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Measuring depression and PTSD after trauma: Common scales and checklists

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Abstract

Traumatic injury is an important public health problem secondary to high levels of mortality and morbidity. Injured survivors face several physical, emotional, and financial repercussions that can significantly impact their lives as well as their family. Depression and posttraumatic stress disorder (PTSD) are the most common psychiatric sequelae associated with traumatic injury. Factors affecting the prevalence of these psychiatric symptoms include: concomitant TBI, the timing of assessment of depression and PTSD, the type of injury, premorbid, sociodemographic, and cultural factors, and co-morbid medical conditions and medication side effects. The appropriate assessment of depression and PTSD is critical to an understanding of the potential consequences of these disorders as well as the development of appropriate behavioral and pharmacological treatments. The reliability and validity of screening instruments and structured clinical interviews used to assess depression and PTSD must be considered. Common self-report instruments and structured clinical interviews used to assess depression and PTSD and their reliability and validity are described. Future changes in diagnostic criteria for depression and PTSD and recent initiatives by the National Institute of Health regarding patient-reported outcomes may result in new methods of assessing these psychiatric sequelae of traumatic injury.

Consequences of Traumatic Injury

Traumatic injuries account for more than five million deaths worldwide annually, and account for nine percent of global mortality.¹¹⁹ Those who survive their injuries face physical, emotional, and financial repercussions that can impact their own lives as well as their families.²⁸ Millions suffer from permanent or temporary disabilities secondary to traumatic injuries and lose more years of work life than individuals with cancer and heart disease combined.⁷⁹ Several types of psychosocial sequelae may result from traumatic

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injury, however the most common psychiatric consequences are depression and posttraumatic stress disorder (PTSD).^{9, 50, 57}

Traumatic Injury and Depression

Depression impacts about 121 million people globally and is one of the leading causes of disability worldwide.¹¹⁷ The point prevalence for Major Depressive Disorder (MDD) in adults is 5–9% for women and 2–3% for men in a U.S. community sample.⁴ A diagnosis of MDD includes: symptoms of depressed mood, loss of interest, feelings of guilt, low self-worth, disturbed sleep or appetite, low energy, poor concentration, and recurrent thoughts of death that occur for a minimum of two weeks and interfere with social, educational, or occupational functioning.⁴

When assessed shortly after traumatic injury, rates of depression range from 8–60%.^{51, 74, 100} However, among long-term follow-up studies that exist, rates of depression range between 9–31% at 6–12 months post-injury.^{51, 95} However, studies have reported higher rates of depression in those who have concomitant traumatic brain injury (TBI).^{82, 108}

Predictors of depression after traumatic injury include being female,⁵² concomitant brain injury,^{58, 62, 77} and/or loss of an extremity.³¹ Although not specific to depression, other predictors of poor mental health after traumatic injury include younger age at the time of the injury, shorter duration between the injury and assessment, pain, and lower levels of social support.⁸⁴ Although less studied, the consequences of depression following a traumatic injury include increased rates of distress and problems with rehabilitation.⁹⁰ For those with TBI, consequences of depression include greater interpersonal difficulties,²² higher rates of unemployment,⁹⁸ more severe post-concussive symptoms,^{38, 90} and higher levels of pain and fatigue.^{10, 19}

Traumatic Injury and Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) subsequent to traumatic injury can occur independently or be comorbid with depression.⁸¹ The DSM-IV-R criteria for PTSD includes (1) experiencing a traumatic event which was judged to be life threatening and which caused distress; (2) one or more symptoms of re-experiencing the event (e.g., recurrent dreams or intrusive recollections of the event); (3) three or more symptoms of avoidance (e.g., avoidance of thoughts or activities associated with the traumatic event); and (4) two or more symptoms of hyperarousal (e.g., irritability, difficulties falling or staying asleep).⁴ Symptoms of PTSD must be present for at least one month and significantly impair educational, occupational or interpersonal functioning. Approximately 3.5% of US adults aged 18 and older have PTSD in a given year.⁶¹ In contrast, 18–42% of injured patients report PTSD at 1–6 months post injury, and 2–36% report PTSD at 12 months post-injury.⁸⁰ Differences in prevalence of PTSD among TBI and non TBI patients have been observed. In general, lower rates of PTSD have been found to be associated with TBI when compared to those who have not suffered a TBI.^{7, 24, 49} The lower rates of PTSD in those who have suffered a TBI is associated with the loss of memory of all, or parts of the traumatic or surrounding events (e.g., intensive care unit stay).^{3, 80}

