6-2014

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Published in final edited form as:
Depress Anxiety. 2014 June ; 31(6): 494–505. doi:10.1002/da.22279.

DSM-5 AND ICD-11 DEFINITIONS OF POSTTRAUMATIC STRESS DISORDER: INVESTIGATING "NARROW" AND "BROAD" APPROACHES

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DISCLOSURE. Dr. Stein has received research grants and/or consultancy honoraria from Abbott, Astrazeneca, Eli-Lilly, GlaxoSmithKline, Jazz Pharmaceuticals, Johnson & Johnson, Lundbeck, Novartis, Orion, Pfizer, Pharmacia, Roche, Servier, Solvay, Sumitomo, Takeda, Tikvah, and Wyeth. Dr. Demyttenaere has served on advisory boards and, speaker bureaus for Astra Zeneca, Eli Lilly, GSK, Lundbeck, Takeda, Servier. Dr. Haro has been a consultant for AstraZeneca, Eli Lilly and Co., and Lundbeck. Dr. Kessler has been a consultant for AstraZeneca, Analysis Group, Bristol-Myers Squibb, Cerner-Galt Associates, Eli Lilly & Company, GlaxoSmithKline, Inc., Health Core, Inc., Health Dialog, Integrated Benefits Institute, John Snow, Inc., Kaiser Permanente, Matria, Inc., Mensante, Merck & Co, Inc., Ortho-McNeil Janssen Scientific Affairs, Pfizer, Inc., Primary Care Network, Research Triangle Institute, Sanofi-Aventis Groupe, Shire US, Inc., SRA International, Inc., Takeda Global Research & Development, Transcept Pharmaceuticals, Inc., and Wyeth-Ayerst; and has research grants from these companies; has served on advisory boards for Appliance Computing II, Eli Lilly & Company, Mind-site, Ortho-McNeil Janssen Scientific Affairs, Plus One Health Management and Wyeth-Ayerst; and has had research support for his epidemiological studies from Analysis Group, Inc., Bristol-Myers Squibb, Eli Lilly & Company, EPI-Q, GlaxoSmithKline, Johnson & Johnson Pharmaceuticals, Ortho-McNeil Janssen Scientific Affairs., Pfizer, Inc., Sanofi-Aventis Groupe, and Shire US, Inc. Drs. Koenen, Friedman, Mr. Hill, Drs. McLaughlin, Petukhova, Ruscio, Shahly, Spiegel, Borges, Bunting, Caldas-de-Almeida, de Girolamo, Florescu, Karam, Kovess-Masfety, Lee, Matschinger, Mladenova, Posada-Villa, Tachimori, and Viana report no biomedical financial interests or potential conflicts of interest.
The views and opinions expressed in this article are those of the authors and should not be construed to represent the views of any of the sponsoring organizations, agencies, or US government.

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Abstract

Background—The development of the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) and ICD-11 has led to reconsideration of diagnostic criteria for posttraumatic stress disorder (PTSD). The World Mental Health (WMH) Surveys allow investigation of the implications of the changing criteria compared to DSM-IV and ICD-10.

Methods—WMH Surveys in 13 countries asked respondents to enumerate all their lifetime traumatic events (TEs) and randomly selected one TE per respondent for PTSD assessment. DSMIV and ICD-10 PTSD were assessed for the 23,936 respondents who reported lifetime TEs in these surveys with the fully structured Composite International Diagnostic Interview (CIDI). DSM-5 and proposed ICD-11 criteria were approximated. Associations of the different criteria sets with indicators of clinical severity (distress-impairment, suicidality, comorbid fear-distress disorders, PTSD symptom duration) were examined to investigate the implications of using the different systems.

Results—A total of 5.6% of respondents met criteria for “broadly defined” PTSD (i.e., full criteria in at least one diagnostic system), with prevalence ranging from 3.0% with DSM-5 to 4.4% with ICD-10. Only one-third of broadly defined cases met criteria in all four systems and another one third in only one system (narrowly defined cases). Between-system differences in indicators of clinical severity suggest that ICD-10 criteria are least strict and DSM-IV criteria most strict. The more striking result, though, is that significantly elevated indicators of clinical significance were found even for narrowly defined cases for each of the four diagnostic systems.

Conclusions—These results argue for a broad definition of PTSD defined by any one of the different systems to capture all clinically significant cases of PTSD in future studies.

Keywords

Posttraumatic stress disorder; World Mental Health Surveys; epidemiology; nosology; DSM-IV; DSM-5; ICD-10; ICD-11

INTRODUCTION

Diagnostic criteria for posttraumatic stress disorder (PTSD) have changed with each edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM), including the recent release of DSM-5, reflecting in part debates about the distinctions between normal responses to traumatic stressors versus maladaptive reactions[1] and the potential for inappropriate medicalization of suffering.[2] The diagnostic criteria for PTSD have also varied across editions of the International Classification of Diseases (ICD), with anticipated tightening of criteria in the forthcoming 11th edition in order to emphasize the importance of avoiding overdiagnosis of PTSD.[3] These changes to the PTSD diagnosis, evident in DSM-5 and anticipated in ICD-11, have reinvigorated debate about the appropriate criteria for PTSD and the implications of differences in diagnostic criteria across each of the diagnostic systems.[4–8]

