Research Articles

DEVELOPMENT AND PRELIMINARY PSYCHOMETRIC PROPERTIES OF AN INSTRUMENT FOR THE MEASUREMENT OF CHILDHOOD TRAUMA: THE EARLY TRAUMA INVENTORY

J. Douglas Bremner, M.D.,[1,2,3,4]* Eric Vermetten, M.D.,[2,3,4] and Carolyn M. Mazure, Ph.D.[2]

Research on the effects of childhood trauma has been limited by the lack of a comprehensive, reliable, and valid instrument that assesses the occurrence of early traumatic experiences. This paper presents the development and preliminary psychometric properties of an instrument, the Early Trauma Inventory (ETI), for the assessment of reported childhood trauma. The clinician-administered ETI is a 56-item interview for the assessment of physical, emotional, and sexual abuse, as well as general traumatic experience (including items which range from parental loss to natural disaster). For each item of the ETI, frequency of abuse/trauma by developmental stage, onset and termination of abuse/trauma, perpetrator of the abuse/trauma, and impact on the individual are assessed. Initial analyses indicate acceptable inter-rater reliability, test-retest reliability, and internal consistency for the ETI. Comparisons between the ETI and other instruments for the assessment of trauma, as well as instruments for the measurement of symptoms related to abuse, such as dissociation and PTSD, demonstrated good convergent validity. Validity was also demonstrated based on the ability of the ETI to discriminate patients with PTSD from comparison subjects. Based on these findings, the ETI appears to be a reliable and valid instrument for the measurement of reported childhood trauma. Depression and Anxiety 12:1–12, 2000.

Key words: *childhood trauma; Early Trauma Inventory; abuse; PTSD*

INTRODUCTION

Childhood trauma is increasingly recognized as an important public health problem. Early studies using community samples found rates of childhood sexual abuse to be from 11–62% in women [Finkelhor and Hotaling, 1984; Kercher and McShane, 1984; Russell, 1983; Wyatt, 1985] and 3–39% in men [Finkelhor and Hotaling, 1984; Kercher and McShane, 1984]. More recent studies based on national samples confirmed high rates of sexual abuse, with one study showing that 16% of women have a history of childhood sexual abuse defined as rape or unwanted genital fondling [McCauley et al., 1997]. This means that at least one out of every seven women in our society have been the victim of childhood sexual abuse at least once before their 18th birthday [McCauley et al., 1997; MacMillan et al., 1997].

Childhood abuse has been associated with a range of adverse psychiatric outcomes, including depression [Briere et al., 1988; Swett et al., 1986], anxiety [Briere et al., 1988; Swett et al., 1986], dissociation [Chu and Dill, 1990; Putnam et al., 1986], post-traumatic stress disorder (PTSD) [Greenwald and Leitenberg, 1990],

[1]Department of Diagnostic Radiology, Yale University School of Medicine, New Haven, Connecticut
[2]Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut
[3]Yale Psychiatric Institute, New Haven, Connecticut
[4]National Center for Posttraumatic Stress Disorder, VA Connecticut Healthcare System, West Haven, Connecticut

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*Correspondence to: Dr. J. Douglas Bremner, VAMC (115a), 950 Campbell Avenue, West Haven CT 06516.

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borderline personality disorder [Herman et al., 1989; Ogata et al., 1990], alcohol and substance abuse [Brown and Anderson, 1991; Ladwig and Anderson, 1989], and other psychiatric disorders [Bryer et al., 1987; Bulik et al., 1989; Carmen et al., 1984; Green, 1978; Hall et al., 1989; Herman, 1981; Palmer et al., 1990]. A recent nationwide survey found that childhood sexual abuse is the most common cause of posttraumatic stress disorder (PTSD) in women, currently affecting 10%, or about 13 million, women in the country [Kessler et al., 1995]. When rates of abuse-related PTSD are compared with rates of other major psychiatric disorders, such as schizophrenia, which currently affects 1% of the general population, it can be seen that childhood trauma is a problem that needs to be addressed. In addition, other types of stressful and traumatic childhood experiences, such as adaptation to parental separation [Breier et al., 1988; Gardner et al., 1990] and childhood family violence [Kessler and Magee, 1993, 1994], have also been associated with psychopathology.

Despite the importance of assessing childhood trauma, there is considerable controversy surrounding the consistency and accuracy of reports of incidents occurring during childhood [Loftus et al., 1994; Williams, 1994a,b; Bremner et al., 1996]. An instrument for the assessment of childhood trauma with demonstrated reliability and validity is therefore an important prerequisite for research in this field.

A number of instruments have been created to assess the occurrence of childhood trauma [for reviews, see Keane and Wilson, 1997; Resnick et al., 1996; Stamm, 1996]. Some have focused on reports of specific traumas, such as parental physical or sexual abuse [Briere and Runtz, 1990]. In particular, Bernstein et al. [1994] have developed a questionnaire assessing childhood emotional, physical, and sexual abuse, for which internal consistency, retest reliability, and some forms of validity have been demonstrated. Other newly developed instruments have attempted to assess a range of possible traumas, including physical or sexual abuse, parental divorce or separation, death of a family member, natural disasters, and community violence [Gallagher et al., 1989; MacIan and Pearlman, 1992; Norris, 1990; Pennebaker and Susman, 1998; Wolf and Kimerling, 1997]. However, these instruments tend to have a number of design limitations. Some rely solely on a self-report questionnaire format. Self-report assessments of trauma have potential strengths and weaknesses. It may be easier for subjects to report on potentially uncomfortable topics such as sexual abuse in the anonymous format of the self-report questionnaire. Clinician administered interviews, however, present an important opportunity for clinicians to obtain direct information and begin to establish a relationship with patients who will be under their clinical care. Also, with clinician administered interviews, it is easier to understand whether the patient understands and is cooperating with the assessment of childhood trauma. Most currently available assessments of childhood trauma are also limited by the fact that they do not provide specific information about the trauma (such as age at occurrence, frequency of occurrence, and identity of others involved in the event) that may be critical in understanding the magnitude and significance of the event. Even more importantly, systematic assessments of reliability and validity of these instruments have not yet been generated.

