., Lawson, L., & Jones, J. G. (1993). Predictors of self-reported psychopathology in children abused repeatedly by a parent. *Journal of the American Academy of Child and Adolescent Psychiatry*, *32*, 948–953.
- Marmar, C. R., Weiss, D. S., Schlenger, W. E., Fairbank, J. A., Jordan, B. K., Kulka, R. A., & Hough, R. L. (1994). Peritraumatic dissociation and post-traumatic stress in male Vietnam theater veterans. *American Journal of Psychiatry*, *151*, 902–907.
- Matthews, H. B., Dixon, D., Herr, D. W., & Tilson, H. A. (1990). Subchronic toxicity studies indicate that ris(2-chloroethyl)phosphate administration results in lesions in the rat hippocampus. *Toxicology and Industrial Health*, *6*, 1–15.
- Matthews, K. A. (1992). Myths and realities of the menopause. *Psychosomatic Medicine*, *54*, 1–9.
- McCann, L. I., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy and transformation*. New York: Brunner/Mazel.
- McFall, M. E., Mackay, P. W., & Donovan, D. M. (1991). Combat-related PTSD and psychosocial adjustment problems among substance abusing veterans. *Journal of Nervous and Mental Diseases*, *179*, 33–38.
- McFall, M. E., Mackay, P. W., & Donovan, D. M. (1992). Combat-related posttraumatic stress disorder and severity of substance abuse in Vietnam Veterans. *Journal of the Studies on Alcohol*, *53*, 357–363.
- Mitchell, M. E. (1991). A family approach and network implications of therapy for victims of violence as applied in a case of rape. *Journal of Family Psychotherapy*, *2*, 1–13.

- Moscarello, R. (1992). Victims and violence: Aspects of the "victim-to-patient" process in women. *Canadian Journal of Psychiatry, 37*, 497-502.
- Mueser, T., Yarnold, P. R., & Foy, D. W. (1991). Statistical analysis for single-case designs: Evaluating outcome of imaginal exposure treatment of chronic PTSD. *Behavioral Modification, 15*, 134-155.
- Murburg, M. M., Ashleigh, E. A., Hommer, D. W., & Veith, R. C. (1994a). Biology of catecholaminergic systems and their relevance to PTSD. In M. M. Murburg (Ed.), *Catecholamine function in posttraumatic stress disorder: Emerging concepts* (pp. 3-16). Washington, DC: American Psychiatric Press.
- Murburg, M. M., McFall, M. E., & Veith, R. C. (1994b). Basal sympathoadrenal function in patients with PTSD and depression. In M. M. Murburg (Ed.), *Catecholamine function in posttraumatic stress disorder: Emerging concepts* (pp. 175-188). Washington, DC: American Psychiatric Press.
- Nash, M. R., Hulsey, T. L., Sexton, M. C., Harralson, T. L., & Lambert, W. (1993). Long-term sequelae of childhood sexual abuse: Perceived family environment, psychopathology, and dissociation. *Journal of Consulting and Clinical Psychology, 61*, 276-283.
- National Victim Center. (1992). *Rape in America: A report to the nation*. Arlington, VA: Author.
- Newmark, M. E., & Penry, J. K. (1980). Catamenial epilepsy: A review. *Epilepsia, 21*, 281-300.
- Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: Evidence and theory. *Psychological Bulletin, 101*, 259-282.
- Nolen-Hoeksema, S., & Girgus, J. S. (1994). The emergence of gender differences in depression during adolescence. *Psychological Bulletin, 115*, 424-443.
- Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60*, 409-418.
- North, C. S., & Smith, E. M. (1992). Posttraumatic stress disorder among homeless men and women. *Hospital and Community Psychiatry, 43*, 1010-1016.
- O'Neill, K., & Gupta, K. (1991). Post-traumatic stress disorder in women who were victims of childhood sexual abuse. *Irish Journal of Psychological Medicine, 8*, 124-127.
- Paykel, E. S., Prusoff, B. A., & Uhlenhuth, E. H. (1971). Scaling of life events. *Archives of General Psychiatry, 25*, 340-347.
- Paykel, E. S., Weissman, M. M., & Prusoff, B. A. (1978). Social maladjustment and severity of depression. *Comprehensive Psychiatry, 19*, 121-128.
- Pennebaker, J. W. (1982). *The psychology of physical symptoms*. New York: Springer-Verlag.
