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Development and Validation of the Trauma-Related Guilt Inventory (TRGI)

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The article describes the development and psychometric evaluation of the Trauma-Related Guilt Inventory (TRGI). An initial questionnaire was constructed from multiple sources of information. Three factor analytic studies were conducted to refine the TRGI and determine its factor structure, which consists of a Distress factor and three cognitive factors, Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification. The TRGI has high internal consistency and adequate temporal stability. In validity studies with Vietnam veterans and battered women, TRGI scales and subscales were significantly correlated with other measures of guilt and with measures of posttraumatic stress disorder, depression, and other indexes of adjustment. Findings support the conceptualization of trauma-related guilt as a multidimensional construct and highlight the role of cognitions in the experience of guilt and posttrauma psychopathology.

Survivors of traumatic events often experience guilt[1] that relates to the trauma in some way. Trauma-related guilt has been identified as a frequent symptom among survivors of childhood sexual abuse (e.g., Spaccarelli, 1994); rape victims (e.g., Resick & Schnicke, 1993); battered women (e.g., Cascardi & O'Leary, 1992); victims of serious accidents and burns (e.g., Janoff-Bulman & Wortman, 1977); combat veterans (e.g., Kubany, 1994); survivors of technological disasters (e.g., Miles & Demi, 1992); and surviving family members of victims of homicide, suicide, accidents, and sudden illness (e.g., Gerber & Resick, 1992; Joseph, Hodgkinson, Yule, & Williams, 1993; McNiel, Hatcher, & Reubin, 1988). Trauma survivors experience guilt about various aspects of the trauma—about things they did or did not do, about feelings they had or did not have, and for having had certain beliefs or thoughts now considered false or untrue (Kubany & Manke, 1995). For example, a combat medic may experience guilt about having chosen to render aid to some of the wounded and not to others, even though it was not possible to render aid to everyone. Victims of rape may experience guilt about not fighting back even though their lives were at risk. Airplane crash survivors may experience guilt for having been "relieved" that they had survived. A battered woman may experience guilt for not being angry at the batterer. An incest survivor may experience guilt for having believed that she "deserved" the molestation because she had been "naughty."

Interest in guilt issues among trauma survivors has tended to center on survival guilt (e.g., guilt about surviving when others did not; American Psychiatric Association, 1994). However, many guilt issues of trauma survivors are unrelated to survival

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[1] Guilt typically involves attributions of responsibility or self-blame (Frijda, 1993; see Kubany et al., 1995; Kubany & Manke, 1995). Thus, investigations of self-blame among trauma survivors are considered germane to the study of guilt and were included in our reviews of the trauma-related guilt literature (e.g., Kubany, 1994; Kubany & Manke, 1995; Kubany et al., 1995).

concerns (Kubany & Manke, 1995; e.g., guilt of a formerly battered woman "for not leaving sooner"). In addition, many trauma survivors who suffer survival guilt also have a myriad of other guilt issues (Abueg, 1993; Kubany, 1994; Kubany et al., in press; Kubany & Manke, 1995). In a sample of 32 Vietnam veterans with posttraumatic stress disorder (PTSD), 88% reported guilt about having survived the war (Abueg, 1993). In addition, however, many of these men also had guilt for not staying longer in the combat theater (91%), for having been scared (88%), and for not having been able to save lives or prevent harm to buddies, other Americans, or U.S. allies (88%). The mean number of guilt sources specified by these 32 men was 50 (of 120 listed sources of combat-related guilt).

Several studies have reported a positive relationship between guilt and posttrauma psychopathology (see Kubany & Manke, 1995, and Kubany et al., 1995, for brief reviews), and there is increasing recognition that trauma survivors' explanations for their role in trauma may contribute to the persistence or maintenance of PTSD and posttrauma depression (Dutton, Burghardt, Perrin, Chrestman, & Halle, 1994; Foa, Steketee, & Rothbaum, 1989; Frazier & Schauben, 1994; Janoff-Bulman, 1989; Kubany, 1994; Kubany & Manke, 1995; Norris & Kaniasty, 1991; Resick & Schnicke, 1993). Thus, to the extent that guilt and guilt-related cognitions are associated with posttrauma psychopathology, guilt assessment among trauma survivors may be very important.

Investigators studying guilt among trauma survivors have typically used intuitively developed attribution measures with unestablished reliability and validity (e.g., Frazier, 1991; Janoff-Bulman & Wortman, 1977; Katz & Burt, 1988; Sato & Heiby, 1992). At the same time, most guilt inventories with established psychometric properties may have limited relevance for assessing trauma-related guilt. Existing inventories measure (a) dispositions to experience guilt without specifying what kinds of issues evoke guilt (e.g., Harder & Lewis, 1987; Kugler & Jones, 1992); (b) dispositions to experience guilt in specific domains, such as sex or hostility (e.g., Mosher, 1968); or (c) dispositions to experience guilt in situations that frequently evoke guilt (e.g., Klass, 1987b; Tangney, Wagner, & Gramzow, 1992). These guilt inventories were not designed to identify or assess guilt about specific past events actually experienced by respondents. In addition, none of these guilt inventories measure beliefs or cognitions that are associated with the experience of guilt.

The development of measures that assess client feelings and attitudes about specific traumatic events may be particularly important in light of recent advances in cognitive–behavioral therapies aimed at modifying trauma survivors' feelings and beliefs about their role in trauma (e.g., Kubany & Manke, 1995; Resick & Schnicke, 1993; Shapiro, 1995; Smucker & Niederee, 1995). For example, such measures may have utility for cognitive–behavioral treatment planning and for assessing specific treatment effects. Availability of measures of trauma-related guilt and associated cognitions would also make it possible to investigate whether knowledge of an individual's status on these dimensions adds something to what is known from measures of related constructs such as trait guilt or general distress. Development of instruments that assess event-related distress and cognitions could also set the stage for systematic investigation of the possible causal role of cognitions in posttraumatic stress and depression.

A Guiding Conceptualization of Guilt

The literature on guilt is characterized by theoretical heterogeneity, with conceptualizations that vary widely in breadth, focus, overlap, and reference to underlying dynamics (Baumeister, Stillwell, & Heatherton, 1994; Buss & Durkee, 1957; Campbell, 1984; Kubany & Manke, 1995; Mosher, 1968; Opp & Samson, 1989). However, theorists generally agree that guilt has both affective and cognitive elements (e.g., Ellsworth, 1994; Izard, 1977; Klass, 1987a; Kugler & Jones, 1992; Roseman, Wiest, & Swartz, 1994; Tangney et al., 1992). This dual-dimension view of guilt is consistent with appraisal theories of emotion, which presume that negative emotions consist of diffuse emotional arousal (unpleasant feelings, distress, negative affectivity) plus interpretations or explanations of the arousal (see Ellsworth, 1994; Staats, 1975; cf. Schacter, 1964). Different emotions are thought to be differentiated on the basis of one's interpretation of emotional arousal. Consistent with this view, we have argued that guilt consists of an affective component and a set of interrelated beliefs about one's role in a negative event (Kubany et al., 1995; Kubany & Manke, 1995). We have defined guilt as an unpleasant feeling with an accompanying belief (or beliefs) that one should have thought, felt, or acted differently (see Kubany et al., 1995; Kubany & Manke, 1995). This definition, which is consistent with appraisal theories of emotion and definitions provided by other authors, has guided our study of trauma-related guilt and our efforts to develop a valid measure of trauma-related guilt.

The purpose of this research was to develop and validate an event-focused measure of trauma-related guilt. Seven separate studies were conducted over a 3 ½ year period to (a) develop a questionnaire that would have content validity for trauma survivor guilt, (b) examine the internal consistency and factor structure of the questionnaire, (c) examine the questionnaire's temporal stability, and (d) examine the questionnaire's convergent and discriminant validity.

Study 1

Overview

The purpose of Study 1 was to identify important dimensions and components of trauma-related guilt and to generate and refine items for a Trauma-Related Guilt Inventory (TRGI). Items were derived from multiple sources to enhance the content validity of the questionnaire. Consistent with recommendations regarding content validation (Haynes, Richard, & Kubany, 1995), a multistep process was followed to establish the domain of the trauma-related guilt construct and to develop an initial item pool that was representative and relevant to the construct's domain.