We report on the development, reliability, and validity of an instrument for the measurement of childhood trauma, the Early Trauma Inventory (ETI). This semi-structured interview assesses the domains of physical, emotional, and sexual abuse, as well as a domain of general traumatic experience. For each item of the ETI, there are assessments of frequency of abuse/trauma by developmental stage, onset and termination of abuse/trauma, and perpetrator/cause of the abuse/trauma. The current paper presents the development of the ETI and provides data on the inter-rater reliability, test-retest reliability, and internal consistency of the ETI. Validity data are provided which compare the ETI with other instruments for the assessment of childhood trauma, as well as instruments for the measurement of symptoms related to abuse such as dissociation and PTSD. Ability of the ETI to assess relative risk of PTSD following exposure to specific traumatic events is also reported.

METHOD

THE EARLY TRAUMA INVENTORY

The Early Trauma Inventory (ETI) was developed based on a perceived need for a comprehensive and reliable assessment of childhood trauma for research and clinical purposes. In the initial development of the ETI, an interdisciplinary group with a wide range of child and adult clinical and research experience in the trauma field was convened to construct a measure of childhood trauma. Four domains of childhood traumatic events were identified: general trauma, physical, emotional, and sexual abuse. In order to identify potentially relevant events in these domains, working descriptions of each domain were outlined. Physical abuse was described as physical contact, constraint or confinement, with intent to hurt or injure. Emotional abuse was described as verbal communication with the intention of humiliating or degrading the victim. Sexual abuse was described as unwanted sexual comments or contact performed solely for the gratification of the perpetrator or for the purposes of dominating or degrading the victim. General traumatic events comprised a range of stressful and traumatic events that are mostly secondary to chance events, or events perpetrated by a stranger, as opposed to events in the abuse domains that typically involve perpetration by an individual known to the victim with a specific intent to harm the victim. As can be seen in the list of abuse items in different domains outlined in Table 1,

there is some potential for overlap between general traumatic events and other domains, especially physical abuse. A list of traumatic events within each domain was constructed based on clinical experience, a review of available existing instruments, and a survey of the clinical literature on childhood trauma [Briere and Runtz, 1987, 1988; Finkelhor, 1979; Finkelhor, 1986; Herman, 1981; Herman et al., 1986; Russell, 1986; Wyatt, 1985]. These traumatic events were used as the basis for development of the ETI. Presence of abuse items on the ETI is not considered to represent a definition of abuse. What defines abuse has been a matter of debate, and different authors have used different cut-off points to define the presence of abuse (see the literature cited above for some examples). If an exact definition of abuse is required, individual clinicians and researchers should develop their own criteria. The ETI may be a helpful tool, however, in developing an operationalized criteria for abuse for clinical or research purposes. For example, one ETI-based definition of severe early childhood sexual abuse we previously used for research purposes was endorsement of any of the items involving unwanted penetration before the age of 13.

The ETI is a 56-item interview that assesses traumatic experiences before the age of 18 in four domains: physical abuse, emotional abuse, sexual abuse, and general traumas. The ETI takes about 45 min to administer and can be used for clinical and research purposes. The ETI should be used by clinicians with experience in trauma and victimization or by personnel under the supervision of an experienced clinician. The items of the ETI are presented in Table 1.

Each domain of the ETI (physical, emotional, and sexual abuse, and general traumas) is introduced with an open-ended format in which subjects are asked in a general way about their experiences related to a specific domain (e.g., physical or emotional abuse) and are allowed to tell their story in their own words. Following the initial open-ended introduction to the domain, subjects are asked a series of structured questions within that particular domain (general trauma: 24 items; physical abuse: 9 items; emotional abuse: 8 items; and sexual abuse: 15 items).

The probe questions for the ETI cover a wide range of abuse experiences. For example, questions regarding physical abuse range from items that more commonly occur, such as "were you ever spanked with a hand?" to less common events, such as "were you ever locked in a closet?" Sexual abuse items range from questions such as "were you exposed to someone flashing?" to "were you ever forced to have anal sex against your will?" Emotional abuse items range from "were you often shouted at?" to "did your parents or caretakers fail to understand your needs?" The general trauma component assesses occurrence of events ranging from parental loss to natural disaster, to criminal victimization. Items for which a positive response is obtained are followed up with questions regarding frequency, duration, and perpetrator.

The ETI assesses the frequency of abuse experiences for each item at different developmental periods or academic epochs (pre-school, elementary school/junior high school, and high school). The ETI also assesses the age of the individual when the abuse began and when it stopped, the perpetrator (s) of the abuse, and the impact of the event on the individual at the time (rated on a 7 point Likert-type scale ranging from –3 ("extremely negative") to +3 ("extremely positive"). Perpetrators are coded using specified categories (e.g., male caretaker, female caretaker, etc.). In cases where individuals reported abuse that occurred before age 4, and indicated that they believed it had occurred since birth, abuse is scored as having occurred since birth. Current impact of the trauma is also assessed by domain using a 7 point scale, with assessments of how upsetting the event is currently to the individual, and impact on current work and social function. At the end of the interview, a short debriefing occurs. As part of the debriefing, immediate and long-term sequelae for the events, such as medical health care seeking and change in custody status, are assessed. These items are not included in the assessment of the psychometric properties of the ETI.