DSM-IV and ICD-10 criteria for PTSD differ in multiple ways (Appendix, Table A1). First, DSM-IV defined the traumatic event (TE) as one that causes threat to the integrity of the person or others (A1 criterion), with the reaction of the individual characterized by intense fear, helplessness, or horror (A2 criterion),[9] whereas ICD-10 Diagnostic Criteria for Research (ICD-10-DCR) refer to the importance of events that precipitate distress in almost anyone.[10] Second, although DSM-IV criteria include both avoidance and numbing symptoms, ICD-10-DCR includes only the presence of avoidance symptoms. Third, DSM-IV requires the presence of clinically significant distress or impairment, whereas ICD-10-DCR does not. Fourth, DSM-IV requires that symptoms continue for at least 1 month, whereas ICD-10-DCR emphasizes that symptoms begin within 6 months of the event and that some persist, but does not specify a minimum required duration.

Two important changes to the definition of a traumatic stressor and the associated symptoms needed to qualify for a PTSD diagnosis have been made in DSM-5[11] (Appendix, Table A1). First, based on evidence that the A2 criterion had insufficient clinical utility, the requirement of a subjective response of fear, helplessness, or horror to the event was eliminated.[4] By eliminating A2, DSM-5 expanded the context of PTSD from exclusively a fear-based anxiety disorder to a disorder that also included anhedonic/dysphoric and externalizing phenotypes. Second, based on factor analyses of PTSD symptoms,[4] the number of clusters of PTSD symptoms required to qualify for a diagnosis was increased from 3 to 4, with avoidance and numbing symptoms split into separate clusters and expanded to represent avoidance and persistent negative alterations in cognitions and mood. The expanded symptoms include persistent negative evaluation of self or others, elevated self-blame, a negative emotional state, and reckless or self-destructive behavior.

Anticipated revisions to the PTSD diagnosis in ICD-11[3,12,13] emphasize that the construct of PTSD should have both global applicability and clinical utility,[14] reflecting concerns about the potential overuse of PTSD in disaster-exposed populations[15] (Appendix, Table A1). In keeping with previous recommendations,[16,17] the ICD-11 workgroup has recommended including three core symptom clusters (re-experiencing, avoidance of traumatic reminders, and hyperarousal) and removing nonspecific symptoms that are also found in other conditions (e.g., trouble concentrating, sleep problems). Re-experiencing the

TE refers not only to remembering the event, but also to experiencing the event as occurring again, as in nightmares and flashbacks. Duration of required symptoms and degree of functional impairment are used to differentiate normal reactions to traumatic stressors from PTSD, and PTSD is differentiated from complex PTSD that is also characterized by a range of other disturbances.[12] By using a narrower and briefer ICD-11 set of symptoms, ICD-11 aims to better differentiate PTSD from often comorbid conditions.

Several questions about these changes and differences deserve further consideration. First, is the DSM-5 suggestion of four symptom clusters supported by investigation of symptom structure in a cross-national sample? Second, what is the impact of changes in the diagnostic criteria sets on PTSD prevalence cross-nationally? Third, to what extent do the diagnostic criteria identify overlapping populations of individuals? Previous evidence suggests that prevalence estimates of DSM-IV and ICD-10 PTSD are similar but that the systems identify somewhat distinct sets of individuals, although this research is based only on data from one country.[18] Fourth, do individuals diagnosed with PTSD using each of the diagnostic criteria sets exhibit similar clinical characteristics, including distress, impairment, suicidality, and comorbidity? Given that ICD-10 does not require distress and impairment for diagnosis, it is likely that ICD-10 cases on average are associated with lower levels of such outcomes. Again, prior comparison of DSMIV and ICD-10 PTSD has shown that absence of the distress/impairment criterion results in higher PTSD prevalence in ICD-10.[18] Fifth, as part of a broader concern with implications of differences among systems, is PTSD differentially associated with sociodemographic factors, TE types, and prior lifetime history of mental disorder across the systems?

Answering these questions is key to understanding the global impact of changes to the diagnostic criteria sets for PTSD. The World Mental Health (WMH) Surveys, a dataset comprising thousands of respondents from around the globe, and employing a diagnostic instrument with both DSM and ICD criteria for PTSD, provides an important opportunity for beginning to do so.

METHODS

SAMPLES

Interviews were administered in 13 countries, including eight classified by the World Bank[19] as high income (Belgium, Germany, Italy, Japan, Netherlands, New Zealand, Spain, United States), four upper-middle income (São Paulo in Brazil, Bulgaria, Mexico, Romania), and one lower-middle income (Colombia). Most surveys were based on nationally representative household samples, the exceptions being surveys of all urbanized areas in Colombia and Mexico and of specific Metropolitan areas in Brazil (São Paulo) and a series of cities in Japan. Response rates ranged from 55.1% (Japan) to 87.7% (Colombia). The weighted (by sample size) mean response rate across surveys was 70.3%. Interviews were in two parts. Part I, administered to all respondents, assessed core DSM-IV mental disorders (n = 67,652 respondents across all 13 surveys). Part II assessed additional disorders and correlates. Questions about PTSD were included in Part II, which was administered to 100% of Part I respondents who met lifetime criteria for any Part I disorder and a probability subsample of other Part I respondents (n = 34,321 across all 13 surveys).