Posttraumatic stress disorder has also been found to be comorbid with depression,^{81, 82} substance abuse,⁷² panic disorders,⁷² phobic reactions,⁷² and increased somatization.⁷² Predictors of developing PTSD after traumatic injury include: the extent of the memory of the traumatic events,²⁵ psychiatric history prior to the injury,⁸⁵ perceptions of threat to life,⁸⁵ cortisol levels following trauma,³⁶ female gender,¹⁰⁷ prior trauma,^{15, 107} and peri-traumatic dissociation.¹⁰⁷ Posttraumatic stress disorder has been found to be associated with decreased quality of life,⁷⁵ poorer physical health,⁸³ and problems with social

functioning.^{13, 83} These social, functional, and health consequences associated with depression and PTSD underscore the importance of identifying and treating these psychiatric disorders.

Assessment of Depression and Posttraumatic Stress Disorder

The two major methods of assessment that can be performed to measure symptoms of depression and PTSD include screening instruments and structured clinical interviews. Screening instruments may be administered by a clinician or be completed by the patient. Screening instruments commonly measure symptoms but may also reflect the clinical diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders (DSM)⁴ or International Classification of Diseases (ICD)¹¹⁸ criteria for these diagnosis. Screening instruments are most often utilized in research to reduce patient burden and cost. Structured clinical interviews are considered the “gold standard” and most self-report instruments are validated using these methods of assessment. Structured clinical interviews are usually administered by trained clinicians but some structured clinical interviews can also be administered by non-clinicians trained to perform these interviews (e.g., the Composite International Diagnostic Interview and Diagnostic Interview Schedule)^{14, 86}.

When choosing an instrument or structured clinical interview to assess depression or PTSD, attention to the instrument’s reliability and validity is essential. There are two primary domains of reliability (internal consistency and test-retest) and three primary domains of validity (construct, criterion, and content) that are often tested and reported. Reliability refers to an instrument’s ability to consistently measure a construct over time. Internal consistency refers to the correlations among items within a scale.⁶ Test-retest reliability refers to the extent to which the scores on an instrument are consistent over a specific period of time,⁶ often a 2 week period. Validity refers to the extent to which an instrument measures what it was intended to assess. Content validity assesses the instrument’s focus on all relevant dimensions of a given construct whereas construct validity refers to the degree to which an instrument measures a concept and is distinct from other concepts or constructs.⁶ Criterion validity is the extent to which a measure is correlated with other established criterion and is often the “gold standard” of measurement to which the assessment tool can be compared. There are distinct types of criterion validity, including: 1) concurrent validity, which refers to a measurement’s ability to accurately assesses a construct or behavior that is currently occurring or that an individual is currently experiencing; 2) predictive validity, which refers to an instrument’s ability to predict future behaviors or scores on another measure; 3) convergent validity which refers to the degree to which a measure is similar to other measures that assess the same construct; and 4) discriminant validity, the degree to which an instrument is dissimilar to other measures that assess the same construct.

