Dimensional assessment of posttraumatic stress disorder in *DSM-5*

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ABSTRACT

The present paper describes the development of the National Stressful Events Survey for PTSD-Short Scale (NSESSS-PTSD), a new self-report scale for PTSD that is brief (9 items), free of copyright restrictions, and consistent with *DSM-5* diagnostic criteria. Study 1 describes the development of the NSESSS-PTSD scale items, which were reduced from a larger pool of items that were administered to a subsample of individuals with probable *DSM-5* PTSD diagnoses from a large national sample. The resultant scale included items from each criterion and demonstrated high internal consistency. Study 2 evaluates the psychometric properties of the NSESSS-PTSD in a trauma-exposed non-clinical sample. Strong psychometric properties were observed in the sample, including convergent validity (through comparison to the *DSM-IV* Posttraumatic Stress Disorder Checklist), internal consistency, and the presence of a single dominant factor. Limitations of the present studies are discussed and specific recommendations for the next steps in the validation process are provided.

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1. Introduction

The diagnosis and classification of posttraumatic stress disorder (PTSD) underwent three significant changes in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*). First, PTSD is no longer classified alongside the anxiety disorders and instead was moved to a new category, Trauma- and Stressor-Related Disorders. Second, the diagnostic criteria were substantially revised. Third, there is an increasing emphasis on supplementing the traditional categorical diagnosis of PTSD with dimensional severity ratings, a change being implemented across all major *DSM-5* disorders.

The creation of the Trauma- and Stressor-Related Disorders category reflects recognition that PTSD often manifests in ways that differ from traditional anxiety disorders (see Friedman et al., 2011a for a review) and is consistent with the World Health Organization's International Classification of Disease (ICD-10) in providing a diagnostic niche for disorders stipulating a specific adverse event exposure criterion preceding onset of symptoms. Although the decision to recategorize PTSD has met opposition, primarily due to the substantial increase in heterogeneous manifestations of the disorder due to the expanded criteria (e.g., Zoellner et al., 2011), the APA approved the reclassification.

The rationale behind the changes made to *DSM-IV* PTSD diagnostic criteria in *DSM-5* are discussed in considerable detail elsewhere (Friedman, 2011b). These changes primarily involve (1) Tightening the Criterion A1 definition of "trauma" to emphasize events that involve violence, accident, or disaster while excluding some events such as sudden and unexpected death due to illness and events not directly witnessed, (2) removing Criterion A2, (3) minor revisions to Criterion B (intrusive symptoms), (4) separating Criterion C into two Criteria (active avoidance and negative cognitions/moods), (5) specification of behavioral expressions of anger or irritability and addition of "reckless or self-destructive behavior" to Criterion D (alterations in arousal/reactivity), (6) removal of acute and chronic specifiers, and (7) addition of specifiers indicating the inclusion of "prominent dissociative symptoms" and "delayed expression."

With the publication of *DSM-5*, the APA is promoting dimensional assessment of PTSD (as well as all other disorders) in addition to traditional categorical diagnoses (APA, 2013). Dimensional measures more accurately reflect the way disorders appear in nature and capture aspects of psychopathology, such as severity, subclinical presentations, and change over time, not captured by the current categorical system (Kraemer, 2007). Dimensional assessment will be reflected in clinician ratings made in part by considering scores on

self-report scales completed by patients. This method reduces time burden of a clinician-administered scale and provides a standardized method of patient self-report that can be used to assist clinician judgment of disorder severity.

Although numerous scales for PTSD have been developed and validated, many focus on specific subsets of symptoms, are prohibitively long for use in many settings, and are not widely available due to issues regarding copyrights. Furthermore, no existing scale reflects changes to DSM-5 diagnostic criteria. Thus, a brief self-report scale that is fewer than 10 items (the recommendation of the APA for the brief DSM-5 measures) and consistent with DSM-5 PTSD symptoms was developed and approved for inclusion in DSM-5 by the Posttraumatic Stress and Dissociative Disorders Sub-Work Group of the DSM-5 Anxiety, Obsessive–Compulsive Spectrum, Posttraumatic, and Dissociative Disorders Work Group. The scale is intended for use both as a screening instrument and a tool for assessing symptom change over time. The present study examines how the rating scale was developed using data from a large national sample (Study 1) and cross-validated in a non-clinical sample (Study 2).

