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Validation of a Brief Measure of Posttraumatic Stress Disorder: The Distressing Event Questionnaire (DEQ)

Edward S. Kubany, Mary Beth Leisen, and Aaron S. Kaplan
National Center for PTSD
and University of Hawai'i at Mānoa

Martin P. Kelly
Haleiwa, Hawai'i

The Distressing Event Questionnaire (DEQ) is a brief instrument for assessing posttraumatic stress disorder (PTSD) according to criteria provided in *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.). The DEQ possesses high internal consistency and exhibited satisfactory short-term temporal stability in studies with Vietnam War combat veterans and battered women. In a sample of Vietnam War veterans and 4 separate samples of abused women (with histories of incest, rape, intimate partner abuse, or prostitution and abuse), the DEQ exhibited very good discriminative validity when judged against structured interview assessment of PTSD. The DEQ exhibited strong convergent validity with other PTSD measures and other indexes of adjustment and also exhibited strong convergent validity as a measure of PTSD across ethnic groups in both the veteran sample and the combined women's sample.

Exposure to traumatic events such as combat, physical and sexual abuse, or sudden death of a loved one can result in development of posttraumatic stress disorder (PTSD). Even though PTSD was not introduced as an official psychiatric disorder until 1980 (American Psychiatric Association), it is (and has probably always been) a pernicious and widespread problem. PTSD symptom clusters include (a) reexperiencing the trauma (e.g., unwanted intrusive memories, distressing trauma-related dreams), (b) avoidance (e.g., efforts to avoid thinking about the trauma), (c) emotional numbing (e.g., detachment from others, inability to experience positive emotions), and (d) hyperarousal (e.g., insomnia, hypervigilance, difficulty concentrating). PTSD often co-occurs with depression (e.g., Resick & Schnicke, 1992; Weathers et al., 1992; Zlotnick, Warshaw, Shea, & Keller, 1997) and many other psychiatric problems (e.g., Dansky et al., 1996; Faravelli, Amboneti, Fonnesu, & Sessarego, 1985; Kulka et al., 1990; Letourneau, Resnick, Kilpatrick, Saunders, & Best, 1996; B. E. Saunders, Villeponteaux, Lipovsky, Kilpatrick, & Veronen, 1992) and is a risk factor for serious medical problems (e.g., Boscarino, 1997). In addition, PTSD is often a chronic condition. Evidence suggests that more than one third of those diagnosed with PTSD still have the condition 5 years later (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

According to the National Comorbidity Survey of 5,877 persons aged 15 to 54 years, the estimated lifetime prevalence rate of PTSD in America is 7.8% (Kessler et al., 1995): 10.4% for women and 5.4% for men. Current prevalence estimates of PTSD in the general population have ranged from 1% to 9% (Kessler et al., 1995; Meichenbaum, 1994). Even the most conservative current prevalence estimate of 1% translates into 2.5 million Americans with PTSD (Blanchard & Hickling, 1997; Keane, 1990).

There has been a rapid growth of interest in PTSD in recent years (e.g., see Meichenbaum, 1994) accompanied by a proliferation of instruments for assessing PTSD symptomatology. In fact, several structured and semistructured interviews for assessing PTSD have exhibited good psychometric properties, including satisfactory to excellent internal consistency, temporal stability, and convergent and criterion-related validity (Blake et al., 1995; E. Newman, Kaloupek, & Keane, 1996; Norris & Riad, 1997). Although interviews are useful in research on PTSD and in PTSD treatment programs, they are labor intensive and cost prohibitive in nonspecialized settings such as emergency rooms and mental health clinics where PTSD screening might be of considerable value.

Table 1 lists 14 self-report measures of PTSD for which psychometric properties have been reported. The clinical utility of these questionnaires depends on their reliability and validity. With respect to content validity (Haynes, Richard, & Kubany, 1995), these instruments can be judged along several dimensions: (a) questionnaire length and readability; (b) whether or not questionnaire items correspond with *Diagnostic and Statistical Manual of Mental Disorders* (fourth edition; *DSM-IV*) PTSD symptom criteria; (c) what, if any, time frame is used for assessing symptom presence; (d) whether a PTSD diagnosis can be assigned both on the basis of *DSM* symptom criteria and cutoff scores; and (e) the populations for which the instruments have discriminative validity or diagnostic utility. Table 1 notes the status of these questionnaires along each of these dimensions.

The questionnaires listed in Table 1 differ greatly in terms of length and readability. Some may be too long to be useful for

Edward S. Kubany, Mary Beth Leisen, and Aaron S. Kaplan, National Center for PTSD, Pacific Islands Division, Department of Veterans Affairs, Honolulu, Hawai'i, and Department of Psychology, University of Hawai'i at Mānoa; Martin P. Kelly, independent practice, Haleiwa, Hawai'i.

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Correspondence concerning this article should be addressed to Edward S. Kubany, National Center for PTSD, Pacific Islands Division, Department of Veterans Affairs, VAM&ROC, 1132 Bishop Street, Suite 307, Honolulu, Hawai'i 96813. Electronic mail may be sent to kubany@pixi.com.

Table 1
Key Features of Existing Self-Report Measures of PTSD

Self-report PTSD questionnaires	Key features					
	Length (words and symptom items)	Methods usable for making *DSM* diagnosis	Symptom presence time frame	Assesses PTSD stressor Criterion A2	Items match *DSM* symptom Criteria B, C, & D	Trauma populations used for establishing discriminative validity[a]
Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979)	208/15	Cutoff score	None	No	No	Battered women
Revised Impact of Event Scale (Weiss & Marmar, 1997)	246/22	Cutoff score	None	No	No	Not reported
Los Angeles Symptom Checklist (King, King, Leskin, & Foy, 1995)	225/43	Cutoff score *DSM* criteria	None	No	Yes	Combat veterans, sexually abused and battered women, psychiatric outpatients
Mississippi Scale (Keane, Caddell, & Taylor, 1988)	767/35	Cutoff score	None	No	No	Combat veterans
Civilian Mississippi Scale (Lauterbach, Vrana, King, & King, 1997)	1,030/39	Cutoff score	None	No	No	Not reported
Revised Civilian Mississippi Scale (Norris & Perilla, 1996)	926/30	Cutoff score	None	No	No	Not reported
MMPI PTSD Scale (Keane, Malloy, & Fairbank, 1984)	587/46	Cutoff score	None	No	No	Combat veterans
Penn Inventory (Hammarberg, 1992)	1,432/26	Cutoff score	1 week	No	No	Combat veterans, survivors of technological disasters
PTSD Checklist (Weathers et al., 1992)	308/17	Cutoff score *DSM* criteria	1 month	No	Yes	Combat veterans, cancer patients, motor vehicle accident survivors
PTSD Symptom Scale (Foa, Riggs, Dancu, & Rothbaum, 1993)	478/17	Cutoff score *DSM* criteria	1 week	Yes	Yes	Rape victims (female)
Modified PTSD Symptom Scale (Falsetti, Resick, Resnick, & Kilpatrick, 1992)	572/17	Cutoff score *DSM* criteria	None	No	Yes	Community sample, treatment seekers, substance abuse patients
Posttraumatic Diagnostic Stress Scale (Foa, Cashman, Jaycox, & Perry, 1997)	712/17	Cutoff score *DSM* criteria	Yes	Yes	Yes	Diverse sample of trauma survivors and individuals at risk
Purdue PTSD Scale (Lauterbach & Vrana, 1996)	280/17	Cutoff score *DSM* criteria	Yes	No	Yes	Not reported
Davidson Trauma Scale (Davidson et al., 1997)	292/17	Cutoff score *DSM* criteria	7 days	No	Yes	Combined sample of rape, combat, and hurricane survivors