Part II respondents were weighted by the inverse of their probability of selection from Part I to adjust for differential probabilities of selection. Additional weights adjusted for differential within and between household selection and deviations between the sample and population demographic–geographic distributions. More details about WMH sample design and weighting are presented elsewhere.[20]

MEASURES

Interview Procedures—Interviews were administered face-to-face in respondent homes after obtaining informed consent using procedures approved by local Institutional Review Boards. The interview schedule was developed in English and translated into other languages using a standardized WHO translation, back-translation, and harmonization protocol.[21] The full text of the interview schedule is available at www.hcp.med.harvard.edu/wmh.

TEs—The WMH interview assessed lifetime exposure to 29 TEs, including seven war-related (e.g., combatant, civilian in a war zone), five types of physical assault (e.g., beaten by a caregiver as a child, mugged), three types of sexual assault (e.g., stalked, attempted rape, rape), six involving threats to physical integrity excluding violence (e.g., life-threatening accidents, natural disasters), five involving threats to loved ones (e.g., life-threatening illness/injury), and traumatic death of loved one. Two additional open-ended questions asked about TEs not included on the list and TEs respondents did not wish to describe concretely. Respondents were probed separately about number of lifetime occurrences and age at first occurrence of each reported TE type. PTSD was assessed in relation to a *randomly selected* lifetime TE to produce a population-level representative sample of TEs.[22] This was done by numbering each occurrence of each reported TE for each respondent, then selecting one numbered instance, and then weighting that report by the probability of selection of that particular TE for that respondent. This approach produces a weighted dataset representative of all lifetime TEs occurring to all respondents. Twenty-three thousand nine hundred thirty-six Part II respondents (67.1%) reported one or more TEs, with 24.6% of those with TEs reporting exactly one and the others reporting a mean of 6.0 (range 2–160; interquartile range 3–6), for approximately 114,000 TEs. Although PTSD was assessed only for one TE per respondent, the sum of weights of these 23,936 respondents was equal to the total number of TEs rather than the number of respondents.

PTSD—Mental disorders were assessed with the Composite International Diagnostic Interview (CIDI),[22] a fully structured interview administered by trained lay interviewers, to assess DSM-IV and ICD-10 disorders. The CIDI assessment of PTSD began with questions to operationalize the DSM-IV Criterion A2 requirement that the person's response to the focal TE involve intense fear, helplessness, or horror. However, rather than requiring responses of this time, all respondents with qualifying TEs were additionally asked about DSMIV Criterion B symptoms of persistent re-experiencing, Criterion C symptoms of persistent avoidance, and Criterion D symptoms of persistent symptoms of increased arousal. Respondents who reported any of these symptoms were then asked about the DSM-IV Criterion E requirement that symptoms persist more than 1 month and the Criterion F requirement that these symptoms cause clinically significant distress or impairment.

As detailed elsewhere,[23] blinded clinical reappraisal interviews with the Structured Clinical Interview for DSM-IV (SCID) were conducted in four WMH countries. CIDI–SCID concordance for DSMIV PTSD was moderate[24] (κ = .49; area under the curve (AUC) = .69). The two components of AUC, sensitivity and specificity, were 38.3 and 99.1, respectively, resulting in a likelihood ratio positive (LR+) of 42.0, which is well above the threshold of 10 typically used to consider screening scale diagnoses definitive.[25] Consistent with the high LR+, the proportion of CIDI cases confirmed by the SCID was 86.1%, suggesting that the vast majority CIDI cases of DSM-IV PTSD would independently be judged to have DSM-IV PTSD by trained clinicians.

ICD-10 criteria were also fully operationalized in the CIDI, as ICD-10 Criteria B–D are a subset of the DSM-IV criteria. DSM-5 criteria (11) were approximated by fully operationalizing DSM-5 Criteria B (one or more of five symptoms of intrusive recollection), C (one or both of two symptoms of avoidance), F (duration of more than 1 month), and G (clinically significant distress or impairment), and partially operationalizing Criteria D (two or more of four symptoms of negative alterations in cognitions and mood, three of which were not assessed in the CIDI) and E (two or more of five symptoms of marked alterations in arousal and reactivity, one of which was not assessed in the CIDI). Proposed ICD-11 diagnostic guidelines (3) were approximated by operationalizing the requirements of (1) avoidance of thoughts– memories of the TE or of activities–situations reminiscent of the TE, (2) excessive hypervigilance or enhanced startle reactions, and (3) significant impairment in functioning, while closely approximating the requirement of (4) re-experiencing the TE in the form of either vivid intrusive memories, flashbacks, or nightmares accompanied by fear or horror.