2. Study 1: development of the National Stressful Events Survey for PTSD-Short Scale (NSESSS-PTSD)

2.1. Method

Once the revised PTSD criteria for DSM-5 were proposed, Miller and colleagues (2013) conducted a large-scale study to examine the prevalence and latent structure of the proposed symptoms in a large national sample. The study was conducted via the internet and involved the completion of the National Stressful Events Survey (Kilpatrick et al., 2011), a measure developed for the study to assess exposure to different types of traumatic events and the presence and severity of each of the 20 proposed DSM-5 PTSD symptoms. The language for each symptom item was developed in collaboration with members of the DSM-5 PTSD work group through a process aimed at reflecting the committee's conceptualization of each symptom and the precise wording of the drafted DSM-5 language.

The survey began with a life events section comprised of 28 questions that assessed exposure to a range of events that would meet the proposed DSM-5 definition for a Criterion A event. Participants who endorsed exposure to at least one event then completed a symptom assessment featuring a conditional branching structure that administered follow-up items on the basis of prior responses. Specifically, for each symptom item, an initial stem question assessed whether the respondent had "ever" experienced the symptom (yes/no). If this question was not endorsed affirmatively, no further questions related to that symptom were administered. If the initial item was endorsed, then participants were asked to indicate when the symptom was last experienced using a four-category temporal response option that ranged from "within the past month" to "more than 1 year ago." Participants who endorsed a given symptom within the past month were then asked to rate how much they had been bothered by it in the past month using the 1–5 severity scale of the PTSD Checklist (PCL; Weathers et al., 1993) with anchors that ranged from "not at all" to "extremely." Four additional items were added to assess distress and impairment, in keeping with DSM-IV and DSM-5 conceptualizations of PTSD.

For the present analyses, a subset of participants that were likely to meet criteria for a PTSD diagnosis by DSM-5 guidelines was identified from the larger dataset. These participants endorsed (1) DSM-5 Criterion A event, (2) at least one symptom of Criterion B, (3) at least one symptom of Criterion C, (4) at least three symptoms of Criterion D, (5) at least three symptoms of Criterion E, and (6) significant distress or impaired functioning in their personal life, relationships, work or school due to these symptoms. (Note: final DSM-5 criteria required only two Criteria D and E symptoms to be met for a diagnosis.)

Data from this sample of individuals with probable DSM-5 PTSD diagnoses were used to create the National Stressful Events Survey PTSD Short Scale (NSESSS-PTSD) (Kilpatrick et al., 2013), a brief self-report measure that reduced the original item pool of 20 to nine items. The goal was to determine a subset of PTSD symptoms that might be used as part of a briefer continuous rating of symptom severity over a past 7-day time frame.

2.1.1. Participants

A total of 2953 individuals completed the initial survey. A sub-sample of 318 participants (10.8%) who met probable DSM-5 criteria were included in the current report. Data was weighted by age and gender based on the U.S. Census for 2010. The majority of those in the sub-sample of 318 was female (71.0%). The racial breakdown was as follows: 87.8% White/Caucasian, 6.1% Black/African–American, 1.7% Asian/Pacific Islander, and 1.2% as Native-American. Hispanic ethnicity was endorsed by 6.0% of the sample. Approximately one-quarter (27.3%) were between the ages of 18 and 34, 44.2% were between the ages of 35 and 54, and 27.9% were

age 55 or older. Nearly all participants (96.7%) had at least a high school degree and 29.8% reported a college degree. These participants reported exposure to a wide range of traumatic events including being a victim of physical or sexual assault (81.0%), death of a family member or close friend due to an accident, violence, or disaster (66.2%), accident/fire (62.9%), threat or injury to a family member or close friend due to violence/accident/disaster (54.1%), natural disaster (52.6%), witnessing a physical or sexual assault (50.5%), and witnessing a dead body unexpectedly (31.1%). Combat or war zone exposure was endorsed by 7.9%.