Tables 1 and 2 provide information regarding the reliability and validity of instruments and interviews commonly used to assess depression and PTSD among traumatically injured individuals. To compile this list of instruments we searched the Medline and PsycInfo databases using keywords such as trauma, traumatic injury, polytrauma, motor vehicle accident, traumatic brain injury and depression and posttraumatic stress disorder. We reviewed all papers that included a standardized assessment of depression or posttraumatic stress disorder. We excluded instruments that had no published information regarding their reliability or validity and that had not been commonly utilized within the past 10 years. The list of instruments included in Tables 1 and 2 may not be exhaustive, and includes instruments and interviews used to assess depression and PTSD, primarily in Western countries, such as Europe, Australia, Canada, and the US. We provided, when available, the reliability and validation information of the instrument or interview among traumatically

injured populations. Where an instrument's criterion validity had been tested against an existing instrument, we included the name of that instrument.

Factors Affecting the Measurement of Depression and PTSD

Traumatically injured populations may be one of the most complex groups to study secondary to the heterogeneity of causes and types of injuries patients can experience. Several factors may impact the assessment of depression and PTSD and which may account for wide variability in prevalence rates reported across studies. These factors include (1) concomitant TBI;⁵⁷ (2) timing of assessments;^{3, 80} (3) type of traumatic event; (4) premorbid, sociodemographic, and cultural factors; and (5) co-morbid medical conditions and medication side effects.^{3, 80}

Traumatic brain injury is an important predictor in the development and reporting of depression and PTSD. Prior studies have shown that individuals with TBI with less severe injuries report higher levels of depression.^{35, 44, 89} Several factors may account for the higher rates of depression in individuals with TBI. Hypothyroidism has been reported to result from TBI, and it is important to differentiate this condition from depressive symptoms, secondary to differences in recommendations for treatment.⁶⁶ Although less studied, the neuroanatomical location of the TBI may play a role in the development of depression. Depression in the acute period after injury has been associated with reduced left prefrontal gray matter volumes⁵⁶ and an association between depression and left anterior brain lesions has also been found.⁵⁷ Additionally, a blunted prolactin response, which may be indicative of a serotonin dysfunction, may contribute to post TBI-related depression.¹⁰⁴

It has also been postulated that TBI may be protective against PTSD.^{18, 43, 67} Bryant found that severe TBI patients reported less intrusive memories when compared to individuals who had experienced other types of trauma.²¹ In the case of severe TBI, where there is a significant loss of consciousness, the individual may not have a memory of the traumatic event and therefore would not be expected to develop PTSD due to lack of memory of the event (criteria for PTSD symptoms). However, PTSD has been reported among severe TBI patients who have experienced loss of consciousness or who have no memories of the traumatic event that caused their injury.¹⁸ For some patients who do not have memories of the traumatic event, the memories associated with their ICU or hospital stay may be traumatic.^{55, 91, 120} Furthermore, losses of loved ones during the traumatic event may result in psychological sequelae (e.g., complicated bereavement) that may be misdiagnosed as depression or PTSD.

Differences in the timing of assessments can lead to variation in the rates of depression or PTSD.^{80, 82} Most studies report the time since injury, but many studies include patients with a wide range of time since injury in the assessment of trauma, including individuals who have experienced trauma in recent months and those who have experienced it several years earlier. As a result, the range of prevalence for these psychiatric disorders in this patient population vary greatly. In addition to the heterogeneous samples that are often studied, the timing of assessment has obscured the prevalence of these disorders. Furthermore, the ability to obtain an accurate incidence or prevalence of depression or PTSD may be limited by the wide range of instruments employed to assess these disorders.⁸⁰

Traumatic injury may be a result of a number of different events including civil conflicts, motor vehicle accidents, suicide attempts, and falls. The types of injuries that result and the context in which these traumatic injuries arise (e.g., loss of fellow soldiers or loved one in motor vehicle accident (MVA)) may also contribute to the development of depression and/or PTSD. It would be expected that traumatic injuries which are a result of a fall may be less

likely to result in psychological sequelae when compared to combat-related injuries or MVAs, which may also include the loss of loved ones.