As part of the development of this instrument an index of severity of trauma exposure was developed based on assessment with the ETI, which we refer to as the ETI Childhood Trauma Severity Index. Indexes were developed for each domain, which could be summed in order to obtain a combined index. The purpose of developing the Trauma Severity Index was to have a continuous variable measure of abuse that could be easily used in research or clinical applications. For example, it may be useful in research applications to examine the relationship between abuse and other variables including psychosocial factors, treatment response, or biological markers, or to have a measure of trauma in individual domains for clinical applications. Such an index would also have practical utility in the separate assessment of physical, emotional, and sexual abuse, and general traumas, and their relationship to other variables. In the absence of research on the development of such an index of trauma severity, or information about how to construct such an index, we elected to develop an initial method for construction of an Index and assess the reliability and validity of the Index. The rationale behind this preliminary method for constructing an Index was that the Index should be a measure of the total "burden" of abuse over childhood, that is, a measure of the number of events that occurred, how long and how often they were experienced. During the development of the Index (data not reported in detail in this manuscript), it was found that an Index that combined number of items, frequency, and duration appeared to be more valid than other methods for constructing an Index, e.g., merely summing the number of items or using an Index that combined only number of items and duration for each item. These findings supported the rationale behind

TABLE 1. Frequency of endorsementof traumatic events and item-total correlations in 137 subjects with and without psychiatric disorders

	Frequency		Item-total correlation
	N	%	
General traumatic events			
Natural disaster	26/131	20	0.13
Serious accident	26/131	20	0.24
Serious personal injury	34/131	26	0.34
Serious personal illness	25/131	19	0.43
Death of a parent	51/131	39	0.28
Serious injury/illness of parent	39/131	30	0.45
Death of a sibling	8/131	6	0.33
Serious injury/illness of sibling	23/131	18	0.37
Death of a friend	36/131	28	0.31
Serious injury of a friend	16/131	12	0.31
Witnessing death/serious injury of others	22/131	17	0.12
Divorce/separation of parents	38/131	29	0.44
Witnessing violence toward others	58/131	44	0.47
Family member with mental illness	36/131	27	0.36
Family alcoholism/substance abuse	9/90	10	0.57
Victim of assault	36/103	35	0.38
Victim of armed robbery	23/104	22	0.05
Work in stressful job (e.g., EMT)	6/103	6	0.09
POW or hostage	3/103	3	0.25
Combat	0/103	0	0
Death of a child	2/103	2	0.24
Miscarriage of child	4/103	4	0.31
Death of a spouse	0/103	0	0
Physical abuse events			
Spanked with a hand	110/137	80	0.24
Slapped in the face	73/137	53	0.61
Burned with hot water or cigarette	19/137	14	0.64
Punched or kicked	51/137	37	0.54
Hit with objects	87/137	64	0.55
Objects thrown	39/137	29	0.65
Choked	27/137	20	0.57
Pushed or shoved	51/137	37	0.68
Tied up or locked in a closet	28/137	20	0.56
Emotional abuse events			
Often put down or ridiculed	72/137	53	0.66
Often ignored	63/137	46	0.59
Often told that one is no good	54/124	44	0.66
Often shouted at	88/137	64	0.53
Most of the time treated in uncaring way	57/137	42	0.68
Parents controlled aspect of life	55/137	40	0.46
Parents failed to understand needs	70/137	51	0.63
Parents expected one to behave much older	60/137	44	0.6
Sexual abuse events			
Exposed to inappropriate comments about sex	49/136	36	0.75
Exposed to flasher	50/136	37	0.65
Spied on in bathroom	25/136	18	0.55
Forced/coerced to watch sexual acts	23/136	17	0.59
Touched in intimate part of body	56/136	41	0.71
Someone rubbed genitals against one	43/136	32	0.78
Forced/coerced to touch intimate parts	41/136	30	0.72
Had genital sex against one's will	28/136	21	0.76
Forced/coerced to perform oral sex on someone	28/137	20	0.71
Someone performed oral sex on one	16/124	13	0.41
Someone had anal sex sex against one's will	15/133	11	0.56
Someone tried to have sex, but didn't do so	25/129	19	0.5
Made to pose for suggestive photographs	7/116	6	0.34
Forced or coerced to perform acts for money	7/116	6	0.49
Forced to kiss someone in sexual way	16/116	14	0.65

the development of the Index as a measure of "total trauma burden." Ideally the Index should also give greater weight to items that are more damaging, e.g., rape would be expected to be worse than being spanked with a hand. However in the absence of any empirical data to support the differential effects of these variables, it was decided to assign equal weight to all items for these preliminary analyses. Linear weighting (i.e., each item given an equal weight) was therefore used in this report [Cicchetti and Fleiss, 1977; Cicchetti and Sparrow, 1981]. The index was calculated by multiplying the frequency with which each item was endorsed by the years of duration, and then summing across items within each of the four domains (physical, emotional, sexual, and general trauma). If an abuse item happened only once, it was assigned a valued of "1 year," in order to simplify scoring. For example, an individual who experienced five physical abuse items, with 2 years duration, would have double the score of an individual who experienced five physical abuse items, with 1 year duration. Domain scores were added to determine an overall score for trauma severity based on the ETI. These calculations therefore yielded a Trauma Severity Index for Physical, Emotional, Sexual Abuse, and General Trauma, and a combined Total Trauma Severity Index that incorporates all domains.

A self-report version of the ETI was developed based on the clinician-administered ETI. The self-report version of the ETI incorporates items from each of the four domains of the clinician administered ETI. The self-report ETI version assesses whether each item ever occurred before the individual's 18th birthday and follows this up with an assessment of frequency of occurrence. The self-report version of the ETI takes about 45 min to administer. Advantages of the self-report ETI are that it does not require a trained rater and can be administered in situations in which there is limited time for face-to-face interviews. Another potential advantage is that the self-report format can reduce some of the shame and symptom exacerbation that can be associated with verbal reporting of traumatic events to a second individual. Disadvantages of the self-report ETI from a clinical perspective include the fact that direct verbal communication of traumatic events can represent a useful initiation of the treatment process. The self-report ETI also does not include a comprehensive assessment of perpetrators of abuse, effect of the trauma on the individual, and frequency by developmental epoch. Complete assessment of the psychometric properties of the self-report version of the ETI is not presented in this report, e.g., inter-rater reliability of the self-report version is not reported here.