Note. PTSD = posttraumatic stress disorder; *DSM* = *Diagnostic and Statistical Manual of Mental Disorders*; MMPI = Minnesota Multiphasic Personality Inventory.
[a] Evaluated against structured interview assessment of PTSD.

PTSD screening in settings in which time is an important consideration. For example, the Penn Inventory for PTSD (which has some excellent psychometric properties) is three times as long as the PTSD Symptom Scale. Seven of the questionnaires listed in Table 1 include items that match the 17 *DSM-IV* PTSD symptoms in Criteria B, C, and D. However, only one (the PTSD Diagnostic Stress Scale; PDS) assesses whether the avoidance, numbing, and hyperarousal symptoms are currently present but were not present before the trauma (as specified in *DSM-IV*). The other instruments that assess these symptoms do not query whether they were present before the trauma.

In reports of discriminative validity of the instruments reviewed, in all cases PTSD cutoff scores were used rather than PTSD symptom criteria (e.g., at least one reexperiencing symptom, at least three numbing/avoidance symptoms, and at least two hyperarousal symptoms). Moreover, the questionnaires whose items do not match all of the *DSM* PTSD symptom criteria (e.g., the Mississippi Scale) cannot be used to estimate PTSD status based on *DSM* symptom criteria. Only the PDS assesses *DSM-IV* PTSD (American Psychiatric Association, 1994) Stressor Criterion A2 (occurrence of intense fear, helplessness, or horror). Only four of the questionnaires assess symptom presence over a 30-day time frame, as specified by *DSM-IV*, and seven of the instruments do not stipulate any time frame for assessing symptom presence. Only the PDS assesses all of the PTSD criteria specified in *DSM-IV*.

Although the Mississippi Scale for Combat-Related PTSD has excellent psychometric properties with respect to the assessment of combat-related PTSD (Watson, 1990), it was not designed for use with civilian trauma populations. In addition, efforts to produce civilian measures of the Mississippi Scale (e.g., Lauterbach, Vrana, King, & King, 1997) have proven less than successful, partly because the civilian versions of the Mississippi Scale have a different factor structure than the original scale.

A shortcoming shared by most of the PTSD instruments reviewed is lack of external validity across trauma populations. As can be seen in Table 1, the majority of instruments reviewed were validated on only one or two trauma populations. Three of the measures were validated on diverse samples. However, a potential limitation of instruments whose discriminative validity was examined in diverse or heterogeneous samples is that the obtained optimal PTSD cutoff scores and sensitivity and specificity coefficients may not be applicable to specific trauma- or treatment-seeking populations for which the instruments are to be used (e.g., auto accident survivors; treatment-seeking incest survivors). In addition, none of the published reports of PTSD questionnaires validated with diverse samples reported validity coefficients or PTSD cutoff scores separately for men and for women. Optimal PTSD cutoff scores may not be the same for men and for women (see Study 3).

Lack of attention to discriminative validity across trauma populations may represent a greater problem than lack of convergent validity, especially when the PTSD measures are being used to screen individuals most and least at risk for PTSD or to triage for treatment. There has been little cross-validation work on the discriminative validity of most instruments, reducing confidence in recommended PTSD cutoff scores, especially when they are based on small or modest sample sizes. As noted by Norris and Riad (1997) in their review of self-report measures of PTSD, "lack of attention to diversity in validity samples" is a "disappointment" (p. 35).

The need for psychometrically sound, yet brief instruments for the assessment of PTSD may be underscored by the fact that many clients do not link their symptoms or presenting complaints to prior experiences of traumatization, and clinicians do not typically screen for or rule out PTSD in making their diagnoses or treatment plans (e.g., Escalona, Tupler, Saur, Krishnan, & Davidson, 1997). To illustrate how PTSD may be overlooked, Escalona et al. (1997) found that only 2% (n = 6) of 343 consecutive patients admitted to an inpatient psychiatric unit were assigned a PTSD diagnosis; however, when trauma histories and PTSD were subsequently assessed as part of a research protocol, 39% of these patients had symptomatology consistent with a PTSD diagnosis.

The purpose of this research was to develop a brief self-report measure of PTSD and PTSD severity that (a) assesses each of the 17 core features of PTSD; (b) assesses *DSM-IV* PTSD Criterion A2 (intense fear, helplessness, or horror); (c) specifies a symptom time frame of 30 days, according to *DSM-IV*; (d) possesses discriminative validity using *DSM-IV* symptom criteria and cutoff scores; (e) assesses trauma-related guilt, grief, and anger, problems that may be major roadblocks to recovery from PTSD (e.g., Kubany et al., 1996); and (f) possesses convergent and discriminative validity across trauma populations. Six studies were conducted to produce an instrument that would be valid for assessment of PTSD in five trauma populations: (a) Vietnam War combat veterans, (b) women seeking treatment in the past year for the effects of incest, (c) women seeking treatment in the past year for the effects of rape, (d) women seeking treatment in the past year for the effects of intimate partner abuse, and (e) women with histories of prostitution and substance and sexual abuse.

STUDY 1: DEVELOPMENT OF THE DISTRESSING EVENT QUESTIONNAIRE

Method

Items for the Distressing Event Questionnaire (DEQ) were constructed to match the various criteria for PTSD provided in *DSM-IV*. Additional symptom items were included to assess trauma-related guilt, anger, and unresolved grief in light of recognition that these problems may often interfere with recovery from the effects of traumatic stress (e.g., Foa, Riggs, Massie, & Yarczower, 1995; Kubany et al., 1996; Thompson, Norris, & Ruback, 1998). We also developed several different versions of the DEQ (in terms of initial instructions only) to make it appropriate for different trauma survivor groups and different assessment contexts.

Assessment of DSM-IV *PTSD Traumatic Stressor: Criterion A*

Two elements need to be present for a stressful event to qualify as a traumatic stressor according to criteria set forth in *DSM-IV* (American Psychiatric Association, 1994). *DSM-IV* PTSD Criterion A1 stipulates that "the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (p. 428). PTSD Criterion A2 stipulates that the person's subjective response to the A1 event must involve "intense fear, helplessness, or horror."