Premorbid factors also play a role in the development of psychiatric disorders. Personal or family history of psychiatric disorders is a major predictor of depression or PTSD for individuals who have experienced a traumatic injury.^{3, 85} Women also tend to have higher rates of depression and PTSD, and this should be considered when examining predictors of these disorders. In addition, gender differences may exist in regard to symptom presentation.^{41, 69} Depressed men may exhibit symptoms of irritability whereas women may report symptoms of sadness and feelings of worthlessness.⁹²

It is also important to be aware that the instruments and interviews used to assess depression and PTSD presented in Tables 1 and 2 may be inappropriate for some populations such as children and adolescents and/or persons from other cultures. For example, separate instruments and/or structured clinical interviews exist for children, adolescents, and their parents to assess these psychiatric disorders.⁴⁶ Also, instruments assessing depression that are heavily weighted in regard to somatic symptoms may inaccurately screen or overestimate the rates of depression secondary to their injury.

Cultural issues should also be considered in regard to measurement of depression and PTSD. Many of the assessment tools described in this paper were developed in English and their reliability and validity tested in the U.S. To translate these “Western” instruments into other languages, appropriate translation methods should be utilized (e.g., forward and back translation). Furthermore, there is some debate regarding the appropriateness of Western conceptualizations of constructs such as depression and/or PTSD in other cultures.^{54, 59, 94, 116} Historical, cultural, and socioeconomic and political factors associated with the population should be taken into consideration in regard to the assessment of depression and PTSD. Future research is likely needed to understand the psychiatric consequences of traumatic injury in other cultures.

Finally, comorbid medical conditions or medication side effects that mimic symptoms of depression or PTSD should be considered during a differential diagnosis of these psychiatric disorders in any medical population, including traumatically injured patients. Structured clinical interviews, in contrast to self-report measures, may be able to better differentiate between comorbid physical illnesses and symptoms of depression and PTSD. However, structured clinical interviews by non-experienced clinicians would also likely miss important information that could lead to a misdiagnosis and overestimation of the prevalence of depression and PTSD in those who have experienced a traumatic injury. When choosing a structured clinical interview or self-report measure of depression or PTSD the goals of the clinical assessment or research aims are important to consider.

Future Directions

In this paper, we have described the current issues associated with the measurement of depression and PTSD in people who have suffered a traumatic injury. However, it should be noted that important changes are currently underway that may affect the measurement of depression and PTSD. In 2012 the new Diagnostic and Statistical Manual for Psychiatric Disorders (DSM-V) and ICD-10 is expected to be published and the criteria for PTSD and depression possibly revised. Established screening instruments and structured interviews may be modified and new instruments may be developed to reflect the proposed changes in the diagnostic criteria of depression and PTSD.^{20, 78, 87, 103}

Furthermore, the development and use of the Patient Reported Outcomes Measurement Information System (PROMIS) by the National Institute of Health may change the ways in

which we assess patient outcomes. The PROMIS initiative aims to provide a resource for accurate and efficient measurement of patient-reported symptoms and other health outcomes. The items and scales to measure patient outcomes are normed so investigators or clinicians have the ability to compare the individual scores to other patient populations or to the general population.^{26, 27}

Recommendations

The recommendation to use any instruments or interviews should be based on the goals of the study or reasons for clinical assessment. If an investigator or clinician is interested in the prevalence or diagnosis of depression or PTSD, the use of structured clinical interviews yields better estimates of these disorders and would likely lead to the most effective treatment. The disadvantages include the length of the interview, the need for training, and the costs necessary to have a clinician administer these types of interviews. Screening instruments may be useful when clinicians or researchers are trying to target at-risk individuals for further assessment or intervention. Self-report screening instruments tend to be brief and may or may not provide a criterion score for diagnosis. As noted in Tables 1 and 2, instruments or interviews that have adequate reliability and validity, preferably in traumatically injured patients, should be considered. Finally, although depression and PTSD are important to diagnosis and treat secondary to their consequences, additional psychosocial sequelae of traumatic injury warrants further consideration such as the assessment on other domains of quality of life and the impact on the family (e.g., spouse, children).