Method

Four methods were used to help identify the components and dimensions of guilt and to suggest items for the TRGI: (a) clinical work with trauma survivors; (b) review and analysis of the literature on guilt

(Kubany et al., 1995; Kubany & Manke, 1995); (c) examination of previously published guilt scales (Buss & Durkee, 1957; Evans, Jessup, & Hearn, 1975; Harder & Lewis, 1987; Klass, 1987b; Kugler & Jones, 1992; London, Schulman, & Black, 1964; Moulton, Burnstein, Liberty, & Altucher, 1966; Otterbacher & Munz, 1973; Mosher, 1968; Tangney et al., 1992); and (d) structured interviews with trauma survivors (Kubany et al., in press; cf. Haynes et al., 1992).

Structured interviews designed to probe the phenomenology of trauma-related guilt were conducted (by Edward Kubany and Francis Abueg) with 18 Vietnam veterans receiving treatment for war-related stress and one woman who had experienced spouse abuse. The interview format (which was refined on the basis of 5 pilot interviews) included nine open-ended questions (e.g., "Explain what feeling guilty means to you." "When you feel guilty about what happened . . . what thoughts go through your mind?" "How do you feel when you feel guilty . . .?"). Three specified prompts were used to help clarify interviewees' responses (e.g., What do you mean by . . .?) The transcribed interviews were independently reviewed for characteristics of guilt by five PhD psychologists. Characteristics noted by the reviewers (and the frequencies of characteristics noted across interviews) were collated, and the summaries were reviewed and evaluated jointly by Edward Kubany, Stephen Haynes, and Francis Abueg.

The four methods just outlined resulted in the identification of six dimensions thought to encompass principal aspects of trauma-related guilt. The dimensions were (a) a Negative or Harmful Event, (b) Distress, (c) Perceived Responsibility, (d) Perceived Wrongdoing, (e) Perceived Justification, and (f) Hindsight Bias (Kubany, 1994; Kubany & Manke, 1995; cf. Niedenthal, Tangney, & Gavanski, 1994).[2]

At least seven items were generated to represent each dimension of guilt, resulting in an initial pool of 120 items. In generating items, we varied directionality, attempted to enhance readability, and tried to make sure that each item was reflective of only one guilt dimension. This initial pool of items was then reviewed to eliminate redundant items, to ensure consistent and simple grammatical structure, and to ensure adequate coverage of each dimension.

Results

Item refinement resulted in a 40-item preliminary version of the TRGI (TRGI-1); five to eight items covered each of six dimensions of trauma-related guilt, and four items measured global trauma-related guilt (e.g., frequency, intensity, and overall severity of guilt; frequency of intense guilt). To minimize demand factors, the term *guilt* was not used in the title or instructions. A five-unit endorsement format (similar to the format on the Mississippi Scale for Combat-Related PTSD; Keane, Caddell, & Taylor, 1988) includes anchors ranging from *extremely true* or *always true* to *never true* or *not at all true*.

Study 2

Overview

The goal of Study 2 was to examine the factor structure of the TRGI-1 and to refine the scale with a sample of participants seeking services at a university student health center and who had experienced trauma. Study 2 examined the internal consistency, item dispersion, item–total correlations, and factor structure of the TRGI-1.

Method

Participants

The final sample consisted of 200 participants (121 women and 79 men). On average, participants were 24.8 years old (SD = 16.3) with 16.3 years of education (SD = 2.6). The ethnic backgrounds of participants were varied (37.5% Caucasian, 13.5% Japanese, 11.5% Chinese, 10% Filipino, 7.5% Hawaiian/part-Hawaiian, and 20% of other, mixed, or unspecified ethnicity).

Procedures

Students in the waiting room of the University of Hawaii Student Health Service were asked by research assistants to participate in the study. Of 795 students approached, 549 (69%) agreed to participate, 296 of whom (54%) acknowledged prior exposure to trauma as assessed by their responses on a nine-item Traumatic Life Events Questionnaire (TLEQ; Kubany, 1995) developed specifically for this research. The TLEQ assessed prior exposure to (a) childhood physical abuse, (b) childhood sexual abuse, (c) intimate partner abuse, (d) nonfamily physical assault, (e) adult sexual assault, (f) accidents causing serious injury or death, (g) unexpected and sudden death of a loved one, and (h) "other" traumatic or life-threatening event. Participants acknowledging trauma exposure were directed to complete the TRGI-1. Analyses were conducted on the questionnaires of 200 students for whom there were complete data.

Results

Of the participants who had experienced a traumatic event, 53% reported prior exposure to more than one traumatic event and 23% reported prior exposure to more than two traumatic events. The traumatic events described by participants on the TRGIs were varied (unexpected/sudden death of a loved one, 19%; child sexual abuse, 14%; adult sexual abuse, 10%; motor vehicle accident, 10%; physical assault, 5%; childhood physical abuse, 4%; other trauma, 23%; event not specified, 13%).

Exploratory Factor Analysis

A principal-components analysis with varimax rotation was conducted with the 36 items tapping the six conceptual dimensions of trauma-related guilt (the four items tapping global guilt were not included in the factor analysis). The number of factors retained was determined by a scree plot of eigenvalues, a minimum of three items for each factor, and theoretical soundness and interitem congruence. A five-factor varimax solution was selected; it satisfied all these criteria and accounted for 61% of the variance. The five factors and their respective eigenvalues were Hindsight-Bias/Responsibility (11.25), Distress (5.37), Unfixability (2.09), Lack of Justification (1.84), and Wrongdoing (1.39). A three-factor solution (52% of the variance) and a four-factor solution (57% of the variance) were also obtained

[2] The dimensions identified have also served as the basis of a multidimensional conceptualization of trauma-related guilt, which has evolved simultaneously with development of the TRGI (Kubany et al., 1995; see Kubany & Manke, 1995). This conceptualization, which provides partial rationale for development of the TRGI, assumes that guilt magnitude is a function of the magnitude of its component parts (see McGraw, 1987). For example, it is presumed that guilt magnitude is partly a function of responsibility magnitude, wrongdoing magnitude, and distress magnitude, and that both cognitive and affective elements need to be present for guilt to occur (Kubany & Manke, 1995; Kubany et al., 1995).

but were not easily interpretable. A two-factor solution was interpretable but only accounted for 46% of the variance.

The empirically determined five-factor solution differed slightly from the hypothesized structure of guilt derived from an examination of the guilt literature and phenomenological reports of guilt. Hindsight-bias items did not load on a separate factor, and three hindsight-bias items loaded on the same factor as the Responsibility/Blame items. All four items that loaded on the Unfixability factor (e.g., "What happened cannot be undone or fixed") were considered exemplars of a negative or harmful event factor in the initial identification of guilt dimensions. The remaining items selected to reflect perceptions of a negative event (e.g., "What happened caused a lot of pain and suffering") loaded on the factor labeled *Distress*.

Internal Consistency

The internal consistency of the TRGI-1 was assessed with coefficient alpha. The coefficient alpha for the four items tapping global guilt was .91. Alphas for the five factors ranged from .73 to .91.

Item Retention Criteria

Six criteria were used to select items for the next version of the TRGI: (a) a factor loading of at least .5 on the primary factor, (b) a difference of .3 between loadings on the primary factor and loadings on other factors, (c) a correlation of at least .3 with a Global Guilt Scale, (d) variability in selected item response categories such that not more than 50% of respondents endorsed any single category, (e) correlation less than .9 with another item (suggesting possible item redundance), and (f) expected clinical utility (e.g., identifying important sources of trauma-related guilt).

Six items with strong face validity were highly correlated with the Global Guilt Scale (.44–.58) but loaded highly on more than one factor (e.g., "I did something I should not have done"; "I violated personal standards of right and wrong"). These items were retained on the questionnaire for calculation of a total guilt-cognitions score but were not used in calculating factor scores and were excluded from subsequent factor analyses. Four items that failed to meet multiple retention criteria were eliminated, and seven items (including all 4 items on the Unfixability factor) were reworded slightly. (We suspected that the failure of these items to meet retention criteria was attributable to subtleties in item wording). One new item reflecting distress was added. The result of this second phase of questionnaire development was a 38-item version of the TRGI (TRGI-2) with 34 items tapping five dimensions of trauma-related guilt and four items measuring global guilt.

Study 3

Overview

Study 3 used a second sample of college students with a history of trauma to further examine the internal consistency and factor structure of the TRGI. Because several items that did not meet original retention criteria were retained or rewritten, exploratory factor analyses were conducted to examine item suitability and the robustness of the factor structure obtained in Study 2.