ASSESSMENT OF RELIABILITY

One hundred thirty-seven subjects participated in this study, including individuals with psychiatric diagnoses (PTSD, N = 53; depression, N = 29; schizophrenia, N = 3; and panic disorder, N = 2) and subjects without psychiatric disorders (N = 50). Patients were drawn from the inpatient and outpatient psychiatric services of a VA hospital and a general hospital. Subjects without psychiatric disorders were drawn from control populations of other ongoing studies. Subjects were included who agreed to participate and provided informed consent for participation. Psychiatric diagnoses were based on the Schedule for Affective Disorders and Schizophrenia-Lifetime (SADS-L) interview, the Structured Clinical Interview for DSM-IV (SCID), or a psychiatric interview using SCID-based criteria for diagnosis. Patients currently detoxifying from alcohol or other substances were excluded. Subjects with a history of traumatic brain injury or neurological disorder were excluded.

The distribution of subjects by gender was as follows: healthy controls, 28 (56%) male and 22 (44%) female; PTSD 29 (55%) male and 24 (45%) female; depression 14 (48%) male and 15 (51%) female; schizophrenia 3 (100%) male, and; panic disorder 1 (50%) male and 1 (50%) female. Distribution of age was as follows: healthy controls (M = 35, SD = 9), PTSD patients (M = 44, SD = 9), depression (M = 44, SD = 10), schizophrenia (M = 41, SD = 10), and panic disorder (M = 39, SD = 5).

In order to assess inter-rater reliability, we measured agreement between two raters blind to the other's ratings. The two raters included a psychiatric nurse with 20 years experience in clinical and research assessments, and a psychiatrist research fellow (EV). Both raters had at least 1 year of experience in specialized assessment and treatment of psychological trauma at the Yale Trauma Research Program, Yale University School of Medicine, and the National Center for PTSD, West Haven VAMC, CT. These raters were trained in the administration of the ETI by the first author of the current report, who was also one of the developers of the ETI (JDB). First the investigator met with the two raters individually for 2 hr each and instructed them in the history of the development of the ETI, general issues in assessment of childhood abuse, and specific usage of the ETI for trauma assessment. Then the investigator sat with the raters while they interviewed three subjects with the ETI and provided feedback and instruction on the interview technique. Then, the raters performed videotaped interviews with a total of 11 individuals who had a range of diagnoses (PTSD, depression, schizophrenia, panic disorder, and healthy controls). Each of the raters viewed the videotapes performed by the other rater in order to "cross-rate" the interviews performed by the other rater for the assessment of inter-rater reliability.

Test-retest reliability was determined by having a single rater (EV) perform assessments of the ETI on ten subjects with PTSD or without psychiatric disorder. These subjects were different than those subjects used for the inter-rater reliability assessment. An additional rater was trained by the investigator using the same method outlined above for training the first two

raters. This rater was a research psychologist (Psy.D.) with 3 years clinical and research experience in the Yale Trauma Research Program. This additional rater performed a repeat interview 2–4 weeks later for assessment of test-retest reliability. The two raters for test-retest reliability remained blinded to each other's assessments.

Tests of internal consistency were determined from the data in all subjects using Cronbach's alpha coefficient and by measuring the correlation of individual items with the total score minus that particular item.

ASSESSMENT OF VALIDITY

Convergent validity of an instrument is typically determined by comparing the new instrument to another measure of the same construct. In the present study, we assessed the convergent validity of the ETI by measuring the correlation of the ETI Childhood Trauma Severity Index with the score on the Checklist of Traumatic Events (CLTE) [Berk et al., 1989]. The CLTE assesses a range of traumatic events, including physical and sexual abuse. Scores on the physical abuse domain of the ETI were compared to physical abuse as assessed by the CLTE, scores on the sexual abuse domain of the ETI were compared to sexual abuse as assessed by the CLTE, and general trauma items on the ETI were compared to general trauma items on the CLTE (e.g., parental loss, family violence).

Another approach to measuring validity is to examine the relationship between a measure of childhood abuse and another measure for which there is clinical and empirical evidence for an association, such as dissociative or PTSD symptomatology. In the current study, we examined the relationship between ETI-based measurement of childhood trauma (as measured by the ETI Trauma Severity childhood trauma severity index) and a) dissociative symptomatology as measured by the Dissociative Experiences Scale (DES) [Bernstein and Putnam, 1986] and the Clinician Administered Dissociative States Scale (CADSS) [Bremner et al., 1998]; b) PTSD symptomatology as measured by the Civilian version of the Mississippi Scale; and c) general psychiatric symptomatology as measured by the Brief Symptom Inventory (BSI).

Descriptive statistics are presented in the current paper including frequency of item endorsement and perpetrator endorsement, and effect of trauma on the individual. This information is not directly relevant to the psychometric properties of the ETI and is presented to provide descriptive information obtained with the ETI in this particular population.

In order to investigate further the capacity of the ETI to measure the severity of childhood trauma, we examined the relative risk for developing PTSD following exposure to individual traumatic events, as measured by an odds ratio. Odds ratios are based upon a 2 by 2 chi-square table. In this case PTSD and healthy non-PTSD controls, and presence and absence of exposure to the traumatic item, represent the cells of the 2 by 2 table. Values for the odds ratio above 1 represent an increasingly higher likelihood of developing the outcome of interest (PTSD) following a specific exposure (in this case, the specific traumatic event). If the lower limit of a 95% confidence interval for the odds ratio of a given item is greater than 1, then there is a 95% or greater chance that occurrence of the event (e.g., childhood abuse) is associated with the outcome of interest (e.g., PTSD).