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Common structured clinical interviews and instruments used to assess depression in adults with traumatic injuries

Table 1

	Validation Population	Number of Items & Scales	Response Scales	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^d
Hospital Anxiety and Depression Scale (HADS) ¹¹⁵	Traumatic brain injury	14 items total Depression and anxiety subscales	Multiple response scales Current symptom frequency and severity	N/A	Cronbach's α =.94 total Cronbach's α =.88 for depression subscale Cronbach's α =.92 for anxiety subscale	With SCID, sensitivity=.62 specificity=.92	N/A	N/A
Patient Health Questionnaire-9 (PHQ-9) ³⁷	Traumatic brain injury	9 items	Symptom occurrence in past 2 weeks 0=not at all 1=several days 2=more than half the days 3=nearly every day	Test-retest, r =.76	N/A	With SCID, sensitivity=.93 specificity=.89	N/A	r =.78-.90
Patient Health Questionnaire-2 (PHQ-2) ⁷⁰	Medical outpatients	2 items	Symptom occurrence in past 2 weeks 0=not at all 1=several days 2=more than half the days 3=nearly every day	N/A	Cronbach's α =.83	With SCID, sensitivity=.87 specificity=.78	N/A	r =.67-.87
Beck Depression Inventory (BDI) ¹⁰¹	Traumatic brain injury	21 items Cognitive/affective subscale Somatic/performance subscale ⁴⁷	Multiple response scales Symptom severity in last 2 weeks ⁹³	Test-retest, r =.96 ¹¹	Cronbach's α =.93 ¹³	With SCID, sensitivity=.36 specificity=.80	With SCID, r =.30	r =.67 with measure of TBI symptoms and functioning
Structured Clinical Interview for DSM (SCID) Mood Episodes Module ³⁹	Diverse populations	Number of items depends on participant responses to questions Decision tree format utilized	Yes/No responses Determines if symptoms are absent, subthreshold, or present	Test-retest, kappa=.61-.73 Inter-rater reliability, kappa=.80-.93	N/A	N/A	With SCID and clinical interview, sensitivity=.84 specificity=.91 ⁸⁸	N/A
Brief Symptom Inventory 18 (BSI-18) ⁷³ only depression subscale information presented	Traumatic brain injury	18 items	Level of distress in past 7 days 0=not at all 1=rarely/occasionally 2=sometimes 3=often 4=extremely often	Test-retest, r =.63	Cronbach's α =.84	N/A	N/A	r =.68
Neurobehavioral Functioning Inventory (NFI) Depression subscale ⁷⁷	Traumatic brain injury	76 items Depression subscale	Current frequency of problem occurrence 1=never 2=rarely 3=sometimes 4=often 5=always	N/A	Cronbach's α =.93	N/A	N/A	r =.75-.76 Predictive validity, identified 90% of depressed patients, identified 80% of patients with