Method

The sample included 125 students (33 men, 92 women) enrolled in undergraduate psychology courses at the University of Hawaii. On average, participants were 23.40 years old (SD = 7.10) with 14.9 years of education (SD = 1.4) The participants' ethnic backgrounds were varied (27% Caucasian, 27% Japanese, 10% Filipino, 9% Chinese, 5% Hawaiian/part-Hawaiian, 5% Hispanic, and 21% of other, mixed, or unspecified ethnicity).

Potential participants were solicited in their classes, and volunteering students completed the questionnaires on their own away from class. The questionnaire packet, which included the TRGI-2 and an expanded 13-item TLEQ, was distributed to 194 students. Of this number, 69% (133) acknowledged prior exposure to a traumatic event, and factor analyses were performed on the scores from 125 fully completed TRGI-2s.

Results

Sixty-eight percent of participants who had experienced a traumatic event reported prior exposure to more than one traumatic event, and 45% reported prior exposure to more than two traumatic events. As in Study 2, the types of traumatic events described by participants on the TRGIs were diverse (unexpected/sudden death of a loved one, 18%; adult sexual abuse, 8%; child sexual abuse, 7%; physical assault or partner abuse, 7%; witnessing domestic violence, 7%; childhood physical abuse, 6%; threat of bodily harm, 5%; being stalked, 5%; other trauma, 17%; event not specified, 20%).

Factor Analysis

The number of factors retained and the items retained in the TRGI-2 was determined by the same criteria used in Study 2. Items loaded most strongly on the same factors as in Study 2, and an initial five-factor solution accounted for 62% of the variance. Six items that failed to meet multiple retention criteria in Study 2 also failed to meet retention criteria in this study and were eliminated. Because all four items on the Unfixability factor were among those eliminated, the factor structure of the remaining 22 guilt-component items was then reexamined using a four-factor solution. Eigenvalues for the four factors were 8.01 (Hindsight-Bias Linked Responsibility), 3.21 (Distress), 1.75 (Lack of Justification), and 1.44 (Wrongdoing). The solution accounted for 65.51% of total variance. The four factors accounted for 24%, 18%, 12%, and 12% of the variance, respectively. Table 1 presents results of this factor analysis.

Evaluation of Factor Structure Stability

To evaluate the stability of the four-factor solution obtained in Study 3, we first refactored 22 items from Study 2 with a four-factor solution that excluded the Unfixability items. Then, we correlated subscale scores calculated in two different ways—on the basis of factor loadings obtained in Study 2 and on the basis of factor loadings obtained in Study 3. That is, for each factor we correlated Study 3 factor scores based on factor loadings obtained in Study 2 with Study 3 factor scores based on loadings

Table 1
Primary Factor Loadings Using a Four-Factor Solution in Three Samples of Trauma Survivors

Item	1st university sample (n = 200)	2nd university sample (n = 125)	Battered women (n = 100)
Factor 1. Hindsight-Bias/Responsibility			
1. I was responsible for causing what happened	.88	.83	.80
2. I hold myself responsible for what happened	.83	.88	.73
3. I blame myself for what happened	.81	.84	.79
4. I could have prevented what happened	.74	.78	.55
5. I should have known better	.69	.78	.47
6. I blame myself for something I did, thought, or felt	.68	.79	.74
7. I knew better than to do what I did	.68	.76	.37
% of variance accounted for by Factor 1	22.32	23.63	16.46
Factor 2. Distress			
1. What happened causes me emotional pain	.83	.88	.77
2. I experience severe emotional distress when I think about what happened	.83	.84	.76
3. I am still distressed about what happened	.81	.77	.79
4. What happened caused a lot of pain and suffering	.79	.82	.69
5. I feel grief or sorrow about the outcome	.74	.68	.73
6. What happened was extremely distressing to me[a]	.80		
6. When I am reminded of the event(s), I have strong physical sensations such as sweating, tense muscles, dry mouth, etc.[b]		.57	.73
% of variance accounted for by Factor 2	18.57	17.78	17.21
Factor 3. Wrongdoing—Violation of Personal Standards			
1. I had some thoughts or beliefs that I should not have had	.79	.68	.66
2. I had some feelings that I should not have had	.78	.76	.55
3. I did something that went against my values	.69	.61	.70
4. What I did was inconsistent with my beliefs	.67	.73	.76
5. I should have had certain feelings that I did not have	.63	.47	.43
% of variance accounted for by Factor 3	13.64	12.44	13.18
Factor 4. Lack of Justification			
1. I had good reasons for doing what I did	−.84	−.83	.79
2. What I did made sense	−.78	−.82	−.74
3. If I knew today—only what I knew when the event occurred—I would do exactly the same thing	−.74	−.48	−.39
4. What I did was justified or warranted[a]	−.73		
4. I can justify what I did[a]			−.62
4. What I did was completely justified[b]		−.82	
% of variance accounted for by Factor 4	12.90	11.66	10.77
% of variance accounted for by all factors	67.43	65.51	57.64

Note. TRGI = Trauma-Related Guilt Inventory.
[a] Item eliminated in final version of TRGI. [b] Item retained in final version of TRGI.

obtained in Study 3. Subscale scores calculated in these two different ways were almost identical (r = .99–1.00).

As a second way of evaluating factor structure stability, we correlated the loadings of the refactored data from Study 2 with the factor loadings obtained in Study 3. For each factor, the factor loadings obtained in Study 2 were correlated with the loadings of all items on the same factor in Study 3. Factor loadings obtained with the initial university sample were highly correlated with the factor loadings obtained with the second university sample (r = .88–1.00). Factor loadings of an item in Study 3 could be predicted with a high degree of certainty by knowing the factor loading of that item in Study 2. Every item loaded highest on the same factor in both samples, and the amount of variance accounted for by each factor was very similar.

Internal Consistency

The coefficient alpha for the Global Guilt Scale was .91, and alphas for the four factors ranged from .80 to .93.

Study 4

Overview

The purposes of Study 4 were to examine the factor structure of the TRGI with a trauma group other than college students and to examine convergent validity.

Method

Participants

The final sample included 100 women receiving counseling services from a community agency that serves battered women. Five participants were eliminated because of missing data. The women ranged in age from 20 to 56 (M = 33.8; SD = 8.4), with a mean 13.2 years of education (SD = 2.2). The participants' ethnic backgrounds were varied (38% Caucasian, 20% Hawaiian/part-Hawaiian, 11% Filipino, 10% Japanese, 7% Chinese, and 14% of other, mixed, or unspecified ethnicity).

Thirty-six percent of the women (n = 36) indicated they had been physically abused in their most recent relationship more than 10 times, and 89% indicated that they had been physically abused more than once. Forty percent of the women (n = 40) indicated that they were last abused within the past 3 months, and 72% (n = 72) indicated that the abuse had occurred over a span of 1 or more years (Mdn = 47 months; SD = 73.92). Thirty-five percent of the women (n = 35) obtained scores on the Modified PTSD Symptom Scale (Falsetti, Resnick, Resick, & Kilpatrick, 1993) that met or exceeded a cutoff score (70) used for making a diagnosis of PTSD. Forty-one percent (n = 41) obtained scores on the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) indicative of at least moderate to severe depression (>19).

Measures

Participants were administered the TRGI-2, the Modified PTSD Symptom Scale, and the Beck Depression Inventory.

Modified PTSD Symptom Scale. The Modified PTSD Symptom Scale (Falsetti et al., 1993) is a minor modification of the PTSD Symptom Scale (Foa, Riggs, Dancu, & Rothbaum, 1993), a scale shown to have excellent psychometric properties. The Modified PTSD Symptom Scale has exhibited good overall internal consistency and sensitivity greater than .90 in making diagnostic decisions against structured interview assessment (Falsetti, Resick, Resnick, & Kilpatrick, 1992).

Beck Depression Inventory. The Beck Depression Inventory (BDI; Beck et al., 1961) is a widely used measure of depression, with well-established reliability and validity (Beck, Steer, & Garbin, 1988).

Procedure

The questionnaires were administered in small groups (5–8 women per group) at community service centers during regularly scheduled "support group" meetings. The study was administered by support group facilitators who described the study as an investigation of trauma-related guilt among battered women. More than 90% of the women solicited agreed to participate in the study, and each woman received $15 for participating.

Results

Factor Analysis

A principal-components analysis, using a four-factor varimax solution, was performed to examine the factor structure of 22 guilt-component items retained on the basis of analyses in Studies 1, 2, and 3. Eigenvalues for the four factors were 6.15, 2.84, 1.94, and 1.68. The four-factor solution accounted for 57.64% of the variance. As shown in Table 1, items had similar factor loadings in this study as in Studies 2 and 3. Factors 1, 2, 3, and 4 accounted for 16%, 17%, 13%, and 11% of the variance, respectively.