2.1.2. Statistical analyses

Analyses were conducted using SPSSv20.0 and weighting for age and gender based on the U.S. census for 2010 was applied. The final scale was based on selection of past month dimensional problem rating items from within each Criterion subscale (five Criterion B, two Criterion C, seven Criterion D, six Criterion E) the symptoms that most greatly reduced the subscale Cronbach's alpha (or scale mean in the case of Criterion C due to the fact that it included only two items) if the item was deleted. Consistent with subscale length, the makeup of the measure was determined to be two items from Criterion B, one item from Criterion C, and three items each from Criteria D and E, for a total of nine items.

2.2. Results

Coefficient alpha for the 20 total symptom severity items was 0.94 among those with DSM-5 defined PTSD (i.e., those participants included in the structural analyses). Results of scaling analyses were as follows: Cronbach's alpha for the B subscale was 0.878, with greatest reduction in alpha upon removal of either flashbacks (B3) or emotional distress to reminders (B4). Cronbach's alpha was reduced to 0.839 after the removal of these items. Cronbach's alpha for the C subscale was 0.766 with scale mean of 2.6. The scale mean was most reduced (1.199) by removal of the item reflection avoidance of thoughts, feelings, or physical sensations that reminded of a stressful experience (C1). Cronbach's alpha for the D subscale was 0.886, with greatest reduction upon removal of pervasive negative emotion state (D4), with resultant alpha of 0.851, followed by impact of removal of distorted blame (D3) and loss of interest in previously enjoyed activities (D5), both of which reduced the alpha to 0.861. Cronbach's alpha for the E subscale was 0.789, with greatest reduction upon removal of guardedness (E3), and startle (E4), with resultant alpha of 0.738. It should be noted that the next items that had the largest effect if removed were concentration difficulties (E5) and sleep disturbance (E6), with resultant Cronbach's alpha of 0.746 and 0.766, respectively. In the interest of having representation of at least one new or modified item, the final item selected for the scale was the item reflecting behavioral expressions of anger (E1), with alpha if deleted of 0.769 as compared to the same statistic for the newly included self-destructive behavior item (E2), with scale alpha if deleted of 0.795. Overall subscale Cronbach's alpha, scale mean if item removed, and alpha associated with item removal are included in Table 1. The Cronbach's alpha for the final nine-item subscale was 0.901.

2.3. Discussion

The NSESSS-PTSD is a 9-item self-report scale derived from the NSES, a 20-item scale that contains one item corresponding to each symptom of PTSD according to DSM-5 criteria. The scale was reduced by selecting items from each of the criteria that had the greatest effect on the subscale's internal consistency if removed. The resulting scale is brief, reflects items representative of each criteria, and is highly internally consistent. The full text of the scale can be found in Appendix A and at the following website: http://www.psychiatry. org/practice/dsm/dsm5/online-assessment-measures#Disorder.

Two key limitations of Study 1 should be noted. First, the sub-sample of probable DSM-5 PTSD cases was predominantly Caucasian and female, potentially limiting generalizability. Additionally, late changes to DSM-5 criteria were made after the NSESSS-PTSD was finalized, particularly reducing the number of Criteria D and E items required for a diagnosis from three to two. This resulted in an overly conservative subsample of those with probable DSM-5

Table 1
Effect of item removal on NSES internal consistency.

Symptom	Scale Cronbach's alpha	Scale mean	Scale mean if item deleted	Cronbach's alpha if item deleted
Reexperiencing	0.878	5.36		
B1. Intrusions			4.079	0.848
B2. Nightmares			4.594	0.878
B3. Flashbacks[a]			4.520	0.839
B4. Emotional reactivity[a]			3.952	0.841
B5. Physical reactivity			4.296	0.852
Avoidance	0.766	2.60		
C1. Avoid thoughts[a]			1.199	–
C2. Avoid places/activities			1.398	–
Negative alterations in cognitions or mood	0.886	7.12		
D1. Amnesia			6.865	0.900
D2. Negative beliefs			6.052	0.863
D3. Distorted blame[a]			6.147	0.861
D4. Negative emotions[a]			5.913	0.851
D5. Loss of interest[a]			5.978	0.861
D6. Distant and cut-off			5.718	0.863
D7. Low positive emotions			6.051	0.877
Alterations in arousal or reactivity	0.789	6.02		
E1. Aggression[a]			5.108	0.765
E2. Reckless/self-destructive			5.773	0.791
E3. Hypervigilance[a]			5.098	0.738
E4. Startle[a]			5.047	0.739
E5. Concentration			4.772	0.740
E6. Sleep			4.315	0.760

Cronbach's alpha for the NSES (the original 20-item scale) was 0.94. Cronbach's alpha for the NSESSS-PTSD (the reduced 9-item scale) was 0.901.