Other Mental Disorders—In addition to PTSD, the CIDI assessed five DSM-IV fear disorders (panic disorder without agoraphobia, specific phobia, social phobia, agoraphobia without history of panic disorder, obsessive compulsive disorder), three distress disorders (major depressive disorder/dysthymia, generalized anxiety disorder, bipolar disorders [I-II and subthreshold BPD]), three disruptive behavior disorders (oppositional defiant disorder [ODD], conduct disorder [CD], intermittent explosive disorder), and two substance disorders (alcohol and drug abuse with or without dependence). Age-of-onset of each disorder was assessed using special probing techniques shown experimentally to improve recall accuracy.[26] DSM-IV organic exclusion rules and diagnostic hierarchy rules were used (other than for ODD, which was defined with or without CD, and substance abuse, which was defined with or without dependence). As detailed elsewhere,[23] generally good concordance was found between these CIDI diagnoses and blinded clinical diagnoses based on clinical reappraisal interviews with the SCID.[27]

Other Predictors—Differential predictors of the different types of PTSD were investigated. The predictors included gender, age at TE exposure, TE type (war-related, other interpersonal violence, intimate/sexual violence, accidents, death of loved one, other network TEs, and other TEs), numbers of temporally prior lifetime fear/distress disorders (anxiety and mood disorders), and number of temporally prior lifetime behavior/substance disorders.

Outcomes—The following four outcomes are considered here: severe distress or impairment associated with symptoms of PTSD, as assessed by CIDI questions requiring first lifetime onset of suicidal ideation in conjunction with the focal TE in the subsample of respondents with no prior lifetime history of suicidality; and first lifetime onset of any fear disorders or any distress disorder in the subsample of respondents with no prior lifetime history of those disorders. Suicidality was assessed with the CIDI suicidal behavior module.[22]

ANALYSIS METHODS

Multivariate additive associations among PTSD symptoms were examined with exploratory factor analysis (EFA) of the tetrachoric correlation matrix between all logically possible pairs of dichotomously scored symptoms. The parallel analysis simulation method[28] was used to select the number of factors to retain in the analysis, whereas promax rotation was used to improve our ability to interpret the solution. Prevalence estimates of PTSD based on each of the four diagnostic systems, on any of the four systems (referred to below as *broadly defined* PTSD), and on multisystem profiles were then estimated with cross-tabulations.

Regression analysis was then used to examine the associations of PTSD according to the different diagnostic systems with each of the four outcomes. As the cross-tabulations showed that the numbers of cases in some of the 15 logically possible multivariate profiles of diagnoses across the four systems (i.e., 2^4–1) were too small to allow completely disaggregated comparisons, we made only three comparisons for each of the four diagnostic systems for each outcome: (1) between *narrow* cases within the diagnostic system (i.e., cases that met criteria for PTSD according to the criteria of the system but not according to the criteria of any of the other three systems) and broadly defined noncases (i.e., respondents that did not meet criteria for PTSD according to the criteria of any of the four systems); (2) between *total* cases within the diagnostic system (i.e., cases that met criteria for PTSD according to the criteria of the system whether or not they also meet criteria in any of the other three systems) and broadly defined non-cases; and (3) between *other* cases (i.e., cases that did meet criteria for PTSD according to the criteria of the system but did meet criteria for at least one of the other three systems) and broadly defined non-cases.

The equations to predict comorbid fear and distress disorders predicted lifetime first onset of each such disorder in the year of TE exposure in the subsample of respondents without a prior lifetime history of the outcome disorder. These equations to predict comorbidity were based on a combined person-disorder data array. For example, a separate sample of eligible respondents was defined for each of the five fear disorders depending on prior lifetime history of that disorder, these five datasets were then combined, and a single logistic regression equation was estimated in this combined dataset (with four dummy control variables to distinguish among the five disorders) to estimate a single set of predictor coefficients constrained to be equal across all five outcomes.

We then used logistic regression to examine differences in the sociodemographic, trauma-related, and psychopathological predictors of PTSD in the four different types of PTSD. This was done by estimating four logistic regression equations, one for PTSD diagnoses in

each system, that used information about gender, age at TE exposure, type of TE (using the seven-category classification scheme described above with traumatic death of a loved one serving as the reference category), and prior (to the age of TE exposure) lifetime history of fear/distress and behavior/substance disorders (dummy variables for exactly one and more than one disorder of each type) to distinguish between *total* cases according to the focal system and *other* cases. Logistic regression coefficients and their standard errors were exponentiated and are reported here as odds ratios (ORs) with 95% confidence intervals (CIs). Statistical significance was consistently evaluated using .05-level two-sided tests. The design-based Taylor series method implemented in the SAS software system[29] was used to adjust for the weighting and clustering of observations.

RESULTS

EFA

EFA was carried out on the matrix of tetrachoric correlations among the 17 DSM-IV Criterion B–D symptoms of PTSD assessed in the WMH surveys. Parallel analysis showed that four meaningful factors exist in the data (Table 1). Promax rotation lead to a solution that corresponded closely to the DSM-5 symptom dimensions of re-experiencing, avoidance, numbing, and arousal.