Evaluation of Factor Structure Stability

We compared the factor structure obtained in Study 2 with the factor structure obtained in Study 4 using the same two methods described in Study 3. Subscale scores calculated on the basis of factor loadings from Study 2 were perfectly correlated with subscale scores based on factor loadings from Study 4 (all r = 1.00). For each factor, the factor loadings of all items on that factor calculated in two different ways—on the basis of factor loadings obtained in Study 2 and in Study 4—were also highly correlated (r = .82–.95). These findings and similar results obtained in Study 3 indicate that the factor structure was robust and stable across the three samples. Table 1 presents the primary factor loadings of the 22-item, four factor solutions obtained in Studies 2, 3, and 4. Table 2 presents the intercorrelations between the four factors in each of the three samples.

Confirmatory Factor Analysis

Confirmatory factor analyses were done to compare two- and four-factor theories for the TRGI. In the two-factor model, one factor is Distress and the other contains Responsibility, Wrongdoing, and Justification variables. Both orthogonal and oblique models were tested. Models were compared using chi-square ratios. Using confirmatory factor analysis procedures in SAS (1985), a four-factor oblique solution provided a significantly better fit to the data—in all three samples—than did either orthogonal four-factor or oblique two-factor solutions. For the first university sample, the results were as follows: (a) four-factor oblique, $\chi^2(203, N = 200) = 496$; (b) four-factor orthogonal, $\chi^2(209, N = 200) = 678$; and (c) two-factor oblique, $\chi^2(208, N = 200) = 849$. For the second university sample, the results were as follows: (a) four-factor oblique, $\chi^2(203, N = 125) = 348$; (b) four-factor orthogonal, $\chi^2(209, N = 125) = 455$; and (c) two-factor oblique, $\chi^2(208, N = 125) = 573$. For the battered women's sample, the results were as follows: (a) four-factor oblique, $\chi^2(203, N = 100) = 348$; (b) four-factor orthogonal, $\chi^2(209, N = 100) = 425$; and (c) two-factor oblique, $\chi^2(208, N = 100) = 461$. However, all items loaded on the same factors in the oblique analyses as in the orthogonal analyses.

Table 2
Interfactor Correlations in Study 2 (College Students), Study 3 (College Students), and Study 4 (Battered Women)

Factor	Distress	Hindsight-Bias/ Responsibility	Wrongdoing
Hindsight-Bias/ Responsibility			
Study 2	.18		
Study 3	.25		
Study 4	.35		
Wrongdoing			
Study 2	.34	.64	
Study 3	.34	.62	
Study 4	.42	.47	
Lack of Justification			
Study 2	.13	.48	.42
Study 3	.37	.42	.42
Study 4	.09	.42	.29

The adjusted goodness of fit index (AGFI) for this model was .76. Constraining all the off-factor loadings to zero, as was done in these analyses, is probably too stringent a criterion (see Floyd & Widaman, 1995, p. 294). Allowing them to vary between +.15 and −.15 or so would probably increase the AGFI index to a more acceptable level without compromising this four-factor model significantly. The Bentler comparative fit index, another popular and well-regarded index (Bentler, 1990), was .89. Thus, this four-factor model shows considerable promise.

Final Version of the TRGI

The final result of TRGI development is a 32-item questionnaire, with three scales and three subscales. The scales include (a) the four-item Global Guilt scale; (b) a six-item Distress scale, composed of items that comprised the Distress factor; and (c) a 22-item Guilt Cognitions scale, composed of items that comprised the three empirically derived cognitive factors and the six retained items that loaded highly on more than one cognitive factor. (All items on the Guilt Cognitions subscale loaded on the same factor in the two-factor solution performed in Study 2.) The three subscales, which correspond to the cognitive factors, include (a) a Hindsight-Bias/Responsibility subscale (7 items); (b) a Wrongdoing subscale (5 items); and (c) a Lack of Justification subscale (4 items). The TRGI (Version All)[3] is shown in the Appendix.

Internal Consistency

Coefficients alpha computed for the Global Guilt, Guilt Cognitions, and Distress scales were .90, .86, and .86, respectively. Alphas for the Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification subscales were .82, .75, and .67, respectively.

Validity

The Global Guilt scale was correlated .48 with the Modified PTSD Symptom scale and .60 with the Beck Depression Inventory (both $p < .01$). The Guilt Cognitions scale was correlated .32 with PTSD and .32 with depression (both $p < .01$). The Distress scale was correlated .77 with PTSD and .59 with depression (both $p < .01$). The Hindsight-Bias/Responsibility subscale was correlated .27 with PTSD and .43 with depression (both $p < .01$). The Wrongdoing subscale was correlated .36 with PTSD and .31 with depression (both $p < .01$). The Lack of Justification subscale was correlated .02 with PTSD and .19 with depression (both *ns*).

Across the three samples, the Global Guilt scale was significantly correlated with the Guilt Cognitions scale (.63–.70), the Distress scale (.55–.69), the Hindsight-Bias/Responsibility subscale (.55–.60), the Wrongdoing subscale (.54–.68), and with the Lack of Justification subscale (.32–.44); all $p < .01$. Multiple regression analyses were performed to determine the unique contribution to variance in global guilt accounted for by TRGI items tapping guilt-related cognitions. After scores on the Distress scale alone were regressed on Global Guilt scale scores, scores on the Guilt Cognitions scale were added to the regression equation. Results presented in Table 3 show that, across the three samples, scores on the Guilt Cognitions scale accounted for between 17% and 35% of the variance in Global Guilt scale scores in addition to variance accounted for by scores on the Distress scale.

Study 5

Overview

The purpose of Study 5 was to assess the temporal stability of the TRGI with a sample of college students with a history of trauma.

Method

The final sample included 32 participants (5 men, 27 women) enrolled in an undergraduate psychology class on the psychology of women at the University of Hawaii. On average, participants were 24.9 years old (SD = 6.6) with 14.9 years of education (SD = 1.4) and with varied ethnic backgrounds (44% Caucasian, 25% Japanese, 19% Chinese, 13% of other or mixed ethnicity). Volunteering students were given the TLEQ and the TRGI-2 twice, on consecutive Tuesdays, and each time instructed to return the completed questionnaires at class 2 days later. Twenty-three students did not acknowledge prior exposure to trauma, and 5 potential participants were eliminated because of missing data or failure to comply with timelines. Participants received extra course credit for taking part in the study.

Results

Test–retest correlations for the Global Guilt, Guilt Cognitions, and Distress scales were .86, .84, and .73, respectively. Test–retest correlations for the Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification factors were .79, .74, and .83, respectively.

Table 3
Multiple Regression Variance in Global Guilt Accounted for by Distress, Guilt Cognitions (GC), and Variance Accounted for by Cognitions in Addition to Variance Accounted for by Distress

		Adjusted R^2			
Study	Trauma group	Distress scale	GC scale	Distress scale and GC scale	Additional contribution of GC scale
2	College students	.27	.48	.62	.35
3	College students	.30	.40	.51	.21
4	Battered women	.45	.44	.62	.17
6	Vietnam veterans	.57	.59	.74	.17
7	Battered women	.31	.40	.46	.15

[3] Both the Flesch Reading Ease score (87.0) and the Flesch Grade Level score (6.3) indicate that the TRGI (Version All) falls in the "fairly easy" readability range (Microsoft Corporation, 1991–1992). TRGI versions for use with specific subgroups of trauma survivors (combat veterans, battered women, sexual abuse survivors) have instructions adapted for each of these subgroups and do not ask the respondent to describe the event or events). These optional instructions are available from Edward Kubany.

Study 6

Overview

The purpose of Study 6 was to assess temporal stability and the convergent and discriminant validity of the TRGI with a sample of Vietnam combat veterans.

Rationale for Selection of Measures to Examine Convergent Validity

There are well-developed theoretical and empirical bases for predicting a positive relationship between trauma-related guilt and PTSD, depression, and trait guilt and shame (e.g., Dutton et al., 1994; Frazier & Schauben, 1994; Janoff-Bulman, 1992; Kubany et al., 1995; Kubany & Manke, 1995). Trauma-related guilt has also been linked with suicidal ideation (see Kubany & Manke, 1995) and was noted in several of our structured interviews with Vietnam veterans (Study 1). The most commonly coded response from the transcripts of these interviews involved social isolation or avoidance,[4] giving rise to speculation that guilt may be causally related to the social withdrawal and isolation often observed among trauma survivors (e.g., Dutton, 1993; Egendorf, Laufer, & Sloan, 1981). Other commonly coded characteristics of trauma-related guilt phenomenology involved shame and lowered self-worth. Thus, the measures against which the validity of the TRGI was evaluated tapped dimensions of PTSD, depression, self-esteem, social anxiety and avoidance, and suicidal ideation. Measures of "trait" guilt were also included to assess the concurrent validity of the TRGI as a measure of guilt proneness.