Criterion A1

Assessment of PTSD Traumatic Stressor Criterion A1 was not built into the DEQ. There are different initial instruction versions of the DEQ depending on the specific purpose of PTSD assessment and the setting in

which PTSD assessment occurs. The Clinician-Identified Trauma (CIT) version of the DEQ (DEQ-CIT) was designed for use when clinicians are aware that an individual has been exposed to a potentially traumatic event (e.g., a serious accident) and wish to assess PTSD symptomatology in response to that stressor. DEQ-CIT instructions state that "the purpose of this questionnaire is to assess your reactions to the following event(s) (please provide a brief description)." Instructions on versions of the DEQ for use with special populations (e.g., battered women, incest survivors, rape victims, combat veterans) direct respondents to rate their reactions to (a) "abuse or battering by your spouse or other intimate partner," (b) "sexual abuse before age 18," (c) "sexual abuse or assault after age 12," and (d) "combat-related events."

For general PTSD screening purposes (e.g., in emergency rooms or mental health clinics) when clinicians have no prior knowledge of clients' or patients' trauma histories, the DEQ was designed to be used in combination with the Traumatic Life Events Questionnaire (TLEQ), which assesses prior exposure to a broad spectrum of potentially traumatic life events (Kubany et al., 2000). When used with the TLEQ, DEQ instructions direct respondents to rate their reactions in response to the experienced TLEQ event that causes the most distress.

Criterion A2

The final version of the DEQ assesses Criterion A2 with three separate questions, assessing the occurrence of (a) intense fear, (b) helplessness, and (c) horror during the event(s) of concern.

PTSD Symptom Criteria: Criteria B, C, and D

According to criteria in *DSM-IV*, PTSD includes symptoms from three different symptom clusters: (a) Criterion B or reexperiencing symptoms (e.g., distressing dreams about the trauma, distress when reminded of the trauma); (b) Criterion C or numbing/avoidance symptoms (e.g., efforts to avoid thinking about the trauma, restricted range of affect); and (c) Criterion D or hyperarousal symptoms (e.g., insomnia, hypervigilance). At least one of five reexperiencing symptoms is needed to meet Criterion B; at least three of seven numbing/avoidance symptoms are needed to meet Criterion C; and at least two of five hyperarousal symptoms are needed to meet Criterion D.

The DEQ includes 17 items that match the 17 key symptom features of PTSD (5 reexperiencing symptom items, 7 numbing/avoidance symptom items, and 5 hyperarousal symptom items). Item wording corresponds to the symptom descriptions in *DSM-IV* and in other measures of PTSD, particularly the Clinician Administered PTSD Scale (CAPS; Blake et al., 1990). Examples of items include "Distress when reminded of the event(s)?, Efforts to avoid thoughts or feelings that would remind you of the event(s)?, Feeling detached or cut off from those around you?, Trouble falling or staying asleep?" Respondents are instructed to indicate "the degree to which" they experienced each of the symptoms "in the past month (the last 30 days, counting today)." Respondents are given five response options to each symptom question ranging from 0 (*absent or did not occur*) to 4 (*present to an extreme or severe degree*).

Criteria E and F

PTSD Criterion E specifies that the duration of symptoms in Criteria B, C, and D must be more than 1 month. Criterion F specifies that the PTSD symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning (in the past month). The initial version of the DEQ (DEQ 1) does not assess Criteria E and F. The final version (DEQ 2) includes items that assess both Criterion E and Criterion F. Criterion E is assessed by three questions: Did the respondent have the PTSD symptoms for longer than 30 days? How long did the symptoms last? When did the respondent first have the symptoms? Criterion F is assessed by 11 items: one item measures "amount of distress" in the past month and 10 items assess various areas of functioning (e.g., "your social life in general," "your overall ability to function").

Assessment of Trauma-Related Guilt, Trauma-Related Anger, and Unresolved Grief or Loss

Along with items for assessing the 17 symptoms in Criteria B, C, and D, the DEQ also includes items for assessing trauma-related guilt, trauma-related anger, and unresolved grief over trauma-related losses. These three problem areas are manifested by many trauma survivors; they have been identified as representing roadblocks to recovery from PTSD and are increasingly being targeted in interventions with trauma survivors (e.g., Abe, Zane, & Chun, 1994; Novaco & Chemtob, 1998; Foa et al., 1995; Frazier & Schauben, 1994; Gerber & Resick, 1992; Gerrard & Hyer, 1994; Goenjian et al., 1997; Krupnick & Horowitz, 1981; Kubany, 1998; Kubany & Manke, 1995; Lehman, Wortman, & Williams, 1987; Murphy et al., 1998, 1999; Riggs, Dancu, Gershuny, Greenberg, & Foa, 1992; Prevost, 1997; D. G. Saunders, 1994; Thompson et al., 1998). For example, in studies to validate the Trauma-Related Guilt Inventory (TRGI), guilt was an extremely common symptom in samples of battered women and Vietnam War combat veterans, and the Global Guilt scale of the TRGI was highly correlated with PTSD, depression, negative self-esteem, and suicidal ideation in both samples (Kubany et al., 1996). Also, clinical observations suggest that reductions in guilt are associated with reductions in PTSD (e.g., Kubany, 1997). With regard to unresolved grief, traumatic events often result in monumental tangible losses or symbolic losses that shatter comforting worldview assumptions about concepts such as safety, innocence, and trust (e.g., McCann, Sakheim, & Abrahamson, 1989). In a epidemiological survey conducted in Detroit (Breslau et al., 1998), sudden unexpected death of a loved one was the identified stressor in 31% of all PTSD cases reported and was more common as a precipitant of PTSD than any other stressor. In addition, research suggests that grief or distress over such losses can sometimes fail to remit, even after several years (Fish, 1986; Lehman et al., 1987; Murphy et al., 1999; Thompson et al., 1998). With respect to anger, Foa et al. (1995) found that clients who reported more anger during prolonged exposure therapy benefited less from treatment than those who were less angry. Predicated on clinical work that suggests that guilt, anger, and grief underlie the persistence or maintenance of PTSD as a chronic condition (e.g., Kubany, 1997, 1998), trauma-related guilt, anger, and grief are the primary treatment targets in a cognitive–behavioral intervention aimed at ameliorating PTSD and depression (Hill, Kubany, & Owens, 1998).

The DEQ item that assesses trauma-related guilt asks about "guilt that is related to the event—in other words, upset because you think you should have thought, felt, or acted differently." The trauma-related anger item asks about "anger that is related to the event—in other words, upset because you think *someone else* should have thought, felt, or acted differently." The trauma-related grief item asks about "grief, sorrow, or feelings of loss (over loss of loved ones, belongings, identity, self-worth, faith in human nature, optimism, *or* loss of control)" (see McCann et al., 1989; Resick & Schnicke, 1993).