PREVALENCE

A total of 5.6% of respondents meet criteria for PTSD in at least one of the four systems (Table 2). We refer to these cases below as having *broadly defined* PTSD. The system with the highest prevalence (standard error in parentheses) is ICD-10 (4.4% [0.3], including 79.4% of all broadly defined cases), followed by DSM-IV and ICD-11 (3.3 [0.2] and 3.2% [0.2], including 58.4 and 57.4%, respectively, of all broadly defined cases), and the lowest is DSM-5 (3.0% [0.2], including 53.5% of all broadly defined cases; (Table 3). One-third of broadly defined cases (1.8% of all respondents) meet criteria in all four systems, an additional one-third of broadly defined cases in either three (0.9% of all respondents) or two (an additional 0.9% of all respondents) systems, and the final one-third of broadly defined cases (1.9% of all respondents) in only one of the four systems. The much higher prevalence of cases based on ICD-10 than the other systems is reflected in the fact that narrow ICD-10 PTSD is the second most common profile (22.1% of all broadly defined cases), the most common being cases meeting criteria in all four systems, while the other narrowly defined types are quite uncommon (1.5–6.3% of all broadly defined cases).

VARIATION IN ADVERSE OUTCOMES ASSOCIATED WITH THE DIFFERENT TYPES OF PTSD

The vast majority (95%) of the 44 ORs that compare outcomes among respondents with PTSD to out comes among respondents classified as broadly defined noncases are greater than 1.0 and statistically significant (89%; Table 4). The same is true of all four ORs associated with narrowly defined DSM-IV PTSD, all four of those associated with narrowly defined DSM-5 PTSD, three of the four ORs associated with narrowly defined ICD-10 PTSD, and one of the four ORs associated with narrowly defined ICD-11 PTSD. These results suggest that each of the four diagnostic systems detects at least some clinically

significant cases that are missed by all the other systems. Narrowly defined DSM-IV cases tend to be more severe than DSM-IV cases that also meet criteria for PTSD in any of the other systems. The opposite is true for narrowly defined ICD-10 and ICD-11 cases, both of which have consistently lower severity scores than total cases. The number of narrowly defined DSM-5 cases is so small that comparisons between narrowly defined and total DSM-5 cases cannot be made. Total DSM-IV and DSM-5 cases are consistently more severe than other cases, while total ICD-10 and ICD-11 cases are for the most part less severe than other cases.

DIFFERENTIAL PREDICTORS

The associations of age of TE exposure and gender with PTSD risk do not vary significantly across the four diagnostic systems (Table 5). However, there is some variation in the differential risk of PTSD across TE types depending on the diagnostic system used to define PTSD. The most important source of this variation is that interpersonal violence is associated with significantly higher PTSD risk relative to traumatic death of a loved one when PTSD is defined using ICD-11 criteria (which is true for 57.4% of respondents with broadly defined PTSD) rather than criteria based on any of the other diagnostic systems (which is true for the remaining 42.6% of respondents with broadly defined PTSD). There is also evidence that traumatic death of a loved one is associated with significantly higher PTSD risk relative to a number of other TEs when PTSD is defined using narrowly defined DSM-IV criteria rather than other criteria. However, given that only 4.4% of respondents with broadly defined PTSD have narrowly defined DSM-IV PTSD, these differences are not as important as those associated with ICD-11 PTSD. The associations of prior lifetime DSM-IV fear/distress and behavior/substance disorders with PTSD risk do not vary significantly across the four diagnostic systems other than for a greater importance of having exactly one prior externalizing disorder in the small proportion of cases where PTSD is defined using narrowly defined DSM-IV criteria rather than other criteria. Finally, predictors of broadly defined PTSD include female gender (OR = 1.8), sexual assault (OR = 2.6), and prior history of fear/distress (OR = 2.0–4.3) or behavior/substance (OR = 2.0–4.3) disorders.

DISCUSSION

This analysis has a number of limitations, the most important being that PTSD was assessed using fully structured lay-administered interviews rather than semistructured clinical interviews, that the interviews were based on retrospective reports about lifetime rather than recent TEs, that DSM-5 criteria were incompletely operationalized (in particular the newly added DSM-5 symptoms were not assessed), and that the proposed ICD-11 diagnostic guidelines are not written as research criteria and needed to be approximated. As a consequence, the results reported here are likely imprecise, and possibly biased (e.g., with underestimation of DSM-5 PTSD prevalence). Nevertheless, the analysis is valuable insofar as these are the first large-scale cross-national data comparing DSM-IV, DSM-5, ICD-10, and ICD-11 PTSD.

Five findings are noteworthy. The first is that the EFA reported here mirrors the DSM-5 approach of distinguishing four PTSD symptom clusters.[11] Although a number of previous

analyses have also yielded a four-factor solution,[4,30] there has been debate about whether the fourth factor should be limited to numbing or should include nonspecific arousal symptoms.[31,32] The current findings are the first based on a large cross-national sample and support a model in which the factors are re-experiencing, avoidance, numbing, and arousal. However, further work, for example, with confirma-tory factor analyses, is needed to address fully ongoing debates in the literature about the structure of PTSD symptoms.[33]

Second, although 5.6% of respondents met criteria for “broadly defined” PTSD (in which PTSD criteria for any diagnostic system are met), a similar proportion of these broadly defined cases met criteria for DSM-5 (53.5 or 3% of total sample) and ICD-11 (57.4 or 3.2% of total sample). These diagnostic systems are likely to have similar clinical utility in terms of identifying similar proportions of the population. A larger proportion of respondents with broadly defined PTSD met ICD-10 diagnostic criteria, consistent with the more stringent, conservative approach to PTSD diagnosis taken by DSM-5 and ICD-11.