Method

Participants

Participants were 74 Vietnam combat veterans who ranged in age from 40 to 64 years (M = 47.2; SD = 4.1) with 14.5 years of education (SD = 5.0). The veterans' ethnic backgrounds were varied: Caucasian, 53% (n = 39); Hawaiian/part-Hawaiian, 10% (n = 7); African American, 5% (n = 4); Filipino, 5% (n = 4); Puerto-Rican, 5% (n = 4); other, mixed, or unspecified ethnicity, 22% (n = 16). Participants' scores on the Combat Exposure Scale (Keane, Fairbank, Caddell, & Zimering, 1989) ranged from 5 to 41 and reflected moderate-to-heavy combat exposure on average (M = 27.41; SD = 8.97). Thirty-eight percent of participants (n = 28) had adjudicated disability ratings for PTSD from the DVA, and 61% (n = 45) had received counseling for war-related stress within the last year. Sixty-two percent of the veterans (n = 42) obtained scores on the Mississippi Scale (Keane et al., 1988) that met or exceeded a cutoff score (107) used for making a PTSD diagnosis, and 57% (n = 39) obtained scores on the BDI (>19) indicative of at least moderate-to-severe depression.

Measures

Personal Feelings Questionnaire (PFQ). The PFQ (Harder & Lewis, 1987) is a well-validated measure of trait guilt and trait shame widely used in personality and social psychology research. Both the Guilt and Shame subscales possess adequate reliability, concurrent validity with other measures of guilt and shame, and considerable construct validity (Harder & Lewis, 1986; Harder & Zalma, 1990).

Guilt Inventory (GI). The GI (Kugler & Jones, 1992) includes subscales that assess trait guilt, state guilt, and moral standards. Only the Trait Guilt subscale was administered in the present study. Internal consistency was high (α = .89), and test–retest reliability was .75 over 36 weeks. GI Trait Guilt was significantly correlated with other measures of trait guilt, including PFQ Guilt (.66).

Test of Self-Conscious Affect (TOSCA). The TOSCA (Tangney, Wagner, & Gramzow, 1992) was designed to assess affective, cognitive, and behavioral responses associated with shame and guilt. The TOSCA consists of 15 brief scenarios drawn from personal accounts of events reported to have evoked guilt and shame. The scenarios are followed by separate responses said to indicate shame and guilt reactions (and 4 other dimensions not measured in this study). Participants rate their likelihood of responding in the manners indicated. Alpha was .66 for the Guilt subscale and .76 for the Shame subscale. TOSCA Guilt was moderately related to several measures of psychopathology, and TOSCA Shame was highly correlated with the same measures.

The Mississippi Scale. The Mississippi Scale for Combat-Related Posttraumatic Stress Disorder (Keane et al., 1988) was derived from criteria for PTSD in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-III*; American Psychiatric Association, 1980). The Mississippi Scale possesses high internal consistency and temporal stability, with an overall hit rate of .90 when used to differentiate between a PTSD group and non-PTSD comparison groups (Keane et al., 1988). Subsequent studies have also shown that the scale offers strong discriminative validity (Watson, 1990).

The PTSD Checklist. The PTSD Checklist (Weathers, Litz, Herman, Huska, & Keane, 1993) consists of 17 items that correspond to features of PTSD in the revised edition of *DSM-III* (*DSM-III-R*; American Psychiatric Association, 1987). One version of this scale is specifically designed for use with veterans; a second available version is applicable to any traumatic event. Test–retest reliability and internal consistency was excellent in a sample of Vietnam veterans. The PTSD Checklist correlated highly with the Mississippi Scale (.90) and Impact of Event Scale (.90). As a diagnostic measure, the PTSD Checklist had a sensitivity of .82 and specificity of .83.

Impact of Event Scale (IES). Widely used in trauma research, the IES (Horowitz, Wilner, & Alvarez, 1979) consists of two subscales: Intrusions and Avoidance. Horowitz et al. (1979) reported internal consistency of .78 for Intrusions and .80 for Avoidance. The scale has been shown to be sensitive to recovery of rape victims (Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992), and in one study correctly classified the PTSD status of approximately 84% of respondents (Arata, Saunders, & Kilpatrick, 1991).

Zung Self-Rating Depression Scale. The Zung Scale (Zung, 1965) has adequate internal reliability, and its criterion validity compares favorably with the Beck Depression Inventory (Schaefer et al., 1985). Sato and Heiby (1992) used the Zung Scale in a study of battered women in Hawaii, and validation data includes cross-cultural studies with participants of Japanese and Chinese ancestry (Goodstein, 1972).

Rosenberg Self-Esteem Scale. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) is a brief 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). Morrow (1991) found that adolescent incest victims with internal attributions for their molestation obtained significantly lower self-esteem scores than did victims who gave reasons for the molestation that were external to self.

Social Avoidance and Distress Scale. The Social Avoidance and

[4] A second section of the TRGI, which was not evaluated in the present research, includes items about behaviors, thoughts, and feelings considered to be sequelae or correlates of trauma-related guilt (e.g., social isolation, anger, reduced self-worth) but not part of the guilt construct, per se.

Distress Scale (Watson & Friend, 1969) was developed to assess distress in social situations and the deliberate avoidance of social situations; however, it is scored as a unidimensional measure, without subscales. Internal reliability was excellent, and 1 month test–retest reliability ranged from .68 to .79. This scale has been used in social anxiety and social phobia research and possesses considerable construct and criterion-related validity (e.g., Leary, 1991; Watson & Friend, 1969).

Participants were also administered a single item asking, "How often do you experience serious thoughts about suicide?", with five response options from *never* to *very frequently*.

Procedures

Veterans were recruited in a variety of ways. Flyers announcing the study were mailed to the membership of a local Vietnam veterans organization and to veterans who had received services from the PTSD Clinical Team at the Department of Veterans Affairs (DVA) in Honolulu. In addition, posters announcing the study were posted at various locations within the DVA, and 16 participants were recruited on the island of Maui by a State of Hawaii Veterans Service officer. Finally, 5 participants were recruited at a residential treatment program operated by the Pacific Center for PTSD (a DVA program) in Hilo, Hawaii.

Individual appointments were scheduled for participants, who were paid $50 for taking part in the study. Of the 74 participants, 69 were also scheduled for a second session for the TRGI retest. (Five participants in residential treatment for PTSD were excluded from the retest.) The temporal stability of the TRGI was evaluated on the questionnaires of 58 veterans for whom there were complete data. The retest interval ranged from 5 to 42 days (M = 8.40 days; SD = 6.01), and it was 6 to 8 days for 86% of participants (n = 50).

Results

Internal Consistency

Alphas computed for the Global Guilt, Guilt Cognitions, and Distress scales ranged from .90 to .94. Alphas for the Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification scales were .86, .78, and .66, respectively.

Temporal Stability

Test–retest correlations ranged from .84 to .86 for the Global Guilt, Guilt Cognitions, and Distress scales. Test–retest correlations for the Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification scales ranged from .73 to .75.

Convergent Validity

Table 4 presents the correlations of the TRGI scales and subscales with each of the other measures of adjustment and age and education. Veterans' scores on each of the TRGI measures were highly correlated with their scores on the trait guilt subscales of the PFQ and GI. Veterans' scores on the TRGI measures were also significantly correlated with their scores on the measures of PTSD, depression, self-esteem, trait shame, and social anxiety/avoidance.

The Global Guilt scale was significantly correlated with the Guilt Cognitions scale (.77), the Distress scale (.76), the Hindsight-Bias/Responsibility subscale (.61), the Wrongdoing subscale (.75), and the Lack of Justification subscale (.36; all $p <$ .01). The results of multiple regression analyses, shown in Table 3, indicate that scores on the Guilt Cognitions scale accounted for 17% variance in scores on the Global Guilt scale in addition to variance accounted for by scores on the Distress scale.