RESULTS

INTER-RATER RELIABILITY

Inter-rater reliability was assessed using the intraclass correlation coefficient (ICC) [Bartko, 1961], where ICC values of 0 represent no agreement between two raters and ICC values of 1 represent perfect agreement between raters. Inter-rater reliability as assessed with the ETI Childhood Trauma Severity Index showed high levels of agreement between raters (ICC = .99; F = 157.44; df = 10,11; $P<.0001$). There were also high levels of agreement for the individual domains, including physical (ICC = .97; F = 59.63; df = 10,11; $P<.0001$), emotional (ICC = .97; F = 78.49; df = 10,11; $P<.0001$), and sexual abuse (ICC = .99; F = 1055.48; df = 10,11; $P<.0001$), as well as for general trauma (ICC = .94; F = 31.18; df = 10,11; $P<.0001$).

TEST-RETEST RELIABILITY

Test-retest reliability was assessed with the Pearson correlation. There was a high level of agreement between test and retest on ETI Childhood Trauma Severity Index scores (r = .91; df = 9; $P<.001$). For the individual domains of the ETI there were also high levels of agreement between test and retest for physical abuse (r = .97; df = 9; $P<.001$), emotional abuse (r = .98; df = 9; $P<.001$), and sexual abuse (r = .99; df = 9; P<.001), with lower levels of agreement for general trauma (r = .51; df = 9; $P = .13$).

INTERNAL CONSISTENCY

Internal consistency of the ETI was assessed as well as internal consistency for individual ETI domains. Cronbach's coefficient alpha [Cronbach, 1954] for the ETI as a whole was 0.95. Cronbach's coefficient alpha for the physical abuse domain was .86 ($P<.05$), for the emotional abuse domain .92 ($P<.05$), for the sexual abuse domain .92 ($P<.05$), and for the general trauma domain .74 ($P<.05$).

We investigated the relationship of each item to total score on the ETI (minus that item) using Pearson correlations (Table 1). With the exception of "being spanked with a hand," all of the physical abuse items were highly correlated with the ETI total for all the other items, with r values ranging from .55–.68. Emotional abuse items (with the exception of "parents controlling one's life") also had high correlations with ETI totals, ranging from .53–.68. Among the sexual abuse

items, "being made to pose for suggestive photographs," "having someone perform oral sex on one," and "being forced or coerced to perform sexual acts for money" showed the weakest associations with ETI totals. Apart from these items, the other sexual abuse items showed a strong association with total score, with r values ranging from .50–.78. The general traumatic events showed weaker associations with the total score, with r values of greater than .4 only for a serious personal illness in childhood, serious illness of a parent, divorce/separation of parents, witnessing violence, and family alcoholism/substance abuse. There were also significant correlations between individual domain scores for emotional and physical abuse (r = .76; df = 128; $P<.0001$), emotional and sexual abuse (r = .64; df = 128; $P<.0001$), and physical and sexual abuse (r = .63; df = 128; $P<.0001$).

VALIDITY

Pearson correlations were used to examine the relationship between the ETI and another measure of trauma (CLTE). There was a significant correlation between ETI total score and score on the CLTE (r = .63; df = 11; $P = .02$). Score on the physical abuse domain of the ETI was significantly correlated with the physical abuse component of the CLTE (r = .61; df = 12; $P = .03$), and score on the sexual abuse domain of the ETI was correlated with the sexual abuse component of the CLTE (r = .58; df = 12; $P = .04$). Assessments of nonabuse traumatic events by the two instruments were also related, including witnessing family violence (r = .73; df = 12; $P = .0045$) and loss of family members (r = .59; df = 12; $P = .03$). Score on the ETI was correlated with other measures of trauma-related psychiatric symptomatology, including PTSD symptomatology as measured by the Civilian Mississippi Scale (r = .78; df = 36; $P = .0001$), general psychiatric symptomatology measured with the Brief Symptom Inventory (BSI) (r = .83; df = 39; $P = .0001$), dissociative states as measured with the Clinician Administered Dissociative States Scale (CADSS) (r = .56; df = 38; P = .0002), and general dissociative symptoms measured with the Dissociative Experiences Scale (DES) (r = .56; df = 25; $P = .003$). Similarly, there were significant correlations between domains of the ETI and measures of dissociation and general psychiatric symptomatology (data not reported here).

Validity of the ETI was also assessed by examining relative risk (measured with the odds ratio) for PTSD following exposure to individual traumatic events assessed by the ETI. Odds ratios for each item of the ETI, with their 95% confidence intervals, and associated p value, are reported in Table 2. There were a number of items with high odds ratios and lower limits of the 95% confidence intervals greater than 1, suggesting that exposure to the variable of interest was associated with increased risk for PTSD. All of the physical abuse items were associated with an increased risk for PTSD. Being punched or kicked, burned with hot water or cigarette, and being choked were associated with the highest odds ratios. Surprisingly, all of the emotional abuse items were associated with an increased risk for PTSD. However, emotional abuse was highly correlated with physical and sexual abuse, consequently it is not clear that emotional abuse has an independent effect on risk for PTSD. Sexual abuse items not associated with a significant increased risk for PTSD (lower limits of the 95% confidence intervals not greater than 1) included someone trying to force sex on the subject but not actually doing so, being made to pose for suggestive photographs, and being forced/coerced to perform acts for money. All other sexual abuse items were associated with increased risk, with the highest odds ratios for being forced/coerced to perform oral sex on someone else, having genital sex against one's will, and being forced/coerced to watch sexual acts. Of the general traumatic events, items including having a family member with mental illness, death or serious illness/injury of a sibling, being victim of assault, serious injury/illness of parent, serious personal illness, death of a friend, and family alcoholism/substance abuse were associated with significant increased risk for PTSD (Table 2).

Validity of the ETI was also examined by comparing ETI scores in patients with PTSD to comparison groups. The ETI scores were higher for PTSD patients (M = 2752, SD = 1866) than for healthy controls (M = 406, SD = 932) based on one-way analysis of variance (F = 17.36, $P<.01$), indicating that the ETI is sensitive for the identification of traumatized populations. In healthy subjects domain scores were as follows: emotional M = 188; SD = 458; physical M = 49, SD = 109; sexual M = 12, SD = 50; general M = 134, SD = 633.