Third, the different diagnostic systems detect populations of PTSD that show only partial overlap. One-third of broadly defined cases (1.8% of all respondents) meet criteria in all four systems, an additional one-third in either three (0.9% of all respondents) or two (an additional 0.9% of all respondents) systems, and the final one-third (1.9% of all respondents) in only one of the four systems. Narrowly defined ICD-10 PTSD comprises 22.1% of all broadly defined cases, but other narrowly defined types are quite uncommon (1.5–6.3% of all broadly defined cases).

Fourth, while differences in associations with indicators of clinical severity are consistent with ICD-10 criteria being least strict and DSM-IV criteria most strict (and as intended, ICD-11 PTSD is associated with less comorbidity), the more striking result is that indicators of clinical significance are found even for narrowly defined cases across all four diagnostic systems. Thus, the use of any one diagnostic system will overlook many individuals who suffer from clinically significant symptoms, including distress and impairment.

Fifth, little evidence could be found for significant differences in sociodemographic, trauma-related, or prior lifetime psychopathological (including both fear/distress and behavioral/substance disorders) predictors of PTSD across the different systems, indicating that there is a similar underlying risk profile for PTSD irrespective of the definition. This general pattern, and especially the finding that the associations of prior psychopathology with PTSD are indistinguishable across the four diagnostic systems, adds support to the argument above that all four definitions are providing information on unique clinically significant cases that are omitted from the other systems.

These findings extend previous work comparing different diagnostic criteria sets for PTSD,[18,34–37] and are consistent with the argument that refinements to DSMIV aimed at removing symptoms that overlap with those of other mood and anxiety disorders, are not associated with a major change in prevalence of PTSD, nor with evidence of a change in disability, comorbidity, or structural validity.[38–41] Based on these findings, we suggest that broadly defined PTSD may be a particularly useful additional construct in future epidemiological studies of PTSD.

Acknowledgments

The research reported here was carried out in conjunction with the World Health Organization's World Mental Health (WMH) Survey Initiative. We thank the WMH staff for assistance with instrumentation, fieldwork, and data analysis. These activities were supported by the United States National Institute of Mental Health (R01MH070884), the John D. and Catherine T. MacArthur Foundation, the Pfizer Foundation, the US Public Health Service (R13-MH066849, R01-MH069864, R01-MH092526, and R01-DA016558), the Fogarty International Center (FIRCA R03-TW006481), the Pan American Health Organization, the Eli Lilly & Company Foundation, Ortho-McNeil Pharmaceutical, Inc., GlaxoSmithKline, Bristol-Myers Squibb, and Shire Pharmaceuticals. A complete list of WMH publications can be found at http://www.hcp.med.harvard.edu/wmh/. The Sã Paulo Megacity Mental Health Survey is supported by the State of São Paulo Research Foundation (FAPESP) Thematic Project grant 03/00204-3.The Bulgarian Epidemiological Study of common mental disorders EPIBUL is supported by the Ministry of Health and the National Center for Public Health Protection. The Beijing, Peoples Republic of China's World Mental Health Survey Initiative is supported by the Pfizer Foundation. The Colombian National Study of Mental Health (NSMH) is supported by the Ministry of Social Protection. The ESEMeD project is funded by the European Commission (contracts QLG5–1999– 01042; SANCO 2004123), the Piedmont Region (Italy), Fondo de Investigación Sanitaria, Instituto de Salud Carlos III, Spain (FIS 00/0028), Ministerio de Ciencia y Tecnología, Spain (SAF 2000–158-CE), Departament de Salut, Generalitat de Catalunya, Spain, Instituto de Salud Carlos III (CIBER CB06/02/0046, RETICS RD06/0011 REM-TAP), and other local agencies and by an unrestricted educational grant from GlaxoSmithKline. The World Mental Health Japan (WMHJ) Survey is supported by the grant for Research on Psychiatric and Neurological Diseases and Mental Health (H13-SHOGAI-023, H14-TOKUBETSU-026, H16-KOKORO-013) from the Japan Ministry of Health, Labour and Welfare. The Lebanese National Mental Health Survey (LEBANON) is supported by the Lebanese Ministry of Public Health, the WHO (Lebanon), National Institute of Health/Fogarty International Center (R03 TW006481–01), anonymous private donations to IDRAAC, Lebanon, and unrestricted grants from Astra Zeneca, Eli Lilly, GlaxoSmithK-line, Hikma Pharm, Janssen Cilag, MSD, Novartis, Pfizer, Sanofi Aventis, and Servier. The Mexican National Comorbidity Survey (MNCS) is supported by the National Institute of Psychiatry Ramon de la Fuente (INPRFMDIES 4280) and by the National Council on Science and Technology (CONACyT-G30544-H), with supplemental support from the PanAmerican Health Organization (PAHO). The Northern Ireland Study of Mental Health was funded by the Health & Social Care Research & Development Division of the Public Health Agency. The Portuguese Mental Health Study was carried out by the Department of Mental Health, Faculty of Medical Sciences, NOVA University of Lisbon, with collaboration of the Portuguese Catholic University, and was funded by Champalimaud Foundation, Gulbenkian Foundation, Foundation for Science and Technology (FCT), and Ministry of Health. The Romania WMH study projects “Policies in Mental Health Area” and “National Study regarding Mental Health and Services Use” were carried out by National School of Public Health & Health Services Management (former National Institute for Research & Development in Health), with technical support of Metro Media Transilvania, the National Institute of Statistics—National Centre for Training in Statistics, SC. Cheyenne Services SRL, Statistics Netherlands was funded by Min istry of Public Health (former Ministry of Health) with supplemental support of Eli Lilly Romania SRL. The US National Comorbidity Survey Replication (NCS-R) is supported by the National Institute of Mental Health (NIMH; U01-MH60220) with supplemental support from the National Institute of Drug Abuse (NIDA), the Substance Abuse and Mental Health Services Administration (SAMHSA), the Robert Wood Johnson Foundation (RWJF; grant 044708), and the John W. Alden Trust.