The DEQ-CIT has 666 words and is of comparable length with the PDS, the only other self-report measure that assesses all of *DSM-IV* PTSD criteria. The Flesch reading difficulty level of the DEQ is grade 7.3 (Microsoft Corporation, 1991–1992).

Expert Assessment of the Content Validity of the DEQ

Additional data on the content validity of the DEQ (for *DSM*-defined PTSD) were obtained by arranging for a quantitative review of all elements of the DEQ by six individuals with doctorates in clinical psychology who specialize in PTSD. Using a specially prepared form, these individuals rated (on 5-point scales ranging from 0 to 4) the relevance and representativeness (for *DSM*-defined PTSD) of DEQ instructions, response formats, individual items, each *DSM*-specified PTSD criterion, and the DEQ over-

all. The response format for assessing the 20 symptom items was rated as measuring "very well" the degree to which the symptoms were manifested (M = 3.7, SD = 0.5). The three items assessing Criterion A2 were rated as assessing Criterion A2 "very well" (M = 3.4, SD = 0.8). The 17 individual items assessing Criteria B, C, and D were each rated as assessing "very well" the corresponding individual symptoms listed in *DSM-IV* (from M = 2.8, SD = 1.1 to M = 3.7, SD = 0.5). The Criteria B, C, and D symptom clusters were rated as assessing "considerably" representative and relevant to the corresponding symptom clusters listed in *DSM-IV* (from M = 3.0, SD = 1.1 to M = 3.9, SD = 0.2). The three items assessing Criterion E were rated as assessing Criterion E "very well" (M = 3.3, SD = 1.2). The response format for assessing Criterion F was rated as measuring "very well" the degree to which Criterion F is manifested (M = 3.7, SD = 0.5). For Criterion F, the item assessing clinically significant distress and the 10 items assessing impairments in important areas of life functioning were rated overall as worded "very well" (M = 3.7, SD = 0.5) and as "considerably" representative and relevant to Criterion F, as specified by *DSM-IV* (M = 3.6, SD = 1.0). Overall, items on the DEQ were rated as "very well" worded (M = 3.6, SD = 0.7) and as "considerably" representative and relevant to PTSD, as specified by *DSM-IV* (M = 3.6, SD = 0.9).

STUDY 2: EXAMINATION OF RELIABILITY AND CONVERGENT VALIDITY OF THE DEQ 1 WITH A SAMPLE OF VIETNAM WAR COMBAT VETERANS

Method

Participants

The sample included 61 U.S. military veterans who served on active military duty in Vietnam during the Vietnam War. All participants had received vocational rehabilitation services from a Hawaii firm under contract to the Department of Veterans Affairs (VA). The 61 participants represented 59% of 103 veterans who were sent letters soliciting their research participation. The mean ages and educational levels of participants were 50.0 years (SD = 8.0 years) and 14.1 years (SD = 2.4 years), respectively. Participants' primary ethnic backgrounds included White (51%), Native Hawaiian (11%), Asian (13%), Black (7%), and other, mixed, or unspecified ethnicity (18%).

Measures

DEQ 1

As noted in Study 1, the DEQ 1 did not include items assessing *DSM-IV* Criterion E (persistence of the "disturbance" for more than 30 days) or Criterion F (clinically significant distress or impairment in important areas of life functioning caused by the disturbance). Initial instructions on the DEQ 1 administered in Study 2 indicated that the purpose of the questionnaire was to assess respondents' reactions to combat-related events.

The convergent validity of the DEQ 1 was assessed with another self-report measure of PTSD and a measure of clinical depression, a condition known to be highly comorbid with PTSD (e.g., Weathers et al., 1992). Convergent validity was also assessed with measures of self-esteem and cynical hostility (Barefoot, Dodge, Peterson, Dahlstrom, & Williams, 1989). There is abundant clinical evidence and some experimental evidence that many Vietnam War veterans with PTSD suffer from low self-esteem and have cynically hostile worldviews (e.g., Kubany, Gino, Denney, & Torigoe, 1994).

Penn Inventory for PTSD Assessment

Hammarberg (1992) reported coefficient alphas of .86 for PTSD veterans and .78 for nonveterans. Test–retest reliability ranged from .86 to .92. The Penn Inventory was highly correlated with the Beck Depression Inventory (BDI), Impact of Event Scale, and the Mississippi Scale, with high sensitivity and specificity for diagnosing PTSD among samples of combat veterans and survivors of a civilian disaster.

BDI

The BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a widely used measure of depression, with well-established reliability and validity (Beck, Steer, & Garbin, 1988).

Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a 10-item scale designed to assess general feelings of self-acceptance and self-respect. The scale has been shown to possess good internal and test–retest reliability and adequate construct, convergent, and discriminant validity (Blascovich & Tomaka, 1991; Rosenberg, 1965, 1979). In a sample of women in support groups for battered women, the Rosenberg Scale was significantly correlated with the Modified PTSD Symptom Scale. In Study 3, Cronbach's alpha for the Rosenberg Self-Esteem Scale was .92 in a sample of 120 Vietnam War veterans and .92 in a combined sample of 120 physically and/or sexually abused women (Kubany, Haynes, & Brennan, 1997).

Cook-Medley Scale

The Cook-Medley Scale (Cook & Medley, 1954) primarily assesses tendencies to endorse items that reflect proneness to anger, resentment, cynicism, and mistrust of other people, hence the scale's characterization as a measure of cynical hostility. The scale has high internal consistency and is temporally stable over 1 to 4 years (e.g., Barefoot, Dahlstrom, & Williams, 1983; Smith & Frohm, 1985). Considerable research has implicated cynical hostility as a risk factor for cardiovascular disease (e.g., Barefoot et al., 1989). Kubany et al. (1994) found a strong relationship between scores on the Cook-Medley scale and the Minnesota Multiphasic Personality Inventory PTSD Scale (r = .70) in a large sample of Vietnam Era and Theater veterans.

Procedure

Potential participants were mailed a letter soliciting their research participation by a vocational rehabilitation counselor (Martin P. Kelly) who had previously provided counseling services to each of these veterans. The letter indicated that the study involved completing two questionnaire packets (at separate times), which could be completed at home, and that a $25 honorarium would be provided in exchange for participation. Sixty-one of 101 veterans who were sent letters agreed to participate. The initial questionnaire packet (which also included an informed consent and questionnaires for two related projects; Kelly, 1999; Kubany et al., 2000) requested participants to complete the questionnaire packet within a few days and return the materials in an enclosed self-addressed stamped envelope. The second questionnaire packet was mailed to participants immediately on receipt of the completed first packet.

Results

Internal Consistency

The internal consistency of the DEQ was calculated with Cohen's alpha coefficient (Cohen, 1960). Alphas for the B, C, and D symptom criteria items were .91, .88, and .91, respectively. The alpha for the entire scale was .93.