DESCRIPTIVE INFORMATION OBTAINED WITH THE ETI

In the current study descriptive information was obtained with the ETI including frequency of item endorsement, perpetrator endorsement, and affect on the individual. This information is not directly relevant to the assessment of the psychometric properties of the instrument; however it is presented for display of information by item and domain relative to endorsements of other items and domains in this population. The most commonly endorsed physical abuse item, "being spanked with a hand," was the most weakly associated with ETI total score, supporting the idea that this is a nonspecific event that is common in the general population. The three physical abuse items least commonly endorsed, "being burned with hot water/cigarette" (14%), "being tied up or locked in a closet" (20%), and "being choked" (20%) were nonetheless highly correlated with ETI total score and carried an increased risk for PTSD (see below). All emotional abuse items were endorsed by at least 40% of the total sample, the most common of which was "being often shouted at or yelled at." Sexual abuse items that were only endorsed by a few individuals included "being forced to perform acts for money" and "being made to pose for suggestive photos." These items were also not

TABLE 2. Odds ratios for development of PTSD*

	Frequency-P		Frequency-H		Odds	95% Confidence		*P*
	N	%	N	%	ratio	interval		value
General traumatic events								
Natural disaster	10/48	21	6/46	13	1.754	0.581	5.298	0.31
Serious accident	16/48	33	5/46	11	4.1	1.357	12.385	0.009
Serious personal injury	18/48	38	9/46	20	2.467	0.969	6.276	0.055
Serious personal illness	15/48	31	4/46	9	4.773	1.447	15.743	0.026
Death of a parent	27/48	56	11/46	24	4.091	1.687	9.918	0.001
Serious injury/illness of parent	19/48	40	10/46	22	2.359	0.951	5.851	0.061
Death of a sibling	7/48	15	0/46	0	16.81	0.931	303	0.007
Serious injury/illness of sibling	13/48	27	5/46	11	3.624	1.188	11.049	0.021
Death of a friend	21/48	43	9/46	20	3.457	1.376	8.682	0.007
Serious injury of a friend	8/48	17	3/46	7	2.867	0.71	11.567	0.126
Witnessing death/serious injury of others	13/48	27	5/46	11	3.046	1.015	9.14	0.046
Divorce/separation of parents	18/48	38	14/46	30	1.371	0.582	3.245	0.47
Witnessing violence toward others	36/48	75	11/46	24	9.545	3.724	24.465	0.001
Family member with mental illness	20/48	42	7/46	15	3.98	1.481	10.691	0.005
Family alcoholism/substance abuse	14/22	64	10/44	23	5.95	1.944	18.214	0.001
Victim of assault	8/23	35	4/44	9	5.333	1.499	18.981	0.009
Victim of armed robbery	1/22	5	4/44	9	0.476	0.05	4.536	0.511
Work in stressful job (eg EMT)	1/22	5	0/44	0	6.209	0.243	158.26	0.154
POW or hostage	0/23	0	0/44	0				
Combat	0/22	0	0/44	0				
Death of a child	2/22	9	0/44	0	10.85	0.498	236.42	0.042
Miscarriage of child	3/22	14	1/44	2	6.789	0.663	69.551	0.068
Death of a spouse	0/22	0	0/44	0				
Physical abuse events								
Spanked with a hand	49/53	92	31/47	66	6.327	1.934	20.666	0.001
Slapped in the face	44/53	83	15/47	32	10.43	4.06	26.794	0.001
Burned with hot water or cigarette	16/53	30	1/47	2	19.89	2.52	157.03	0.001
Punched or kicked	37/53	70	4/47	9	24.86	7.635	80.943	0.001
Hit with objects	50/53	94	22/47	47	18.94	5.17	69.376	0.001
Objects thrown	30/53	57	4/47	9	14.02	4.397	44.712	0.001
Choked	22/53	42	1/47	2	32.65	4.181	254.89	0.001
Pushed or shoved	40/53	76	4/47	9	33.08	9.957	109.88	0.001
Tied up or locked in a closet	22/53	42	3/47	6	10.41	2.863	37.845	0.001
Emotional abuse events								
Often put down or ridiculed	47/53	89	9/47	19	33.07	12.341	88.64	0.001
Often ignored	41/53	77	11/47	23	11.18	4.4	28.414	0.001
Often told that one is no good	42/53	79	6/40	15	21.64	7.255	64.524	0.001
Often shouted at	49/53	92	14/47	30	28.88	8.735	95.451	0.001
Most of the time treated in uncaring way	42/53	79	6/47	13	26.09	8.827	77.122	0.001
Parents controlled aspect of life	39/53	74	6/47	13	19.04	6.648	54.509	0.001
Parents failed to understand needs	46/53	87	11/47	23	21.51	7.577	61.04	0.001
Parents expected one to behave much older	41/53	77	6/47	13	23.35	7.998	68.157	0.001
Sexual abuse events								
Exposed to inappropriate comments about sex	37/52	71	2/47	4	55.5	11.92	258.42	0.001
Exposed to flasher	34/52	65	10/47	21	6.989	2.835	17.232	0.001
Spied on in bathroom	19/52	37	2/47	4	12.96	2.82	59.51	0.001
Forced/coerced to watch sexual acts	20/52	38	1/47	2	28.75	3.67	225.22	0.001
Touched in intimate part of body	38/52	73	7/47	15	15.51	5.649	42.589	0.001
Someone rubbed genitals against one	32/53	60	3/47	6	22.35	6.136	81.4	0.001
Forced/coerced to touch intimate parts	31/53	58	4/47	9	15.15	4.743	48.375	0.001
Had genital sex against one's will	21/53	40	2/47	4	14.77	3.231	67.482	0.001
Forced/coerced to perform oral sex on someone	24/53	45	1/47	2	38.07	4.883	296.8	0.001
Someone performed oral sex on one	14/52	27	1/40	3	14.37	1.8	114.71	0.002
Someone had anal sex sex against one's will	12/50	24	0/46	0	30.2	1.731	526.61	0.001
Someone tried to have sex, but didn't do so	16/45	36	4/47	9	5.931	1.8	19.546	0.002
Made to pose for suggestive photographs	7/45	16	0/40	0	15.78	0.871	285.77	0.009
Forced or coerced to perform acts for money	6/45	13	1/40	3	6	0.69	52.185	0.07
Forced to kiss someone in sexual way	13/45	29	1/40	3	15.84	1.966	127.71	0.001