[a] Indicates scale items included in the National Stressful Events Survey Short Scale for PTSD (NSESSS-PTSD).

PTSD diagnoses by excluding some individuals who would be considered likely cases if the finalized set of criteria were applied.

Although the NSESSS-PTSD appears a promising self-report measure for the assessment of *DSM-5* PTSD, further validation of the scale is needed. Study 2 aimed to validate the NSESSS-PTSD in a trauma-exposed non-clinical sample of undergraduates.

3. Study 2: validation of the NSESSS-PTSD in an independent sample

3.1. Methods

In Study 2, the NSESSS-PTSD was administered online via a Survey Monkey program to a sample of undergraduate students. Participants were asked the following screener to determine whether they were eligible to complete the scale: "People sometimes have problems after extremely stressful events or experiences, including witnessing or experiencing threatened death, serious injury, or assault. At any time in your life have any of these kinds of things happened to you?" Individuals who answered "Yes" to this question were automatically directed to complete the scale.

Instructions were developed for the NSESSS-PTSD by the authors and read as follows: "How much have you been bothered during the PAST SEVEN (7) DAYS by each of the following problems that occurred or became worse after an extremely stressful event/experience?" Responses for each item were on a Likert-type scale ranging from 0 ("not at all") to 4 ("all the time"). The range of possible total scores is 0–36.

In addition to completing the NSESSS-PTSD, participants completed the PTSD Checklist (PCL; Weathers et al., 1993), a well-validated 17-item self-report scale that parallels *DSM-IV* PTSD diagnostic criteria B, C, and D; and the Dissociative Experiences Scale (DES; Bernstein and Putnam, 1986), a well-validated 28-item self-report scale that measures dissociative symptoms. These measures were included to evaluate convergent and discriminant validity as well as to evaluate secondary hypotheses regarding the relationship between PTSD and dissociative symptoms.

3.1.1. Participants

Participants were 296 UCLA undergraduates who took part in exchange for course credit. The sample was 76% female, was racially/ethnically diverse (42% Asian, 29% Caucasian, 13% Hispanic/Latino, 13% other/multiracial, 3% missing data), and had a mean age of 20.8 (S.D.=2.6, range=18–39).

3.1.2. Statistical analyses

Statistical analyses were conducted using SPSSv20.0. Demographic characteristics as a function of exposure to trauma were examined using t-tests and Pearson chi-square tests. To examine internal consistency, Cronbach's alpha was calculated. To assess factor structure, the scale was subjected to exploratory principal components analysis followed by varimax (orthogonal) rotation. Criteria for retaining rotated factors were eigenvalues > 1, visual inspection of the scree plot and interpretability of factors. Convergent validity was assessed using Spearman's Rank Order Correlations (r_s) between NSESSS-PTSD and PCL. Preliminary evidence for discriminant validity was assessed using Spearman's Rank Order Correlations (r_s) between NSESSS-PTSD and DES, which is hypothesized to be significantly weaker than the correlation between NSESSS-PTSD and PCL (albeit still significant, due to the relationship between PTSD and dissociative symptoms). The r_s values for the conceptually similar (PCL) and more conceptually distinct measure (DES) were statistically compared using a Fisher r_s-to-z transformation. In light of the addition of the specifier "with prominent dissociative symptoms" in the *DSM-5* PTSD diagnosis (discussed earlier), the prominence of dissociative symptoms in individuals who reported trauma exposure and those who did not report trauma exposure were compared using a t-test. The effect size of this difference was measured using Cohen's d.

3.2. Results

Sixty-six individuals (22%) reported experiencing at least one traumatic event and were thus eligible for the study. This trauma-exposed subset was slightly older (M age=21.7 vs. 20.5, $t(289)=$ 3.53, $p < 0.001$) and contained proportionally more males (33% vs. 21%, $\chi^2(289)=3.64$, $p < 0.05$) and Hispanics/Latinos (22% vs. 11%, $\chi^2(289)=5.21$, $p < 0.05$) than the non-exposed subsample.