Temporal Stability

Fifty-one of 61 participants who completed the initial questionnaire packet completed and returned the second, retest packet. The

test–retest interval ranged from 5 to 45 days, with a mean interval of 17.5 days (SD = 12.3 days) and a median interval of 13 days. Initial scores on DEQ items assessing the C, B, and D criteria were correlated .69, .72, and .69 with scores on these same items on the readministration of the DEQ. The test–retest correlation for total DEQ symptom scores was .95.

Convergent Validity

The sum of the 20 symptom items on the DEQ was correlated .83 with the Penn Inventory, .76 with the BDI, .55 with the Cook-Medley Scale, and −.67 with the Rosenberg Self-Esteem Scale (all $ps < .05$, one-tailed, Bonferroni adjusted). Because the Penn Inventory has been evaluated as a diagnostic measure of PTSD as well as a measure of PTSD symptom severity, we also examined the degree to which the DEQ and Penn Inventory agreed on PTSD assignment as present or absent. PTSD assignment on the DEQ was based on whether participants met *DSM-IV* symptom criteria (Criteria B, C, and D), using a symptom score of 2 (*present to a moderate degree*) or higher to denote symptom presence. The DEQ and Penn Inventory yielded PTSD positive agreements in 27 of 36 cases (75%) and yielded PTSD negative agreements in 23 of 25 cases (92%). The overall percentage of diagnostic agreements between the DEQ and Penn Inventory was 82%.

Discussion

The results of Study 2 provide initial support for the reliability and convergent validity of the DEQ with a vocational/rehabilitation-seeking sample of Vietnam War combat veterans. The DEQ exhibited high internal consistency and good short-term temporal stability with this sample. The DEQ was highly correlated with another self-report measure of PTSD and also highly correlated with depression at levels similar to that found in other studies of the relationship between PTSD and depression (e.g., Weathers et al., 1992). The DEQ was also negatively correlated with self-esteem and positively correlated with cynical hostility (see Boscarino, 1997).

STUDY 3: EXAMINATION OF CONVERGENT AND DISCRIMINATIVE VALIDITY OF THE DEQ 1 WITH SAMPLES OF VIETNAM WAR VETERANS, TREATMENT-SEEKING WOMEN SURVIVORS OF INCEST, RAPE, AND PARTNER ABUSE, AND WOMEN WITH HISTORIES OF PROSTITUTION AND SUBSTANCE AND SEXUAL ABUSE

Method

Participants

Five samples of participants were recruited for Study 3, including a group of male Vietnam War combat veterans and four groups of women: (a) women sexually abused by a household member before age 18 years who had received services in the last year from an agency or provider that serves incest survivors, (b) women sexually assaulted after age 12 who had received services in the last year from an agency or provider that serves rape victims, (c) women abused by an intimate partner who had received services in the last year from an agency or provider that serves battered women, and (d) women with histories of prostitution, substance abuse, and sexual abuse.

Vietnam Veterans

The sample was composed of 120 male Vietnam combat veterans whose primary ethnic backgrounds were White (n = 27), Filipino (n = 31), Japanese (n = 31), or Native Hawaiian (n = 31). Participants ranged in age from 41 to 67 years (M = 50.1 years, SD = 4.8 years) with a mean 13.9 years of education (SD = 1.9 years). Participants' scores on the Combat Exposure Scale (Keane, Fairbank, Caddell, & Zimering, 1989) ranged from 3 to 41 and reflected moderate to heavy combat exposure on average (M = 24.7, SD = 9.0). Seventeen percent of participants (n = 20) had adjudicated disability ratings for PTSD from the VA, and 22% (n = 26) had received counseling for war-related stress in the last year. Thirty-eight percent of the sample (n = 45) met diagnostic criteria for PTSD on the CAPS, and 33% (n = 39) obtained scores on the BDI (greater than 19) indicative of at least moderate depression.

Treatment-Seeking Women

Incest survivors. The 82 incest survivors ranged in age from 19 to 67 years (M = 36.1 years, SD = 9.6 years), with a mean 13.9 years of education (SD = 2.0 years). Their ethnic backgrounds included White (57%), Native Hawaiian (9%), Filipino (7%), Japanese (5%), and other, mixed, or unspecified ethnicity (22%). Seventy-six percent (n = 62) met diagnostic criteria for PTSD on the CAPS, and 48% (n = 39) obtained scores on the BDI (greater than 19) indicative of at least moderate depression.

Rape survivors. The 75 participants in this group ranged in age from 18 to 65 years (M = 35.2 years, SD = 9.9 years), with a mean 13.7 years of education (SD = 2.3 years). Their ethnic backgrounds included White (60%), Puerto Rican (7%), Native Hawaiian (5%), Japanese (5%), Filipino (5%), Chinese (4%), Mexican (4%), Samoan (3%), Native American (3%), and other, mixed, or unspecified ethnicity (4%). Eighty-three percent (n = 62) met diagnostic criteria for PTSD on the CAPS, and 63% (n = 47) obtained scores on the Beck Depression Inventory (greater than 19) indicative of at least moderate depression.

Partner abuse survivors. The 74 participants in this group ranged in age from 19 to 55 years (M = 34.8 years, SD = 9.6 years), with a mean 13.9 years of education (SD = 2.0 years). Their ethnic backgrounds included White (38%), Native Hawaiian (15%), Japanese (11%), Portuguese (4%), Mexican (4%), Black (3%), and other, mixed, or unspecified ethnicity (23%). Eighty-five percent (n = 63) met diagnostic criteria for PTSD on the CAPS, and 55% (n = 41) obtained scores on the BDI (greater than 19) indicative of at least moderate depression.

Women with histories of prostitution and substance and sexual abuse. The 24 participants in this group ranged in age from 19 to 50 years (M = 35.6 years, SD = 8.1 years), with a mean 12.2 years of education (SD = 1.8 years). Their ethnic backgrounds included White (63%), Filipino (13%), and other, mixed, or unspecified ethnicity (24%). Sixty-seven percent (n = 16) met diagnostic criteria for PTSD on the CAPS, and 67% (n = 16) obtained scores on the BDI (greater than 19) indicative of at least moderate depression. Forty-two percent of the women in this sample were actively involved in prostitution, and 58% were no longer involved in prostitution. All women in the prostitution/abuse history group indicated during telephone screening that they had abused alcohol or drugs and had been sexually abused while growing up or during the time they were involved in prostitution.

Measures

DEQ 1

Initial DEQ 1 instructions were tailored to assess PTSD in response to the type of trauma for which participants had been selected (e.g., "The purpose of this questionnaire is to assess your reactions to combat-related events").