**Relative risk (odds ratio) for having PTSD (PTSD patients versus healthy controls).*

strongly correlated with ETI total score and did not carry a significant relative risk for PTSD. Fourteen percent or more of subjects in the study endorsed all other sexual abuse items, with the most common including "being touched in an intimate area" and "being exposed to flashers." The most common general traumatic event the subjects were exposed to was witnessing family violence (44%). Being in combat, death or miscarriage of a child, or death of a spouse were essentially unendorsed, which is not surprising since these events do not commonly occur before age 18.

Male primary caretakers were the most commonly reported perpetrators of abuse. Most subjects who reported abuse indicated that the abuse had an extremely negative effect on them at the time that it occurred, as well as an extremely negative effect on emotions, ability to work, and social functioning at the current time. Mean years of abuse were as follows: physical abuse (M = 8.0, SD = 6.0; median = 6), emotional abuse (M = 9.8, SD = 7.3; median = 12), and sexual abuse (M = 3.0, SD = 4.6; median = 0). Onset of abuse was as follows: physical abuse (M = 3.9, SD = 3.8; median = 4), emotional abuse (M = 3.4, SD = 4.1; median = 1), and sexual abuse (M = 7.3, SD = 4.3; median = 7).

Assessment of impact of the event on the individual at the time of the event ("how upsetting was the event to you at the time it occurred?") and current impact on feeling upset, work and social function using the 7 point Likert scale showed a greater endorsement of responses in the negative or neutral range for individuals self-reporting abuse. For example, 60% of subjects reported that physical abuse was extremely negative at the time it occurred, and 23% reported that it was neutral (usually those who were only spanked with a hand), with no one endorsing moderately or extremely positive. Similar distributions were seen for the other domains and the other impact areas.

Assessment of impact of the event on the individual at the time of the event ("how upsetting was the event to you at the time it occurred?") and current impact on feeling upset, work and social function using the 7 point Likert scale showed a weighting toward the negative range for individuals self-reporting abuse with associated symptoms of PTSD.

ETI-SELF REPORT VERSION

A Childhood Trauma Severity Index was also constructed for the self-report version of the ETI based on summing the scores for each item. The Childhood Trauma Severity Index for the ETI self-report version was compared to the clinician administered ETI Severity Index using Pearson correlations. A significant correlation was found between score on the clinician administered ETI and the ETI self report (r = .96; df = 12; P = .0001). A preliminary analysis showed that the ETI self-report had a lower correlation with another measure of trauma in this study, the CLTE (r = .62; df = 10; P = .03), relative to the clinician administered version of the ETI as reported above.

DISCUSSION

Our findings show that the ETI is a reliable and valid instrument for the measurement of childhood physical, emotional, and sexual abuse, as well as general traumas. We report high levels of inter-rater reliability, test-retest reliability, internal consistency, and validity as assessed by comparisons with other instruments for the assessment of childhood trauma and related constructs (PTSD and dissociation). The ETI was also found to be valid based on its ability to differentiate PTSD patients from healthy controls and patients with depression.

The ETI was shown to have convergent validity in the measurement of abuse as measured by the relationship between the ETI and another measure of trauma, the Checklist of Traumatic Events (CLTE). Although there was a high level of agreement between the ETI and the CLTE, the ETI has some potential advantages over this and other instruments. The ETI includes assessments in the domains of physical, sexual, and emotional abuse, as well as general trauma, with assessments of perpetrator, frequency, onset, and offset. The ETI provides a broad range of information related to childhood abuse. Both clinician and self-report versions of the ETI are available, which provide additional flexibility (although psychometric properties of the self-report version have not been fully assessed at this time).

The ETI was also demonstrated to be valid in the differentiation of PTSD patients from other groups. Surprisingly, emotional abuse items, such as being often shouted at, appeared to have severe consequences in terms of risk for PTSD. However, the trauma severity scores across these domains were highly correlated. This raises the possibility that emotional abuse may not represent a causative factor in the development of PTSD but may merely represent a factor associated with physical or sexual abuse. The findings do indicate that physical, emotional, and sexual abuse covary with one another. Larger sample sizes with multivariate analyses are required to determine the specific contributions of emotional abuse relative to physical and sexual abuse.

The findings of the current study may provide useful conceptual information related to the area of childhood trauma. One important question is whether childhood trauma can be thought of as a unified construct or collection of related constructs (e.g., physical abuse, emotional abuse, etc.) or whether the events assessed by the ETI are an unrelated list of historical events. The majority of items of the ETI were frequently endorsed and were correlated with ETI total scores. However, there were some items that, although frequently endorsed, were not highly correlated with other events measured with the ETI. For example, in the physical abuse domain, all items were frequently endorsed and consistent with one another except for "being spanked with a hand." One might argue that