	Validation Population	Number of Items & Scales	Response Scales	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^a
								little to no depression
Depression Intensity Scale Circles (DISCs) ¹⁰⁶	Brain injury	6 items	Ordinal graphic rating scale Severity of depressive symptoms experienced that day	Test-retest, $r=.84$	N/A	With DSM-IV diagnosis, sensitivity=.60 specificity=.87	With DSM-IV diagnosis, $r=.59$	$r=.66-.87$
Hamilton Depression Scale (Ham-D) ⁸	Diverse populations	17 items	Multiple response scales Current severity of depressive symptoms	Test-retest, $r=.81-.98$ Inter-rater reliability, $r=.82-.98$	Cronbach's $\alpha=.46-.97$	With DSM-IV diagnosis, sensitivity=.78 specificity=.75 ¹ With SCID, sensitivity=.76 specificity=.86 ¹⁰⁵	With SCID, $r=.37/.62$	N/A
Center for Epidemiological Studies-Depression Scale (CES-D) ^{68,71}	Traumatic brain injury	20 items	Symptom frequency in last week 1=rarely or none of the time (less than one day) 2=some or a little of the time (1-2 days) 3=occasionally or a moderate amount of time (3-4 days) 4=most or all of the time (5-7 days)	N/A	Cronbach's $\alpha=.93^{71}$	With SCID, sensitivity=.93, specificity=.62 ⁶⁸	N/A	$r=.28-.89^{114}$
Hopkins Symptom Checklist-20 (HSCL-20) ⁶⁶	Depressed primary care patients	20 items	How much symptoms bothered respondent in last week 0=not at all 1= a little 2=moderately 3=quite a bit 4=extremely	N/A	Cronbach's $\alpha=0.837$.	N/A	N/A	$r=.54$
General Health Questionnaire (GHQ) ^{45, 53}	Diverse populations	12, 28, 30, 60 item versions	Presence of common psychiatric problems within the past few weeks 0=not at all 1=no more than usual 2=rather more than usual	N/A	Cronbach's $\alpha=.82-.86^c$	With ICD-10, sensitivity=.79-.84 specificity=.75-.80 ^c With DSM-IV, sensitivity=.77-.82 specificity=.76.81 ^c	N/A	N/A
Winnledon Self Report Scale ³⁰	Diverse populations	30 items	Frequency of symptoms in last week a. most of the time b. quite often c. only occasionally d. not at all	Test-retest, $r=.94$	N/A	With psychiatric interview, false positive rate=4% false negative rate=6%	N/A	N/A

	Validation Population	Number of Items & Scales	Response Scales	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^a
Zung Self Rating Depression Scale (Zung SDS) ^{1,2}	Depressed and nondepressed outpatients	20 items	Current depressive symptoms 1=a little of the time 2=some of the time 3=good part of the time 4=most of the time ⁵	Inter-rater reliability, $r=.84-.89$	Cronbach's $\alpha=.88-.93$	N/A	N/A	$r=.26-.80\%$

N/A=Not available; SCID=Structured Clinical Interview for DSM Disorders; ICD-10=International Classification of Diseases, 10th Revision; DSM-IV=Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.

^a unless otherwise noted, all construct validity correlations refer to other measures of depression

^b Turkish version of Hamilton Depression Scale

^c refers to the 12 and 28 item versions of the General Health Questionnaire

Common instruments used to assess PTSD in adults with traumatic injuries

Table 2

	Validation Population	Number of items & scales	Response Scale	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^a
PTSD interview (PTSD-I) ¹⁰	Veterans	22 items 5 sections: History of trauma Reexperiencing Avoidance Arousal Duration of symptoms	Symptom severity one month since trauma and in the past month 1=no, never 2=very little, very rarely 3=a little, sometimes 4=somewhat, commonly 5=quite a bit, often 6=very much, very often 7=extremely, always Yes/No questions assess history of trauma and symptom duration	Test-retest, $r=.95$	Cronbach's $\alpha=.92$	With DIS, sensitivity=.89 specificity=.94	With DIS, kappa=.82	N/A
Clinician Administered PTSD Scale (CAPS) ^{14, 112}	Veterans	30 items	Frequency of symptoms in past month and in "worst ever" month since trauma 0=never 1=once or twice 2=one or twice a week 3=several times a week 4=daily/almost daily Intensity of symptoms in the past month and in the "worst ever" month since trauma 0=none 1=mild 2=moderate 3=severe 4=extreme	Test-retest, $r=.77-.96$ (PTSD symptom clusters) Test-retest, $r=.90-.98$ (PTSD total)	Cronbach's $\alpha=.85-.87$ (PTSD symptom clusters) Cronbach's $\alpha=.94$ (PTSD total)	With SCID, sensitivity=.84 specificity=.95	With SCID, kappa=.78	$r=.77-.91$ ¹¹³
Composite International Diagnostic Interview (CIDI) PTSD module ⁸⁶	Diverse populations	17 DSM-III-R items 13 ICD-10 items	Yes/No response items ²³ Onset, duration, and recency of symptoms assessed	N/A	Cronbach's $\alpha=.86$ for DSM-III-R Cronbach's $\alpha=.76$ for ICD-10	With DSM-III-R, sensitivity=.60 specificity=.68 With ICD-10, sensitivity=.83 specificity=.75	With DSM-III-R, kappa=.26 With ICD-10, kappa=.66	N/A
Structured Clinical Interview for DSM (SCID) PTSD module ^{14, 39}	Diverse populations	Number of items depends on participant responses to questions Decision tree format utilized	Yes/No response items Determines if symptoms are absent, subthreshold, or present Trauma history, duration of symptoms, and interference in daily functioning assessed ⁴⁰	Test-retest, kappa=.78-1.0 Inter-rater reliability, kappa=.77-1.0	N/A	N/A	N/A	N/A