CAPS

This (Blake et al., 1990) is a structured interview for assessing the symptoms of PTSD according to criteria in *DSM-IV*. Using behaviorally anchored 4-point scales, symptoms are rated in terms of their frequency and intensity or severity. In the standard scoring format used, a symptom was rated as present if it was reported with a frequency of at least 1 (*occurred at least once during the past month*) and was reported at a severity level of at least 2 (*moderate severity*). The CAPS has been shown to have excellent test–retest reliability across clinicians, and alpha coefficients and item total correlations for the B, C, and D symptom patterns are robust (Weathers et al., 1992). Overall scores were highly correlated with scores on the Mississippi Scale (.91) and BDI (.74). The CAPS was found to have sensitivity of 84%, specificity of 95%, and efficiency of 89% when judged against PTSD assessments made with the Structured Clinical Interview for *DSM-III-R* (Spitzer & Williams, 1986).

Modified PTSD Symptom Scale

This scale (Falsetti, Resnick, Resick, & Kilpatrick, 1993) has exhibited good overall internal consistency. In an unpublished study, Falsetti, Resick, Resnick, and Kilpatrick (1992) correctly identified the PTSD status of 77% of a treatment-seeking sample and 87% of a community sample.

Mississippi Scale for Combat-Related PTSD

This scale (Keane, Caddell, & Taylor, 1988) was derived from *DSM-III* criteria for PTSD. The Mississippi Scale possesses high internal consistency and temporal stability, with an overall hit rate of .90 when used to differentiate between a combat veteran PTSD group and non-PTSD comparison groups (Keane et al., 1988). Subsequent studies showed that the scale also offers strong discriminative validity (C. G. Watson, 1990). The Mississippi Scale was administered to the combat veteran sample only.

Zung Self-Rating Depression Scale

This scale (Zung, 1965) has adequate internal reliability, and its criterion validity compares favorably with that of the BDI (Schaefer et al., 1985).

Social Avoidance and Distress Scale

This scale (Watson & Friend, 1969) assesses distress in social situations and the deliberate avoidance of social situations. Internal reliability was excellent, and retest reliability was satisfactory. The scale has been shown to exhibit considerable construct and criterion-related validity (e.g., Leary, 1991; D. Watson & Friend, 1969).

Trauma-Related Guilt Inventory

This inventory (Kubany et al., 1996) assesses guilt and cognitive and emotional aspects of guilt associated with specified traumatic events. The inventory includes three scales and three subscales, including a Global Guilt Scale, a Distress Scale, a Guilt Cognitions Scale, and three guilt cognition subscales. Short-term test–retest reliability in samples of college student and combat veterans was very good. The various scales and subscales were significantly correlated with measures of PTSD and depression in both battered woman and combat veteran samples.

Marlowe-Crowne Social Desirability Scale-Form X1

The Marlowe-Crowne Social Desirability Scale (SDS) was developed as a measure to control for socially desirable response tendencies in personality research. In this research, we used the short form of the SDS developed by Strahan and Gerbasi (SDS-Form X1, 1972). The SDS-X1 is a 10-item scale with high internal consistency, highly correlated with the standard 33-item original scale.

Procedure

Vietnam War veteran participants of White, Filipino, Japanese, and Native Hawaiian ethnic backgrounds were recruited by means of (a) flyers announcing the study mailed to the membership of a local Vietnam War veterans organization, (b) posters announcing the study posted at various locations within the Honolulu VA, and (c) newspaper ads announcing the project. Women seeking treatment within the last year for the effects of incest, rape, and partner abuse were referred to the project by several community agencies and private practitioners who serve physically and sexually abused women. Female participants were also recruited by means of newspaper ads announcing the study. Women with histories of prostitution and abuse were referred almost exclusively by two women who provided street education for women involved in prostitution and administered programs for helping women get out of prostitution.

Participants were scheduled for a single 3- to 5-hr session, during which they were administered the CAPS and the packet of study questionnaires. The instruments were administered in the context of a larger project to cross-validate the Trauma-Related Guilt Inventory (Kubany et al., 1997). Participants were administered an informed consent and were debriefed at the end of the session. All participants received $60 in exchange for their participation in this research.

The CAPS was administered to participants by Edward Kubany and four master's-level clinicians who were trained to administer the CAPS by Dr. Kubany.[1] To determine the reliability of the CAPS administrations, Dr. Kubany conducted blind readministrations of the CAPS 2 or 3 days after the initial assessments with 9 veteran participants and 41 woman participants. The diagnostic status was the same for all nine veterans on both administrations of the CAPS and was the same for 40 of 41 woman participants. The correlation between total CAPS scores on the first and second administrations of the CAPS was .94 in the woman sample and .95 in the veteran sample.

Results

Internal Consistency

For the four samples of women, alpha coefficients ranged from .80 to .91 for Criterion B symptoms, .84 to .91 for Criterion C symptoms, .83 to .85 for Criterion D symptoms, and .94 to .95 for the entire scale. For the Vietnam War veteran sample, alphas for the B, C, and D criterion symptoms and for the entire scale were .93, .96, .93, and .98, respectively.

Discriminative Validity

The discriminative validity of the DEQ was evaluated against the CAPS and was examined using *DSM* PTSD symptom criteria and cutoff scores. Table 2 presents the sensitivity, specificity, positive predictive power, negative predictive power, and overall diagnostic efficiency of the DEQ for both the veteran sample and the women's samples.

DSM-IV *Symptom Criteria Method for Assessing PTSD Status*

Inspection of Table 2 shows that, in the veteran sample, using a symptom score of 2 to denote symptom presence resulted in better diagnostic efficiency (84%) than did using a symptom score of 1 to denote symptom presence (74%). In the women's samples using a symptom score of 1 to denote symptom presence tended to produce slightly better diagnostic efficiency (e.g., 88% in the

[1] Each master's-level clinician received a didactic presentation on structured interview administration, observed Edward S. Kubany administer at least two CAPS, were observed administering the CAPS at least twice by Dr. Kubany, and attended weekly or biweekly meetings chaired by Dr. Kubany on CAPS assessment issues.

Table 2
Discriminative Validity of the DEQ as Judged Against Structured Interview Assessment of PTSD

Method of determining PTSD status using DEQ	Trauma group					
	% Battered women (n = 74)	% Incest survivors (n = 82)	% Rape survivors (n = 75)	% Prostitution survivors (n = 24)	% All women combined (N = 255)	% Combat veterans (N = 120)
Cutoff score method[a]						
Sensitivity	98	97	100	94	98	87
Specificity	64	60	86	63	58	85
Positive predictive power	94	88	90	83	90	78
Negative predictive power	88	86	100	83	88	91
Diagnostic efficiency	93	88	91	83	90	86
DSM symptom criteria method						
Symptom scores of 1 or more						
Sensitivity	98	97	98	94	98	59
Specificity	55	50	46	50	50	94
Positive predictive power	93	86	90	79	88	93
Negative predictive power	86	83	86	80	84	63
Diagnostic efficiency	92	85	89	79	88	74
Symptom scores of 2 or more						
Sensitivity	79	84	84	94	83	77
Specificity	91	80	92	50	85	88
Positive predictive power	98	96	98	79	95	84
Negative predictive power	43	64	55	80	56	88
Diagnostic efficiency	81	85	85	79	84	84

Note. DEQ = Distressing Event Questionnaire; PTSD = posttraumatic stress disorder; *DSM* = *Diagnostic and Statistical Manual of Mental Disorders.*
[a] Optimal DEQ PTSD cutoff score for the veteran group was 26. Optimal PTSD cutoff score for each of the women's groups and the combined women's group was 18.

combined women's group) than did using a symptom score of 2 to denote symptom presence (84%).

