Dimensional assessment of posttraumatic stress disorder in DSM-5

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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 specifier, 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

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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 set of symptom items. 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 ranging 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 Criterion 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 brief 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 criterion 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, 11.6% 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 Criterion 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 belief (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 subsample 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.

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