A wide range of scores was reported on NSESSS-PTSD ($M = 10.8$, S.D.=8, Mdn=10, Range=0–31). Cronbach's alpha for NSESSS-PTSD was very high in the sample ($\alpha=0.91$). Convergent validity was demonstrated through its highly significant relationship with PCL (r_s (64)=0.84, $p < 0.001$) and preliminary evidence for discriminant validity was demonstrated by its significantly weaker relationship with DES (r_s (64)= 0.58, $p < 0.001$; $z(65)=3.3$, $p < 0.001$).

Factor analyses revealed the presence of a single dominant factor (eigenvalue=5.3) accounting for 58% of the variance was confirmed. A much smaller, but still notable, second factor (eigenvalue=1.1) also emerged, which accounted for an additional 11.5% of variance. This second factor included the final three items, which assess hypervigilance, startle response, and anger/irritability.

Individuals who endorsed a history of trauma scored significantly higher on the DES ($M=35.2$, S.D.=4.0) than those who denied a history of trauma ($M=21.4$, S.D.=17.3, $t(256)=4.9$, $p < 0.001$, Cohen's $d=0.66$), consistent with hypotheses.

3.3. Discussion

Results suggest strong psychometric properties of the NSESSS-PTSD in a trauma-exposed non-clinical sample, including high internal consistency and convergent validity. Preliminary evidence of

discriminant validity was also found, but a formal test was not conducted due to the lack of truly conceptually distinct scales included in the present study. Unidimensionality was established, although the possible presence of a distinct subscale characterized by arousal symptoms was also indicated.

Secondary analyses revealed that participants who indicated past exposure to trauma endorsed significantly more dissociative symptoms than those who did not. These results lend further support to the link between PTSD and dissociative symptoms being emphasized in the DSM-5 PTSD diagnosis.

The present findings should be considered in the context of several limitations, particularly sample characteristics that limit generalizability. First, the proportion of the sample that was trauma exposed (22%) is smaller than that reported in similar investigations (e.g., Vrana and Lauterbach, 1994). The lower rate of endorsement of trauma history in the present sample may be due to the wording of the screening item, which emphasized "life threatening" traumatic events, perhaps leading to the under-endorsement of traumatic events such as sexual assault, which are not necessarily perceived as life threatening. Second, the sample size for the trauma-exposed subsample was relatively small, limiting the power for certain statistical analyses, particularly those of factor structure. Third, the overall sample was predominantly female and featured a racial profile atypical of most U.S. regions, potentially limiting generalizability. Fourth, important aspects of traumatic exposure, including the nature of the trauma and period of time between traumatic exposure and symptom report, were not ascertained in the present study due to concerns by the university's Institutional Review Board over having students reveal details of traumatic events over an online questionnaire.

4. General discussion

The present study details the development of the NSESSS-PTSD, a new self-report measure that was developed for DSM-5 and is being suggested for use in clinical and research settings by the APA. The scale is brief, free to access, and consistent with DSM-5 criteria. The scale items were taken from a larger pool of items administered to a large national sample, which included 318 individuals who were determined to likely meet criteria for DSM-5 PTSD. The resulting scale was then validated in a trauma-exposed nonclinical sample. This study provided evidence of strong psychometric properties for the NSESSS-PTSD.

Although use of a non-clinical sample is a first step in scale validation, further evaluation of the NSESS-PTSD in larger clinical samples is essential. Such research should (1) determine a clinical cut-off score for the scale that can discriminate likely cases from non-cases, (2) conduct formal tests of discriminant validity by comparing the scale to theoretically distinct measures, (3) establish test-retest reliability, (4) evaluate the scale's sensitivity to change, (5) adapt the scale cross-culturally, and (6) validate the scale against clinician ratings.

If future research in diverse clinical samples supports these findings and researchers and clinicians alike adopt the NSESSS-PTSD, it has the potential to become the first measure of DSM-5 PTSD that has demonstrated psychometric properties, is brief enough for use in most settings, and is universally accessible.