	Validation Population	Number of items & scales	Response Scale	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^d
Structured Interview for PTSD (SI-PTSD) ^{33, 34}	Veterans ³³ Clinical trial participants ³⁴	19 items	Frequency, severity, and functional impairment of symptoms in the past 4 weeks and worst ever ³² 0 = not at all 1 = mild; rarely and/or not bothersome 2 = moderate; at least once a week, and/or rare but produces significant impairment of function or distress 3 = severe; at least 4 times per week 4 = extremely severe; daily or produces so much impairment that patient cannot work or enter social situations ³²	Test-retest, $r=.89^{33}$ Inter-rater reliability, $r=.90^{34}$	Cronbach's $\alpha=.80-.94$	With SCID, sensitivity=.80–1.0 specificity=.80–1.0	N/A	$r=.49-.67^{33}$
Diagnostic Interview Schedule (DIS) PTSD module ^{14, 63}	Veterans and a community population ⁶³	Number of items depends on participant responses to questions Decision tree format utilized	Yes/No response items for each PTSD symptom Assesses current and lifetime diagnostic status Count of positive PTSD symptoms (proxy for severity) ¹¹¹	Inter-rater reliability, kappa=.46 ²⁹	N/A	With clinical diagnosis, sensitivity=.87 specificity=.73 (veteran sample) sensitivity=.22 specificity=.98 (community sample)	N/A	With clinical diagnosis, kappa=.64 (veteran sample) kappa=.26 (community sample)
Posttraumatic Diagnostic Scale (PDS) ⁴⁰	Diverse trauma populations	49 items total	Symptom frequency and severity in the past month 0=not at all or only one time 1=once a week or less/once in a while 2=two to four times a week/half the time 3=five or more times a week/ almost always Yes/No response items to assess functional impairment and history of trauma	Test -retest, $r=.83$ for total $r=.77$ for reexperiencing $r=.81$ for avoidance $r=.85$ for hyperarousal	Cronbach's $\alpha=.92$ for total Cronbach's $\alpha=.78$ for reexperiencing Cronbach's $\alpha=.84$ for avoidance Cronbach's $\alpha=.84$ for hyperarousal	With SCID, sensitivity=.89 specificity=.75	With SCID, kappa=.65	$r=.78$
Impact of Events Scale-Revised (IES-R) ¹²	Motor vehicle accident survivors	22 items Intrusion subscale Avoidance subscale Hyperarousal subscale	Distress level of symptoms in last week 0=not at all 1=a little bit 2=moderately 3=quite a bit 4=extremely	N/A	Cronbach's $\alpha=.95$ for total Cronbach's $\alpha=.90$ for intrusion Cronbach's $\alpha=.86$ for avoidance Cronbach's $\alpha=.85$ for hyperarousal	N/A	N/A	$r=.39-.86$