Discriminant Validity

We had predicted that the TRGI would be more strongly correlated with trait guilt measures (such as PFQ and GI Guilt) that can tap guilt about personally experienced past events than with guilt measures (such as TOSCA Guilt) that only assess proneness to experience guilt in situations that are relatively commonplace. Although highly correlated with PFQ and GI Guilt, the TRGI measures were negligibly correlated with TOSCA Guilt (in all cases, less than .10). We did not expect to find a significant association between trauma-related guilt and age or education. In our clinical experience with trauma survivors, individuals with more education seem just as vulnerable to trauma-related guilt as those who are less educated. Results presented in Table 4 indicate that neither age nor education was significantly correlated with the TRGI.

Discussion

The test–retest results obtained with the veteran sample are consistent with those obtained in Study 5 and indicate that the TRGI possesses acceptable, short-term temporal stability. The results also provide considerable evidence for convergent validity of the TRGI and provide some preliminary evidence of discriminant validity.

Study 7

Overview

The purpose of Study 7 was to examine the convergent and discriminant validity of the of the TRGI with a second sample of women receiving support-group services from an agency that serves battered women.

Method

Participants

The sample comprised 68 women attending the same agency program for battered women as the women who participated in Study 4. Participants ranged in age from 19 to 65 years (M = 34.2, SD = 13.4), with 13.4 years of education (SD = 1.86). Ethnicity was varied: Caucasian, 24% (n = 16); Chinese, 7% (n = 5), Filipino, 10% (n = 7); Hawaiian/part-Hawaiian, 22% (n = 15); Japanese, 10% (n = 7); Puerto Rican, 6% (n = 4); and mixed, other, or unspecified ethnicity, 21% (n = 14).

The women reported recent and chronic abuse in long-term intimate relationships. Sixty-two percent (n = 42) indicated they were last abused within the past 3 months, and 71% (n = 48) indicated the abuse occurred over a span of 1 or more years (Mdn = 47 months; SD = 68.60). From their responses on the Physical Aggression subscale of the Conflict Tactics Scale (Straus, 1979), participants reported being the recipients of a mean of 28.88 physically abusive acts from their partners during the past year (SD = 13.92). Thirty-three percent (n = 33) indicated that they were still in a relationship with the batterer. Thirty-seven percent of the women (n = 25) obtained scores on the Modified PTSD Symptom Scale that met or exceeded the cutoff used for making a diag-

Table 4
Correlations of TRGI Scales and Subscales With Other Measures: Vietnam Veterans (Study 6) and Battered Women (Study 7)

	Scales						Subscales					
	Global Guilt		Distress		Guilt Cognitions[a]		Hindsight-Bias/ Responsibility		Wrongdoing		Lack of Justification	
Measure	Vietnam veterans	Battered women	Vietnam veterans	Battered women	Vietnam veterans	Battered women	Vietnam veterans	Battered women	Vietnam veterans	Battered women	Vietnam veterans	Battered women
Trait Guilt*												
Personal Feelings Questionnaire	.77*	.76*	.64*	.62*	.55*	.58*	.40*	.45*	.59*	.57*	.40*	.02
Guilt Inventory	.65*	.61*	.58*	.49*	.61*	.60*	.43*	.52*	.54*	.58*	.47*	.12
TOSCA	.08	.04	.08	.06	.04	.05	.06	.02	−.05	−.07	.14	.03
PTSD												
Mississippi Scale	.72*	—	.73*	—	.55*	—	.36*	—	.62*	—	.34*	—
Modified PTSD Symptom Scale	—	.55*	—	.75*	—	.55*	—	.40*	—	.56*	—	.01
PTSD Checklist	.67*	.46*	.60*	.59*	.53*	.43*	.34*	.36*	.52*	.43*	.41*	.03
Impact of Event Scale												
Avoidance	.42*	.46*	.59*	.20	.36*	.31	.18	.22	.41*	.33*	.22	.02
Intrusions	.53*	.35*	.55*	.40*	.44*	.28	.34*	.19	.44*	.28	.17	.18
Depression												
Beck Inventory	.69*	.62*	.65*	.64*	.54*	.60*	.36*	.50*	.52*	.58*	.33*	.16
Zung Inventory	.63*	.53*	.64*	.58*	.41*	.45*	.20	.39*	.40*	.45*	.39*	.10
Self-Esteem												
Rosenberg Self-Esteem Scale	−.62*	−.61*	−.57*	−.43*	−.46*	−.48*	−.27	−.52*	−.37*	.41*	−.47*	.20
Social Anxiety/Avoidance												
Social Avoidance and Distress Scale	.53*	.56*	.42*	.45*	.41*	.45*	.16	.46*	.40*	.44*	.46*	.18
Shame												
PFQ	.43*	.61*	.64*	.58*	.40*	.48*	.25	.43*	.36*	.46*	.41*	.03
TOSCA	.48*	.43*	.37*	.45*	.33*	.34*	.25	.29	.28	.31	.29	.13
Suicidal thoughts	.58*	.37*	.56*	.38*	.29	.42*	.18	.34*	.31	.42*	.18	.24
Age	−.06	.18	−.18	.12	−.02	.00	.03	.07	−.03	−.07	.10	.18
Years of education	−.11	−.15	.01	−.34*	−.12	.15	−.07	.08	−.07	.18	.02	−.01

Note. Sample sizes for the correlations range = 71–74 in the veteran sample and 66–68 in the battered woman sample. TRGI = Trauma-Related Guilt Inventory; TOSCA = Test of Self-Conscious Affect; PTSD = posttraumatic stress disorder; PFQ = Personal Feelings Questionnaire. Dashes indicate measure was not administered.
[a] The Guilt Cognitions scale includes all items on the three TRGI subscales plus the six items that loaded highly on more than one of the three cognitive factors.
* $p < .05$, one-tailed (Bonferroni adjusted).

nosis of PTSD, and 28% (n = 19) obtained Beck Inventory scores indicative of at least moderate-to-severe depression.

Measures

Participants were administered (a) the TRGI, (b) the GI Trait Guilt subscale, (c) the PFQ, (d) the TOSCA, (e) the Modified PTSD Symptom Scale, (f) the PTSD Checklist, (g) the Impact of Event Scale, (h) the Beck Depression Inventory, (i) the Zung Self-Rating Depression Scale, (j) the Rosenberg Self-Esteem Scale, (k) the Social Avoidance and Distress Scale, and (l) a 5-point item assessing suicidal ideation.

Procedure

The questionnaires were administered in small groups at community service centers during or at the end of regularly scheduled support-group meetings. Every woman solicited agreed to participate, and each woman received $25 for taking part in the study.

Results

Internal Consistency

Coefficients alpha computed for the Global Guilt, Guilt Cognitions, and Distress scales ranged from .89 to .91. Alphas for the Hindsight-Bias/Responsibility, Wrongdoing, and Lack of Justification subscales were .79, .76, and .60, respectively.

Convergent Validity

Table 4 presents the correlations of the TRGI scales and subscales with each of the other measures of adjustment and with age and education. The women's scores on the various TRGI measures were substantially correlated with scores on the trait guilt subscales of the PFQ and GI (with the sole exception of the Justification subscale, which was negligibly correlated with all measures of trait guilt). Also, all TRGI scales and subscales, except the Justification subscale, were significantly correlated with scores on the measures of PTSD, depression, self-esteem, trait shame, and social anxiety/avoidance.

The Global Guilt scale was correlated .64 with the Guilt Cognitions scale ($p < .01$), .57 with the Distress scale ($p < .01$), .57 with the Hindsight-Bias/Responsibility subscale ($p < .01$), .56 with the Wrongdoing subscale ($p < .01$), and .22 with the Lack of Justification subscale (ns). The results of multiple regression, shown in Table 2, indicate that scores on the Guilt Cognitions scale accounted for 15% variance in scores on the Global Guilt scale over and above variance accounted for by scores on the Distress scale.

Discriminant Validity

Although highly correlated with PFQ and GI Guilt, women's scores on the TRGI scales and subscales were negligibly correlated with their TOSCA Guilt scores (less than .08 in all cases except one, as shown in Table 4). In addition, the women's scores on each of the TRGI measures were weakly correlated with their ages and levels of education, with the exception of a significant negative correlation between the Distress scale and years of education.

Discussion

Results obtained in Study 7 provide additional support for the validity of the TRGI. The results largely duplicate the results obtained in Study 6, with some relatively minor differences in degree but not direction. The only discrepant finding was that the Lack of Justification subscale was not significantly correlated with the measures of psychopathology, which parallels results obtained with the battered women's sample in Study 4. The reason for this discrepant finding is unclear and warrants further investigation. In a related study of trauma-related guilt with a different sample of battered women, a lack of justification variable was significantly correlated with PTSD and depression severity (Kubany et al., 1995).