These surveys were carried out in conjunction with the World Health Organization WMH Survey initiative. We thank the WMH staff for assistance with instrumentation, fieldwork, and data analysis. A complete list of WMH publications can be found at www.hcp.med.harvard.edu/wmh.

Contract grant sponsor: United States National Institute of Mental Health; Contract grant number: R01MH070884; Contract grant sponsor: John D. and Catherine T. MacArthur Foundation; Contract grant sponsor: The Pfizer Foundation; Contract grant sponsor: The US Public Health Service; Contract grant numbers: R13-MH066849, R01-MH069864, R01-MH092526, and R01-DA016558; Contract grant sponsor: Fogarty International Center; Contract grant number: FIRCA R03-TW006481; Contract grant sponsor: The Pan American Health Organization; Contract grant sponsor: the Eli Lilly & Company Foundation; Contract grant sponsor: Ortho-McNeil Pharmaceutical, Inc.; Contract grant sponsor: GlaxoSmithKline; Contract grant sponsor: Bristol-Myers Squibb; Contract grant sponsor: Shire Pharmaceuticals; Contract grant sponsor: State of São Paulo Research Foundation (FAPESP) Thematic Project; Contract grant number: 03/00204–3; Contract grant sponsor: European Commission; Contract grant numbers: QLG5–1999–01042 and SANCO 2004123; Contract grant sponsor: The Piedmont Region; Contract grant sponsor: Fondo de Investigación Sanitaria; Contract grant sponsor: Instituto de Salud Carlos III; Contract grant number: FIS 00/0028; Contract grant sponsor: Ministerio de Ciencia y Tecnología, Spain; Contract grant number: SAF 2000–158-CE; Contract grant sponsor: Departament de Salut, Generalitat de Catalunya; Contract grant sponsor: Instituto de Salud Carlos III; Contract grant numbers: CIBER CB06/02/0046 and RETICS RD06/0011 REM-TAP; Contract grant sponsor: Japan Ministry of Health, Labour and Welfare; Contract grant numbers: H13-SHOGAI-023, H14-TOKUBETSU-026, and H16-KOKORO-013; Contract grant sponsor: National Institute of Health/Fogarty International Center; Contract grant number: R03 TW006481–01; Contract grant sponsor: Astra Zeneca; Contract grant sponsor: Hikma Pharm; Contract grant sponsor: Janssen Cilag; Contract grant sponsor: MSD; Contract grant sponsor: Novartis; Contract grant sponsor: Sanofi Aventis; Contract grant sponsor: Servier;

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APPENDIX

TABLE A1

PTSD criteria in DSM-IV, DSM-5, ICD-10, and ICD-11

	Symptoms required
DSM-IV criteria	
A1. Exposure to actual or threatened death, serious injury, or a threat to physical integrity of oneself or others	
A2. Response to the event involved fear, helplessness, or horror	
B. Persistent re-experiencing	One of five
C. Persistent avoidance and numbing	Three of seven
D. Persistent hyperarousal	Two of five
E. Duration of at least 1 month	
F. Clinically significant distress/impairment	
DSM-5 criteria	
A. Exposure to actual or threatened death, serious injury, or sexual violence	
B. Persistent re-experiencing	One of five
C. Persistent avoidance	One of two
D. Persistent numbing	Two of four
E. Persistent hyperarousal	Two of five
F. Duration of at least 1 month	
G. Clinically significant distress/impairment	
ICD-10 criteria	
A. Exposure to a stressful event or situation of exceptionally threatening or catastrophic nature likely to cause pervasive distress in almost anyone	
B. Persistent re-experiencing	
C. Avoidance	
D. Either (1) or (2) below:	
1. Inability to recall important aspects of the stressor	
2. Persistent hyperarousal	Two of five
E. Criteria B, C, and D must all be met within 6 months of the stressful event	
ICD-11 criteria	
A. Exposure to a stressful event or situation of exceptionally threatening or horrific nature likely to cause pervasive distress in almost anyone	
B. Persistent re-experiencing that involves not only remembering the TE, but also experiencing it as occurring again	
C. Avoidance	
D. Persistent hyperarousal (i.e., heightened perception of current threat)	
E. Clinically significant functional impairment	

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TABLE 1

Rotated (promax) standardized regression coefficients based on EFA of CIDI PTSD symptom questions (n = 23,936)[a]