	Validation Population	Number of items & scales	Response Scale	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^d
				N/A	N/A	With MINI, sensitivity=.41–.93 specificity=.61–.98	N/A	N/A
Primary Care PTSD Screen (PC-PTSD) ¹⁷	Soldiers returning from combat	4 items	Yes/No response items assess 4 dimensions of PTSD in the past month (reexperiencing, numbing, avoidance, hyperarousal)	N/A	N/A	With MINI, sensitivity=.41–.93 specificity=.61–.98	N/A	N/A
PTSD Checklist (PCL) ¹⁶	Motor vehicle accident and sexual assault victims	17 items	Degree to which respondents bothered by PTSD symptoms in past month 1=not at all 2=a little bit 3=moderately 4=quite a bit 5=extremely	Test-retest, r=.96 ⁶	Cronbach's α =.939 for total Cronbach's α =.935 for subscale B Cronbach's α =.820 for subscale C Cronbach's α =.839 for subscale D	With CAPS, sensitivity=.94 specificity=.86	With CAPS, r=.929	N/A
Harvard Trauma Questionnaire (HTQ) ⁷⁶	Refugees newly admitted to a psychiatric clinic	16 DSM-III-R PTSD items 14 refugee traumatic event items	Degree to which respondents bothered by PTSD symptoms in the past week 1=not at all 2=a little 3=quite a bit 4=extremely	Test-retest, r=.92 Inter-rater reliability, kappa=.98	Cronbach's α =.96	With DSM-III-R, sensitivity=.78–.79 specificity=.65–.73	N/A	N/A
Mississippi Scale for Combat-Related PTSD (M-PTSD) ⁶⁰	Veterans	35 items	Multiple response scales Assesses symptoms consistent with DSM-IV symptom criteria since the traumatic event	Test-retest, r=.97	Cronbach's α =.94	With SCID, sensitivity=.93 specificity=.89	N/A	r=.44–.88 ⁶
Civilian Mississippi Scale (Civilian MSS) ^{65, 109}	College students ⁶⁵ Non-veteran community sample ¹⁰⁹	35 items 39 item version also available ⁶	Multiple response scales Assesses symptoms consistent with DSM-VI symptom criteria since the traumatic event	N/A	Cronbach's α =.86–.89 ^{65, 109}	With CAPS, sensitivity=.87 specificity=.51 ⁹⁹	N/A	r=.36–.52 ⁶⁵
Purdue PTSD ⁶⁴	College students	17 items Reexperiencing subscale Avoidance subscale Hyperarousal subscale	Frequency of symptoms in last month and since the traumatic event 1=not at all 3=sometimes 5=often	Test-retest, r=.72 for total r=.48 for reexperiencing r=.67 for avoidance r=.71 for arousal	Cronbach's α =.91 for total Cronbach's α =.79–.84 for subscales	N/A	N/A	r=.50–.66
The PENN inventory ⁴⁸	Veterans with and without PTSD and non-veteran community sample	26 items	Multiple response scales Measures presence or absence of symptoms, as well as degree, frequency, and intensity in last week	Test-retest, r=.87–.93	Cronbach's α =.78–.94	With clinical interview, sensitivity=.90–.98 specificity=.94–1.0	N/A	r=.72–.85 ⁶
Trauma Symptom Inventory (TSI) ¹⁰²	Veterans	100 items 10 clinical subscales	Frequency of symptoms in last 6 months 0=never 1=rarely 2=sometimes	N/A	Cronbach's α =.83 across 10 clinical scales	N/A	N/A	r=.17–.53

	Validation Population	Number of items & scales	Response Scale	Reliability		Validity		
				Temporal Stability	Internal Consistency	Content	Criterion	Construct ^a
			3=often					

N/A=Not Available; DIS=Diagnostic Interview Schedule; SCID=Structured Clinical Interview for DSM Disorders; DSM-III-R=Diagnostic and Statistical Manual of Mental Disorders, Third Edition Revised; ICD-10=International Classification of Diseases, 10th Revision; MINI=Mini International Neuropsychiatric Interview; CAPS=Clinician Administered PTSD Scale

^a unless otherwise noted, all construct validity correlations refer to other measures or diagnoses of PTSD