Cutoff Score Method for Assessing PTSD Status

In the veteran sample, the total symptom score on the DEQ that optimally classified veterans as having or not having PTSD (as judged by the CAPS) was a score of 26. Using a score of 26 or higher as indicative of PTSD, the DEQ correctly classified the PTSD status of 86% of the sample of 120 veterans. When DEQ scores were 26 or higher, the percentage of true positive diagnoses was 78% (39/50), and the percentage of true negative diagnoses was 91% (64/70).

In the four women's samples and overall, the total symptom score on the DEQ that optimally classified the women as having or not having PTSD (as judged by the CAPS) was a score of 18. Using a score of 18 or higher for making a PTSD diagnosis, the DEQ correctly classified the PTSD status of between 79% and 92% of the women in the four woman samples and 90% of the total combined sample of 255 women. When DEQ scores were 18 or higher, the percentage of true positive diagnoses was 90% (199/221) and that of true negative diagnoses was 88% (30/34).[2]

Convergent Validity

Convergent Validity of Total DEQ Symptom Scores

Table 3 presents the correlations of total symptom scores on the DEQ with the other measures of PTSD and the measures of depression, self-esteem, social avoidance and distress, and trauma-related guilt. Results are presented for the Vietnam War veteran sample, each of the four women's samples, and the women's samples combined. In all five samples, the DEQ was highly correlated with the CAPS (r = .82–.90) and with the Modified PTSD Symptom Scale (r = .86–.94). Across the five samples, the DEQ was significantly correlated with the measures of depression, self-esteem, social avoidance and distress, and trauma-related guilt.

Convergent Validity of DEQ Items Assessing Criterion B, C, and D

Scores on the Criterion B, C, and D items on the DEQ were substantially correlated with the corresponding Criterion B, C, and D items on the CAPS in all five samples. Scores on the Criterion B items of the DEQ were correlated between .69 and .85 with the Criterion B items of the CAPS across the four woman samples and .77 in the veteran sample (all $ps < .05$). Scores on the Criterion C items on the DEQ were correlated between .75 and .85 with the Criterion C items on the CAPS across the four woman samples and .82 in the veteran sample (all $ps < .05$). Scores of the Criterion D items on the DEQ were correlated between .72 and .85 with the Criterion D items on the CAPS across the four woman samples and .83 in the veteran sample (all $ps < .05$). For all women combined, the Criterion B, C, and D items on the DEQ were correlated between .80 and .81 with the corresponding criterion items of the CAPS (all $ps < .05$).

[2] When the optimal veteran cutoff score of 26 was applied to the combined women's sample, the percentage of true positive diagnoses was 94% (181/192), but the percentage of true negative diagnoses was only 65% (41/63).

Table 3
*Convergent and Discriminant Validity of the DEQ in Samples of Combat Veterans, Battered Women, Incest Survivors, Rape Survivors, and Women With Histories of Prostitution and Substance and Sexual Abuse: Study 3**

	Correlations with total symptom scores on the DEQ[a]					
Scale	Battered women (n = 74)	Incest survivors (n = 82)	Rape survivors (n = 75)	Prostitution survivors (n = 24)	All women (N = 255)	Combat veterans (N = 120)
	Convergent validity					
Clinician Administered PTSD Scale (CAPS)						
Sum of 20 symptom items	.82*	.88*	.90*	.84*	.87*	.87*
Criterion B	.79*	.82*	.85*	.69*	.81*	.77*
Criterion CTT-BW	.75*	.83*	.85*	.80*	.81*	.82*
Criterion D	.72*	.85*	.83*	.82*	.80*	.83*
Modified PTSD Symptom	.86*	.86*	.91*	.92*	.88*	.94*
Mississippi Scale	—	—	—	—	—	.86*
Beck Depression Inventory	.78*	.69*	.75*	.84*	.75*	.85*
Rosenberg Self-Esteem Scale	−.58*	−.56*	−.61*	.30	−.47*	−.64*
Social Avoidance and Distress Scale	.46*	.58*	.59*	.75*	.56*	.53*
Trauma-Related Guilt Inventory						
Global Guilt Scale	.44*	.31*	.73*	.54*	.50*	.71*
Distress Scale	.71*	.65*	.80*	.67*	.71*	.79*
Guilt Cognitions Scale	.33*	.46*	.53*	.61*	.45*	.73*
	Discriminant validity					
Marlowe-Crowne Social Desirability Scale	−.20	−.19	.06	−.54*	−.11	−.13

Note. DEQ = Distressing Event Questionnaire; PTSD = posttraumatic stress disorder. Dashes indicate measure was not administered.
[a] Sample sizes fluctuate slightly for some correlations because of missing data.
* $p < .05$ (Bonferroni adjusted).

Convergent Validity of the DEQ as a Measure of PTSD Across Ethnic Groups

Table 4 presents correlations of total symptom scores on the DEQ with the other measures of PTSD across ethnic groups for both the veteran sample and the combined women's sample. Inspection of Table 4 shows that among the veterans total symptom scores on the DEQ were highly and similarly correlated with scores on the CAPS, Modified PTSD Symptom Scale, and Mississippi Scale for Combat-Related PTSD in each of the four ethnic groups represented: Whites, Filipinos, Japanese, and Native Hawaiians. In the combined women's sample, total symptom scores on the DEQ were strongly correlated with scores on the CAPS and MPSS for each of the ethnic groups represented.

Convergent Validity of DEQ Items Assessing Trauma-Related Guilt, Anger, and Grief

In the veteran sample, the trauma-related guilt, anger, and grief items were individually correlated between .82 and .85 with the CAPS, between .68 and .76 with the Mississippi Scale, between .77 and .82 with the Modified PTSD Symptom Scale, between .70 and .76 with the BDI, and between .63 and .71 with the Global Guilt Scale of the Trauma-Related Guilt Inventory (all $ps < .05$). In the veteran sample, the sum of the three items assessing trauma-related guilt, anger, and grief was correlated .91 with the CAPS, .86 with the Modified PTSD Symptom Scale, .78 with the Mississippi Scale, .79 with the BDI, and .71 with the Global Guilt Scale (all $ps < .05$).