Appendix A.　National Stressful Events Survey PTSD Short Scale (NSESSS-PTSD)

People sometimes have problems after extremely stressful events or experiences. How much have you been bothered during the *PAST 7 days* by each of the following problems that occurred or became worse after an extremely stressful event/experience?

	Not at all	A little bit	Moderately	Quite a bit	Extremely
1.　Having "flashbacks", that is, you suddenly acted or felt as if a stressful experience from the past was happening all over again (for example, you re-experienced parts of a stressful experience by seeing, hearing, smelling, or physically feeling parts of the experience)	0	1	2	3	4
2.　Feeling very emotionally upset when something reminded you of a stressful experience	0	1	2	3	4
3.　Trying to avoid thoughts, feelings, or physical sensations that reminded you of a stressful experience	0	1	2	3	4
4.　Thinking that a stressful event happened because you or someone else (who didn't directly harm you) did something wrong or didn't do everything possible to prevent it, or because of something about you	0	1	2	3	4
5.　Having a very negative emotional state (for example, you were experiencing lots of fear, anger, guilt, shame, or horror) after a stressful experience	0	1	2	3	4
6.　Losing interest in activities you used to enjoy before having a stressful experience	0	1	2	3	4
7.　Being "super alert", on guard, or constantly on the lookout for danger	0	1	2	3	4
8.　Feeling jumpy or easily startled when you hear an unexpected noise	0	1	2	3	4
9.　Being extremely irritable or angry to the point where you yelled at other people, got into fights, or destroyed things	0	1	2	3	4

References

American Psychiatric Association, 2013. Diagnostic and Statistical Manual of Mental Disorders, 5th ed. American Psychiatric Publishing, Arlington, VA.

Bernstein, E.M., Putnam, F.W., 1986. Development, reliability, and validity of a dissociation scale. Journal of Nervous and Mental Disease 174, 727–735.

Friedman, M.J., Resick, P.A., Bryant, R.A., Strain, J., Horowitz, M., Speigel, D., 2011a. Classification of trauma and stressor-related disorders in DSM-5. Depression and Anxiety 28, 737–749.

Friedman, M.J., Resick, P.A., Bryant, R.A., Brewin, C.R., 2011b. Considering PTSD for DSM-5. Depression and Anxiety 28, 750–769.

Kilpatrick, D.G., Resnick, H.S., Baber, B., Guille, C., Gros, K., 2011. The National Stressful Events Web Survey (NSES-W). Medical University of South Carolina, Charleston, SC.

Kilpatrick, D.G., Resnick, H.S., Friedman, M.J., 2013. National Stressful Events Survey PTSD Short Scale (NSESSS-PTSD). ⟨http://www.psychiatry.org/practice/dsm/dsm5/online-assessment-measures#Disorder⟩.

Kraemer, H.C., 2007. DSM categories and dimensions in clinical and research contexts. In: Helzer, J.E., Kraemer, H.C., Krueger, R.F., Wittchen, H.U., Sirovatka, P.J., Regier, D.A. (Eds.), Dimensional Approaches in Diagnostic Classification: Refining the Research Agenda for DSM-V. American Psychiatric Association, Washington, D.C, pp. 5–17.

Miller, M.W., Wolf, E.J., Kilpatrick, D.G., Resnick, H.S., Marx, B.P., Holowka, D.W., Keane, T.M., Rosen, R.C., Friedman, M.J., 2013. The prevalence and latent structure of proposed DSM-5 posttraumatic stress disorder symptoms in US national and veteran samples. Psychological Trauma: Theory, Research, Practice, and Policy 5, 501–512.

Vrana, S., Lauterbach, D., 1994. Prevalence of traumatic events and post-traumatic psychological symptoms in a nonclinical sample of college students. Journal of Traumatic Stress 7, 289–302.

Weathers, F., Litz, B., Herman, D., Huska, J., Keane, T., 1993. The PTSD Checklist (PCL): Reliability, Validity, and Diagnostic Utility. Paper Presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio, TX.

Zoellner, L.A., Rothbaum, B.O., Feeny, N.C., 2011. PTSD not an anxiety disorder? DSM committee proposal turns back the hands of time. Depression and Anxiety 28, 853–856.