TRGI Norms

In Studies 2 and 3, the TRGI was administered to a combined total of 325 college students, and in Studies 4 and 7 the scale was administered to a combined total of 168 battered women (all receiving the same services from the same agency). Table 5 presents participants' mean scores on the three TRGI measures for the the combined university sample, combined battered women's sample, and the Vietnam veteran sample. The university sample is also broken down by gender, and the veteran sample is broken into groups of veterans who did and did not receive counseling for war-related stress in the previous year.

General Discussion

We sought to validate the TRGI with groups of trauma survivors who differed on several dimensions. The Vietnam veterans and battered women differed in terms of gender, age, type of trauma, and trauma recency, yet the findings obtained with the two groups were very similar. In both groups, TRGI scales and subscales were highly correlated with two measures of trait guilt and with measures of PTSD, depression, self-esteem (negative correlations), social anxiety and avoidance, and suicidal ideation. Also, in both groups guilt cognition items accounted for substantial unique variance in global guilt in addition to variance accounted for by distress. Thus, the TRGI may possess similar construct- and criterion-related validity across different types of trauma.

An examination of ethnic differences among the 168 battered women who participated in Studies 5 and 7 provide evidence that the TRGI may also be valid across ethnic groups (Kubany, 1996). For example, no significant differences in trauma-related guilt were observed between Caucasian, Filipino, and Native Hawaiian women (the 3 largest ethnic groups represented). Furthermore, across ethnic groups, the Global Guilt scale was similarly correlated with the Guilt Cognitions and Distress scales and with measures of PTSD and depression severity.

Although items for the TRGI were generated from multiple sources of information, only one woman was included as a participant in the structured interviews for generating potential items. We do not know whether interviews with more women would have generated additional items that were not included. In any event, interviews with a more diverse sample may have

Table 5
TRGI Means for Combined Undergraduate Sample (Studies 2 and 3), Combined Battered Women's Sample (Studies 4 and 7), and Vietnam Combat Veteran Sample (Study 6)

		Scales						Subscales							
		Age		Global Guilt		Guilt-Cognitions		Distress		Hindsight-Bias/ Responsibility		Wrongdoing		Lack of Justification	
Sample	*n*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
College students[a]															
Women	209	24.4	7.1	1.17	1.07	1.22	0.89	1.93	1.00	0.99	1.02	1.02	0.99	2.18	1.21
Men	110	25.3	6.9	0.83	0.91	1.07	0.83	1.45	0.97	0.96	1.06	0.81	0.93	1.97	1.12
All students	325	24.6	7.0	1.07	1.03	1.18	0.87	1.77	1.07	0.99	1.03	0.97	0.97	2.10	1.19
Vietnam veterans[b]															
Treatment-seeking	45	47.0	4.4	2.81	0.89	2.11	0.69	3.05	0.70	1.81	0.90	2.51	0.80	2.09	0.91
Non-treatment-seeking	29	48.5	5.7	1.42	0.93	1.42	0.76	2.04	0.96	1.09	0.95	1.63	0.99	1.69	0.90
All veterans	74	47.6	5.0	2.36	1.13	1.84	0.80	2.66	0.95	1.53	0.98	2.17	0.97	1.83	0.91
Battered women	168	33.8	8.6	1.92	1.08	1.65	0.71	2.37	0.77	1.52	0.86	1.72	0.96	1.68	0.86

Note. TRGI = Trauma-Related Guilt Inventory. See Appendix for scoring of TRGI.
[a] Six college students did not specify their gender. Women obtained higher mean scores than men on the Global Guilt scale and the Distress subscale (both $p < .05$, Bonferroni adjusted). [b] Twenty-seven of 28 veterans with adjudicated PTSD ratings from the Department of Veterans Affairs were in the treatment-seeking group. Treatment-seeking veterans obtained significantly higher scores than non-treatment-seeking veterans on all TRGI scales and subscales except on the Lack of Justification subscale (all $p < .05$, Bonferroni adjusted).

led to the development of items that would enhance the validity and generalizability of the findings.

Our findings agree with those from previous reports that trauma-related guilt is a common symptom among trauma survivors (see Kubany & Manke, 1995). Even among the university students (who were presumably non-treatment-seeking for the most part), only 25% (82 of 325) reported experiencing zero trauma-related guilt. And almost 1 in 4 (23%) reported at least moderate levels of guilt. Even more striking was the overall magnitude of guilt among the battered women, who are widely considered to be innocent victims in many if not most or all instances. Only 6 of 168 women (3.6%) reported no guilt at all about their abuse. Furthermore, almost half (49%) reported at least moderate guilt, and approximately 1 in 4 (24%) reported guilt in the considerable-to-extreme range. Trauma-related guilt was also widespread in the Vietnam veteran sample. For example, nearly two thirds of the veterans (65%) reported experiencing at least moderate guilt, and almost one third (32%) reported guilt in the considerable-to-extreme range. Among treatment-seeking veterans, 82% reported experiencing at least moderate levels of guilt, and half (51%) reported guilt in the considerable-to-extreme range. In contrast, only 1 of 29 non-treatment-seeking veterans reported guilt in this highest range. Overall, the results suggest that trauma-related guilt is a significant clinical problem for a substantial proportion of treatment-seeking Vietnam veterans and battered women.

No trauma research may be more important than that concerned with the identification of factors associated with posttrauma recovery, particularly factors that are potentially modifiable and that can be targeted in therapy (Frazier & Schauben, 1994). Certainly, trauma survivors' beliefs about their role in trauma are potentially amenable to change, and targeting alteration of such beliefs in therapy may be particularly important because of clinical and research evidence that trauma survivors often exaggerate the importance of their roles in traumatic events[5] (e.g., Jehu, 1989; Miller & Porter, 1983; Price, 1990; Resick & Schnicke, 1993; see Kubany & Manke, 1995). Also, promising cognitive–behavioral technologies that explicitly target maladaptive, trauma-related beliefs have recently been developed (e.g., Kubany & Manke, 1995; Resick & Schnicke, 1992, 1993; Smuckers & Niederee, 1995; Wilson, Becker, & Tinker, 1995). Thus the TRGI, which assesses 22 specific trauma-related beliefs, may have considerable utility for clinical assessment and as a treatment-outcome measure for cognitive–behavioral interventions with trauma survivors.

It could be argued that the strong correlations between the TRGI and the other psychopathology measures may have been due to a shared negative affectivity factor present in all negative mood states rather than to something unique about guilt (e.g., Feldman, 1994; Watson & Clark, 1984; cf. Clark, Steer, & Beck, 1994; Roseman et al., 1994). From this perspective, differences among individuals in various mood states, including anger, guilt, and sadness, are best accounted for by pervasive individual differences in tendencies to experience distress or negative emotionality. The findings that various measures of adjustment were as highly correlated with trauma-related distress as with global guilt is consistent with this view. Still, our research demonstrated that the degree of trauma-related distress, alone, cannot account for the magnitude of trauma-related guilt experienced. Guilt-related cognitions accounted for substantial variance in guilt over that accounted for by distress or negative affectivity.

[5] Some have argued that "behavioral" self-blame is an adaptive response to trauma (e.g., Janoff-Bulman, 1979, 1989); however, the preponderance of empirical evidence suggests that any kind of self-blame is associated with poorer posttrauma adjustment (e.g., Dutton et al., 1994; Frazier & Schauben, 1994; Hill & Zautra, 1989; Katz & Burt, 1988; Kiecolt-Glaser & Williams, 1987; Meyer & Taylor, 1986; Morrow, 1991; Weaver & Clum, 1995).

This investigation was not designed to determine whether guilt-related cognitions directly cause or exacerbate guilt-related distress or other symptomatology. We suspect that guilt-related cognitions are causally related to guilt-related distress and global guilt and are also partially responsible for the maintenance of PTSD, depression, lowered self-worth, and social anxiety and avoidance (Kubany & Manke, 1995; cf. Norris & Kaniasty, 1991). Investigations that lead to a fuller understanding of the relationship between guilt-related cognitions and trauma-related suffering may have important clinical implications. In our own future work, we plan to use path analyses and time series and analogue designs to more fully investigate the relationships of guilt-related cognitions with total guilt, trauma-related distress, and other trauma-related symptomatology.