Table 4
Convergent Validity of the DEQ as a Measure of PTSD Across Ethnic Groups: Study 3

		Correlations with total DEQ symptom scores		
Trauma group and ethnicity	n	CAPS	MPSS	Mississippi Scale
Vietnam veterans				
Caucasian	27	.85*	.93*	.87*
Filipino	31	.91*	.95*	.87*
Japanese	31	.91*	.96*	.88*
Native Hawaiian	31	.82*	.94*	.81*
Abused women's groups combined				
Black	8	.84*	.97*	—
White	143	.86*	.87*	—
Chinese	8	.90*	.94*	—
Filipino	20	.84*	.66*	—
Japanese	18	.93*	.92*	—
Mexican	7	.59*	.91*	—
Native Hawaiian	21	.93*	.83*	—
Other, mixed, or unspecified ethnicity	29	.85*	.94*	—

Note. CAPS = Clinician Administered PTSD Scale; MPSS = Modified PTSD Symptom Scale. DEQ = Distressing Event Questionnaire; PTSD = posttraumatic stress disorder. Dashes indicate measure was not administered. Sample sizes fluctuate slightly on the MPSS and on the Mississippi Scale for veterans because of missing data.
* $p < .05$, one-tailed (Bonferroni adjusted).

In the combined women's sample ($N = 255$), the trauma-related guilt, anger, and grief items were individually correlated between .66 and .68 with the CAPS, between .55 and .63 with the Modified PTSD Symptom Scale, between .49 and .61 with the BDI, and between .33 and .66 with the Global Guilt Scale of the Trauma-Related Guilt Inventory (all $ps < .05$). In the four groups, the sum of the three items assessing trauma-related guilt, anger, and grief was correlated .78 with the CAPS, .70 with the Modified PTSD Symptom Scale, .66 with the BDI, and .57 with the Global Guilt Scale of the Trauma-Related Guilt Inventory (all $ps < .05$).

Discriminant Validity

Results in Table 3 show that socially desirable response tendencies, as measured by the SDS-X1, were weakly and nonsignificantly correlated with total symptom scores on the DEQ for the veteran sample and the three treatment-seeking women's samples (from −.20–.06). Among the women with histories of prostitution, the SDS-X1 was negatively and significantly correlated with the DEQ (−.53, $p < .05$).

Discussion

Perhaps the most significant finding of Study 3 is that the DEQ had excellent discriminative and convergent validity among women who had recently received services from programs or providers that serve physically or sexually abused women, whether the nature of the abuse was incest, rape, or abuse by an intimate partner. For the three groups of treatment-seeking women, the DEQ correctly classified the PTSD status of between 81% and 93% of the women, depending on the algorithm used for determining PTSD status against the CAPS. Across the three treatment-seeking groups of women, the optimal PTSD cutoff score on the DEQ was the same, with similar overall diagnostic efficiency. Using *DSM-IV* symptom criteria for determining PTSD status, the diagnostic efficiency of the DEQ was also similar across groups. For the three groups of women, the DEQ was correlated between .82 and .90 with the CAPS and between .86 and .91 with the Modified PTSD Symptom Scale, and the correlations were similar in magnitude across several ethnic groups. The DEQ was also strongly correlated with measures of depression, self-esteem, social anxiety, and trauma-related guilt. One potentially important implication of these findings is that the DEQ may have considerable validity or clinical utility when used with ethnically diverse women seeking services from agencies or providers who serve physically and sexually abused women.

Study 3 also provides further evidence for the discriminative and convergent validity of the DEQ with Vietnam combat veterans. Estimating PTSD status using cutoff scores and *DSM* symptom criteria, the DEQ correctly classified the PTSD status of 86% and 84% of veteran participants, respectively. Across ethnic groups and overall, the DEQ was highly and similarly correlated with the CAPS, the Modified PTSD Symptom Scale, and the Mississippi Scale.

The potential value of being able to use either cutoff scores or *DSM* symptom criteria for estimating PTSD status (which the DEQ can do) merits discussion. When the reason for PTSD assessment is primarily for identifying individuals with significant PTSD symptomatology as a basis for making referrals, use of cutoff scores may be preferable to using *DSM* symptom criteria. Administering clinicians, including paraprofessionals, can simply compute DEQ total scores, and different cutoff scores may be used, depending on how the data are to be used (e.g., to identify all individuals with some symptomatology, to identify and refer individuals with severe symptomatology). In addition, the use of total scores lends itself to establishment of norms and normative estimates of PTSD severity. For clinicians using the DEQ for pretreatment assessment or for writing psychological reports, notation of the pattern and severity of specific PTSD symptoms (e.g., guilt, insomnia) or symptom clusters (e.g., numbing/avoidance) may be clinically useful information over and above simple statements about PTSD status.

Items assessing trauma-related guilt, anger, and grief were included on the DEQ because of growing recognition that these problems are associated with failure to recover from PTSD and because these problems are being increasingly targeted for treatment by clinicians who work with trauma survivors. In the present study, the trauma-related guilt, anger, and grief items were each strongly correlated with the sum of items assessing core features of PTSD, with other measures of PTSD, and with other indexes of adjustment. Also, the sum of scores on these three items was very highly correlated with the sum of scores on the 17 Criterion B, C, and D items—.91 in the veteran sample and .78 in the combined women's sample—so high, in fact, as to be possibly considered proxy measures of PTSD severity. In our view, serious consideration should be given to including trauma-related guilt, trauma-related anger, and unresolved grief over trauma-related losses as key features of PTSD in the next edition of the *DSM*. Even though each of these three problems is assessed only by a single DEQ item, high scores on these items may alert clinicians to conduct follow-up assessments and to consider interventions for addressing these problems.

STUDY 4: EXAMINATION OF THE SHORT-TERM TEMPORAL STABILITY OF THE DEQ 2 WITH A SAMPLE OF BATTERED WOMEN

Method

Participants

The sample included 54 women receiving support group counseling services from a nonprofit community agency that serves battered women. All the women had gone through intake screening and were deemed eligible for support group participation if they had been physically or emotionally abused or subjected to criminal property damage by a present or former intimate partner. Sixty-one percent of participants indicated that they had been physically hurt by an intimate partner more than five times. Twenty-eight percent of participants were still in a relationship with an abusive partner. Participants ranged in age from 19 to 55 years ($M = 35.0$ years, $SD = 8.8$ years), with a mean 13.5 years of education ($SD = 2.1$ years). Their ethnic backgrounds included White (34%), Native Hawaiian (15%), Filipino (13%), Japanese (9%), Portuguese (8%), and other, mixed, or unspecified ethnicity (21%).

Measures

The DEQ 2 (Western Psychological Services, in press), which assesses all six *DSM-IV* PTSD criteria, was the only instrument administered in Study 3. The initial DEQ Instructions directed respondents to rate their reactions to "abuse or battering by your spouse or other intimate partner."

Procedure

The DEQ was administered in small groups (5–11 women/group) at community service centers during regularly scheduled support group

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