this item is a nonspecific variable commonly present in our society and is not necessarily related to the construct of childhood abuse. On the other hand, other items such as "being locked in a closet" or "being burned with a cigarette" were highly correlated with one another. These items may not be ubiquitous in society and may be related to a putative construct of physical abuse. All of the emotional abuse items were frequently endorsed and were related to overall ETI score. Again, all of the items in this domain, as currently worded, including "often being shouted at or yelled at" or "often being told that you were no good" are highly negative events (especially with the qualifying statement "often") that would not be expected to be commonly present in the general population. Even the statement "did your parents often fail to understand your needs" upon careful inspection will be seen to be something most people do not experience, especially with the emphasis on the qualifier "often." Within the sexual abuse subscale, "being made to pose for suggestive photographs" and "being forced/coerced to perform sexual acts for money" were infrequently endorsed and were not highly correlated with other items. Frequency of endorsement within the general trauma subscale was more variable than within the other subscales. The inter-relatedness of items within the general trauma subscale was lower than for the other subscales and consistent with the fact that the individual items within the general trauma domain are more diverse than the individual items of the other domains. For this reason the "general trauma" domain should not be thought of as a measure of a single unified construct but rather as a list of possible historical events that are relevant for research and clinical purposes. In a similar fashion, "being spanked with a hand" should not be considered part of a physical abuse construct, and "being made to pose for suggestive photographs" should not be considered part of a unified sexual abuse construct based on the data collected in this study. Also, the highly inter-related nature of some items, e.g., all of the items in the emotional abuse domain, suggest a redundancy of items. Therefore future work could involve construction of a shortened scale that would involve only items highly correlated with other items, that is, representative of a "construct" of emotional, physical, and sexual abuse without redundant items and that is therefore quicker to administer. This type of instrument may be more practical for researchers and clinicians who do not want a comprehensive list of stressful and traumatic events but rather a brief index of these events.

There are other limitations of this study that deserve mention. The subjects in this study were drawn from a clinical setting. Population-based studies are needed to obtain a more accurate assessment of the relative contributions of individual childhood traumatic events to psychopathology. Our sample size was inadequate to provide more than an initial evaluation of the psychometric properties of the instrument. For these reasons, the results should be considered to be preliminary. We did not include measures of divergent validity that limit the assessment of the putative construct of childhood abuse. The format of the ETI, with "skip-outs" to the next question if the response to an item was negative (i.e., frequency, duration, and perpetrator are not assessed for that item), could alert second raters about responses of the first rater and artificially increase the level of inter-rater and test-retest reliability. A limitation of our assessment of validity is the fact that it was compared to another trauma measure with limited validity data available, e.g., to our knowledge it has only been validated in male veteran populations. Future studies should validate the ETI against other trauma measures that have become available more recently. The current study did not provide comprehensive psychometric data on the self-report version of the ETI, e.g., inter-rater reliability data is lacking; also the preliminary studies of validity, although showing a strong correlation with clinician administered ratings, did not show as strong a relationship with other another measure of trauma (CLTE), as was seen with the clinician administered version of the ETI. The correlation between clinician-administered and self-report versions was unusually high, which may have been related to the fact that these assessments were performed within a 2 week time period. Future studies of the psychometric properties of the self-report version are required. Assessment of childhood abuse with the ETI is based on self-report data. We attempted to contact family members of patients with self-reported abuse histories but were unable to obtain consent from patients to make these family contacts. Therefore we are limited in our ability to comment on the sensitivity of the ETI to identify childhood abuse. This limitation is a by-product of the psychological trauma research field. Few studies have obtained verification of abuse histories, and even those studies that did obtain verification through methods such as court records have limitations. For example, a study involving court records of abuse to validate self-reporting of abuse in a random sample of the general population would be invalid, since most episodes of abuse do not receive legal attention. Documenting childhood abuse through the use of surveys of legal records and interviews of family members is difficult and not feasible in most research settings, and the validity of reports by family members (who may have been involved directly or indirectly in the abuse) is questionable. The current study involved the assessment of self-reported childhood abuse. We do not claim that these self reports represent true histories in all cases. There are also limits to the ETI instrument itself, i.e., there is no comprehensive assessment of childhood neglect. This is because the ETI was designed primarily for the assessment of abuse and other traumas. Future studies are needed for the assessment of neglect. The ETI was designed as an instrument to be applied to adults. We have no information on developmental aspects of trauma recollection and reporting.

The assessment of the trauma on the individual is limited to a simple assessment of impact ("how upsetting was the event to you") at the time it occurred, and current emotional impact as well as impact on current work and social function. The ETI was not developed as an instrument to be used in making PTSD diagnosis. In addition, the ETI was developed before the introduction of the current DSMIV Criterion A definition of impact on the individual (i.e., the event is associated with intense fear, helplessness, or horror). The DSMIV version of Criterion A has a somewhat restrictive definition of a traumatic event (i.e., threat to life of the individual or of someone close to the individual). This narrow definition is of limited value for research applications (e.g., none of the emotional abuse items would meet this criteria). For the purposes of determining whether or not an individual meets the DSMIV criteria for a traumatic event, currently utilized PTSD symptom measures include an assessment of whether the individual has at least one traumatic event that meets Criterion A.

For research applications, it is useful to have a single continuous variable that provides an estimate of trauma severity. For this reason a composite index of overall trauma severity based on assessment with the ETI, the ETI Childhood Trauma Severity Index, was constructed. The ETI Childhood Trauma Severity Index incorporates number of abuse items endorsed, years of duration, and frequency. Therefore by demonstrating reliability and validity of the ETI Childhood Trauma Severity Index, we also showed reliability and validity for properties of the ETI that are not incorporated in currently available trauma measures, including years of duration and frequency. Our method for calculating an ETI Childhood Trauma Severity Index is preliminary and may have limitations. Further work is needed to assess the validity of the ETI Childhood Trauma Severity Index in different research contexts and to compare it to other methods for assessing trauma severity. For instance, weighting schemes might permit a more rational scoring system for the ETI Childhood Trauma Severity Index. Information on the impact of individual trauma events on psychopathology could be used to weight individual items in the calculation of a trauma severity index. In the current study, weighting of items was premature in the absence of information about the relative impact of individual traumatic events on psychopathology. Future studies involving larger sample sizes should assess the impact of individual trauma events and use this information in the construction of an ETI Childhood Trauma Severity Index which relies on weighted items. This method of measuring trauma severity should be then compared to the method used in the current study.

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