Strong positive relationships between the TRGI and trait guilt as measured by the PFQ and GI were predicted because responses to PFQ and GI Guilt items may reflect guilt about personally experienced past events. We expected to find a weaker relationship between the TRGI and trait guilt as measured by the TOSCA because the TOSCA Guilt subscale was only designed to assess guilt about events that are hypothetical and relatively commonplace. Nonetheless, we were initially somewhat surprised to find a negligible relationship between the TRGI and TOSCA Guilt. One possible explanation is that there is no relationship between trauma-related guilt and proneness to guilt across a spectrum of everyday events. Another possible explanation is that the TOSCA Guilt subscale may primarily measure strength of tendencies to subscribe to moral or social standards (cf. Mosher, 1979) rather than tendencies to experience guilt. Examination of the response format of the TOSCA indicates that on many items strong endorsements of the response options reflect a socially appropriate response, but not necessarily a guilt response (e.g., "You would try to make it up to him as soon as possible"). Also, in Studies 6 and 7 the TOSCA was weakly correlated with the PFQ (.26 and −.02) and with the GI (.14 and .19); both the PFQ and GI query respondents directly about their tendencies to experience guilt.

This research was not designed to assess how or whether trauma-related guilt differs from guilt that is not trauma-related. We have suggested elsewhere (e.g., Kubany & Manke, 1995) that trauma-related guilt may be distinguished from and tends to be greater than guilt evoked by common guilt-evoking events (e.g., disappointing a loved one, hurting someone's feelings, forgetting a commitment; see Klass, 1987b), primarily because traumatic events cause more harm and distress than do guilt-evoking events of everyday life (Kubany & Manke, 1995; Kubany, Kaplan, Watson, & Nouchi, 1995). In a recent analogue investigation, trauma scenarios elicited higher distress and guilt ratings than did scenarios of common guilt-evoking events (Kubany, Nouchi, et al., 1995). However, the correlations of distress and guilt-cognition ratings with overall guilt ratings were of similar magnitude for the two types of events. Investigation of similarities and differences between trauma-related guilt and guilt that is not trauma-related may enhance our understanding of the guilt construct.

This research may have several additional implications. First, use of the TRGI may facilitate an authoritative determination of the scope and severity of trauma-related guilt within and across trauma populations. Second, availability of the TRGI may foster cross-laboratory comparisons and collaborations leading to an enhanced understanding of the role of guilt in trauma. Third, in addition to assessing global trauma-related guilt, the TRGI also appears to provide a valid assessment of the magnitudes of key components of trauma-related guilt. Thus, the research may have important theoretical implications (see Baumeister et al., 1994, p. 263). Finally, availability and use of the TRGI may draw greater attention to the importance of guilt as a clinical problem, resolution of which may facilitate recovery from the pernicious effects of extreme stress.

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Appendix

Trauma-Related Guilt Inventory

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Response to Trauma (Version All)

Individuals who have experienced traumatic events—such as physical or sexual abuse, military combat, sudden loss of loved ones, serious accidents or disasters, etc.—vary considerably in their response to these events. Some people do not have any misgivings about what they did during these events, whereas other people do. They may have misgivings about something they did (or did not do), about beliefs or thoughts they had, or for having had certain feelings (or lack of feelings). The purpose of this questionnaire is to evaluate your response to a traumatic experience.

Briefly describe what happened:

Please take a few moments to think about what happened. All the items below refer to events related to this experience. Circle the answer that best describes how you feel about each statement.

1. I could have prevented what happened.
   Extremely true Very true Somewhat true Slightly true Not at all true
2. I am still distressed about what happened.
   Always true Frequently true Sometimes true Rarely true Never true
3. I had some feelings that I should not have had.
   Extremely true Very true Somewhat true Slightly true Not at all true
4. What I did was completely justified.
   Extremely true Very true Somewhat true Slightly true Not at all true
5. I was responsible for causing what happened.
   Extremely true Very true Somewhat true Slightly true Not at all true
6. What happened causes me emotional pain.
   Always true Frequently true Sometimes true Rarely true Never true
7. I did something that went against my values.
   Extremely true Very true Somewhat true Slightly true Not at all true
8. What I did made sense.
   Extremely true Very true Somewhat true Slightly true Not at all true
9. I knew better than to do what I did.
   Extremely true Very true Somewhat true Slightly true Not at all true
10. I feel sorrow or grief about the outcome.
    Always true Frequently true Sometimes true Rarely true Never true
11. What I did was inconsistent with my beliefs.
    Extremely true Very true Somewhat true Slightly true Not at all true
12. If I knew today—only what I knew when the event(s) occurred—I would do exactly the same thing.
    Extremely true Very true Somewhat true Slightly true Not at all true
13. I experience intense guilt that relates to what happened.
    Always true Frequently true Sometimes true Rarely true Never true
14. I should have known better.
    Extremely true Very true Somewhat true Slightly true Not at all true
15. I experience severe emotional distress when I think about what happened.
    Always true Frequently true Sometimes true Rarely true Never true
16. I had some thoughts or beliefs that I should not have had.
    Extremely true Very true Somewhat true Slightly true Not at all true

17. I had good reasons for doing what I did.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

18. Indicate how frequently you experience guilt that relates to what happened.

Never	Seldom	Occasionally	Often	Always

19. I blame myself for what happened.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

20. What happened causes a lot of pain and suffering.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

21. I should have had certain feelings that I did not have.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

22. Indicate the intensity or severity of guilt that you typically experience about the event(s).

None	Slight	Moderate	Considerable	Extreme

23. I blame myself for something I did, thought, or felt.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

24. When I am reminded of the event(s), I have strong physical reactions such as sweating, tense muscles, dry mouth, etc.

Always true	Frequently true	Sometimes true	Rarely true	Never true

25. Overall, how guilty do you feel about the event(s)?

Not guilty at all	Slightly guilty	Moderately guilty	Very guilty	Extremely guilty

26. I hold myself responsible for what happened.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

27. What I did was not justified in any way.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

28. I violated personal standards of right and wrong.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

29. I did something that I should not have done.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

30. I should have done something that I did not do.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

31. What I did was unforgivable.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

32. I didn't do anything wrong.

Extremely true	Very true	Somewhat true	Slightly true	Not at all true

Note. Most items are scored 4, 3, 2, 1, and 0 (from left to right). Seven items are reverse scored (Items 4, 8, 12, 17, 18, 22, and 25). The Global Guilt Scale score = [sum of scores on Items 13, 18(R), 22(R), and 25(R)] divided by 4. The Distress Scale score = (sum of scores on Items 2, 6, 10, 15, 20, and 24) divided by 6. The Guilt Cognitions Scale score = [sum of scores on Items 1, 4(R), 5, 7, 8(R), 9, 11, 12(R), 14, 16, 17, 19, 21, 23, 26, 27, 28, 29, 30, 31, and 32(R)] by 22. The Hindsight-Bias/Responsibility Subscale score = (sum of scores on Items 1, 5, 9, 14, 19, 23, and 26) divided by 7. The Wrongdoing Subscale score = (sum of scores on Items 3, 7, 11, 16, and 21) divided by 5. The Lack of Justification Subscale score = [sum of scores on Items 4(R), 8(R), 12(R), and 17(R)] divided by 4. Copyright © 1993 by Edward S. Kubany. Reprinted with permission. For permission to reproduce this inventory, contact Edward S. Kubany, 4211 Wailae Avenue, Suite 206, Honolulu, Hawaii 96816.

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Errata: Below are correction to the TRGI scoring key in article (underlined items are corrections). Most items are scored 4, 3, 2, 1, and 0 (from left to right). **Eight** items are reverse scored (Items 4, 8, 12, 17, 18, 22, 25 and **32**). The Global Guilt Scale score = [sum of scores on Items 13, 18 (R), 22 (R), and 25 (R)] divided by 4. The Distress Scale score = (sum of scores on items 2, 6, 10, 15, 20, and 24) divided by 6. The Guilt Cognitions Scale score = [sum of scores on Items 1, **3**, 4, (R), 5, 7, 8 (R), 9, 11, 12(R), 14, 16, 17, 19, 21, 23, 26, 27, 28, 29, 30, 31, and 32(R)] divided by 22. The Hindsight-Bias/Responsibility Subscale score = (sum of scores on items 1, 5, 9, 14, 19, 23, and 26) divided by 7. The Wrongdoing Subscale score = (sum of scores on Items 3, 7, 11, 16, and 21) divided by 5. The Lack of Justification Subscale score = [sum of scores on Items 4, (R), 8 (R), 12 (R), and 17 (R)] divided by 4.