- Pillitteri, A., Seidl, A., Smith, C., & Stanton, M. (1992). Parent gender, victim gender, and family socioeconomic level influences on the potential reporting by nurses of physical child abuse. *Issues in Comprehensive Pediatric Nursing, 15*, 239-247.
- Polusny, M. A., & Follette, V. M. (1995). Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and Preventive Psychology, 4*, 143-166.
- Potts, M. K., Burnam, M. A., & Wells, K. B. (1991). Gender differences in depression detection: A comparison of clinician diagnosis and standardized assessment. *Psychological Assessment, 3*, 609-615.
- Prins, A., Hearst-Ikeda, D., Wilson, K., & Wolfe, J. (1995). *Development and validation of a trauma-specific self-concealment scale*. Unpublished manuscript.
- Putnam, F. W. (1989). Pierre Janet and modern views of dissociation. *Journal of Traumatic Stress, 2*, 413-429.

- Randall, T. (1990). Domestic violence begets other problems of which physicians must be aware to be effective. *Journal of the American Medical Association*, 264, 940-943.
- Realmuto, G. M., Wagner, N., & Bartholow, J. (1991). The Williams pipeline disaster: A controlled study of a technological accident. *Journal of Traumatic Stress*, 4, 469-479.
- Recupero, P. R., Brown, P. J., Stout, R., Wolfe, J., & Morello, S. (1994, May). *Traumatic exposure and PTSD symptomatology among substance abusers*. Paper presented at the annual meeting of the American Psychiatric Association, Philadelphia, PA.
- Reinherz, H. Z., Giaconia, R. M., Lefkowitz, E. S., Pakiz, B., & Frost, A. K. (1993). Prevalence of psychiatric disorders in a community population of older adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 32, 369-377.
- Resick, P. A. (1981, March). *Family support to victims of rape: An intervening variable for recovery?* Paper presented at the annual meeting of the Association for Women in Psychotherapy, Boston, MA.
- Resick, P. A. (1993). The psychological impact of rape: Rape [Special Section]. *Journal of Interpersonal Violence*, 8, 223-255.
- Resnick, H. S., Kilpatrick, D. G., Best, C. L., & Kramer, T. L. (1992). Vulnerability-stress factors in development of posttraumatic stress disorder. *Journal of Nervous and Mental Disease*, 180, 424-430.
- Resnick, H. S., Kilpatrick, D. G., Dansky, B. S., Saunders, B. E., & Best, C. L. (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology*, 61, 984-991.
- Riggs, D. S., Cascardi, M. B., Hearst, D., & Foa, E. B. (1993, November). Assault characteristics and early symptoms as predictors of assault related post-traumatic stress disorder. In D. S. Riggs (Chair), *Factors predictive of post-traumatic stress disorder: An examination of individual trauma and symptom characteristics*. Symposium conducted at the annual meeting of the Association for Advancement of Behavior Therapy, Atlanta, GA.
- Roberts, R. E., Andrews, J. A., Lewinsohn, P. M., & Hops, H. (1990). Assessment of depression in adolescents using the Center for Epidemiologic Studies Depression Scale. *Psychological Assessment*, 2, 122-128.
- Robins, L. N., Helzer, J. E., Croughan, J. L., & Ratcliffe, K. S. (1981). National Institute of Mental Health diagnostic interview schedule: Its history, characteristics, and validity. *Archives of General Psychiatry*, 38, 381-389.
- Robinson, T. E., & Becker, J. B. (1986). Enduring changes in brain and behavior produced by chronic amphetamine administration: A review and evaluation of animal models of amphetamine psychosis. *Brain Research Review*, 11, 157-198.
- Root, M. P. (1991). Persistent, disordered eating as a gender-specific post-traumatic stress response to sexual assault. Psychotherapy with victims [Special Issue]. *Psychotherapy*, 28, 96-102.
- Rose, S. M. (1991). Acknowledging abuse backgrounds of intensive case management clients. *Community Mental Health Journal*, 27, 255-263.
- Rosenheck, R., & Wolfe, J. (1994). *Military Stress Inventory for Women-R*. Boston: National Center for PTSD, Boston VA Medical Center.
- Roth, S., & Lebowitz, L. (1988). The experience of sexual trauma. *Journal of Traumatic Stress*, 1, 79-107.
- Rothbaum, B. O., Foa, E. B., Riggs, D. S., Murdock, T., & Walsh, W. (1992). A prospective examination of post-traumatic stress disorder in rape victims. *Journal of Traumatic Stress*, 5, 455-475.