	I	II	III	IV
I. Re-experiencing				
Repeated unwanted memories of random event	.84	.11	.00	.03
Repeated unpleasant dreams about random event	.79	.06	–.02	.05
Flashbacks of random event happening	.84	.06	–.07	.05
Get very upset when reminded of random event	.87	.00	.10	–.05
Have physical reactions when reminded of random event	.59	–.05	.16	.20
II. Avoidance				
Try not to think about random event	.13	.82	–.05	.10
Purposely stay away from things that remind of random event	–.03	.75	.28	.05
III. Numbing				
Unable to remember important parts of random event	–.01	.48	.46	–.10
Lose interest in things used to enjoy	.14	.09	.84	–.11
Feel emotionally distant/cut-off from people	.08	.14	.84	–.03
Trouble feeling love/happiness toward others	–.06	.12	.87	.08
Feel no reason to plan for the future	–.07	.09	.79	.11
IV. Arousal				
Trouble falling asleep during random event	.32	–.12	.18	.50
More irritable than usual during random event	.09	–.17	.37	.55
More trouble concentrating during random event	.21	–.20	.50	.39
Much more alert/watchful with no real need	–.03	.22	–.14	.94
More easily startled by ordinary noises	.08	.11	–.01	.83

[a]Principal axis factor analysis of weighted (see the text for a discussion of weighting) tetrachoric correlation matrix of responses to dichotomous symptom questions.

TABLE 2

Prevalence of PTSD according to the criteria of each and any of the four diagnostic systems (n = 23,936)

	Total sample		Among respondents with broadly defined PTSD[a]	
	Percentage	**(*SE*)**	**Percentage**	**(*SE*)**
DSM-IV	3.3	(0.2)	58.4	(2.5)
DSM-5	3.0	(0.2)	53.5	(2.5)
ICD-10	4.4	(0.3)	79.4	(2.2)
ICD-11	3.2	(0.2)	57.4	(2.7)
Any	5.6	(0.3)	100.0	-
n	23,936			1,581

[a]Broadly defined PTSD = PTSD according to the criteria of any of the four systems.

TABLE 3

The cross-classification of PTSD prevalence across the four diagnostic systems (*n* = 23,936)

	Total sample		Among respondents with broadly defined PTSD	
	Percentage	**(SE)**	**Percentage**	**(SE)**
I. Meets criteria in all four systems				
DSM-IV, DSM-5, ICD-10,ICD-11	1.8	(0.2)	33.1	(2.2)
II. Meets criteria in three systems				
DSM-IV, DSM-5, ICD-10	0.4	(0.1)	7.7	(1.2)
DSM-IV, DSM-5, ICD-11	0.3	(0.1)	5.8	(1.3)
DSM-IV, ICD-10, ICD-11	0.1	(0.0)	2.6	(0.5)
DSM-5, ICD-10, ICD-11	0.0	(0.0)	0.8	(0.5)
Any three systems	0.9	(0.1)	16.8	(1.8)
III. Meets criteria in two systems				
DSM-IV, DSM-5	0.1	(0.0)	0.9	(0.3)
DSM-IV, ICD-10	0.2	(0.1)	2.8	(0.8)
DSM-IV, ICD-11	0.1	(0.1)	1.4	(1.1)
DSM-5, ICD-10	0.2	(0.1)	3.3	(1.0)
DSM-5, ICD-11	0.0	(0.0)	0.5	(0.3)
ICD-10, ICD-11	0.4	(0.1)	7.0	(1.2)
Any two systems	0.9	(0.1)	15.8	(1.8)
IV. Meets criteria in one system				
DSM-IV	0.2	(0.0)	4.4	(0.8)
DSM-5	0.1	(0.0)	1.5	(0.7)
ICD-10	1.2	(0.2)	22.1	(2.4)
ICD-11	0.4	(0.1)	6.3	(1.2)
Any one system	1.9	(0.2)	34.3	(2.4)
V. Meet criteria in any of the four systems				
Any	5.6	(0.3)	100.00	-
n	23,936			1,581

TABLE 4

Associations of PTSD classified by only one (“narrow” cases) versus more than one (“all other” cases) diagnostic system with indicators of clinical significance among respondents exposed to a traumatic experience

	Severe distress or impairment				Suicidality				Comorbid disorders: Distress				Comorbid disorders: Fear			
	Percentage	**(SE)**	**OR**	**(95% CI)**	**Percentage**	**(SE)**	**OR**	**(95% CI)**	**Percentage**	**(SE)**	**OR**	**(95% CI)**	**Percentage**	**(SE)**	**OR**	**(95% CI)**
I. DSM-IV																
Narrow[a]	90.9	(3.7)	497.7*	(177.2→999)	15.5	(8.6)	12.9*	(3.5-47.9)	7.9	(2.2)	11.1*	(5.9-20.8)	2.9	(1.6)	13.7*	(4.3-44.0)
Total[a]	83.3	(2.9)	321.7*	(202.0-512.4)	7.4	(1.3)	4.5*	(2.7-7.5)	5.1	(0.7)	6.8*	(4.6-9.9)	1.8	(0.5)	5.1*	(2.6-9.9)
All others	62.0	(4.1)	96.1*	(63.4-145.5)	3.0	(1.7)	1.9	(0.6-6.1)	2.6	(0.7)	3.7*	(2.0-7.0)	1.3	(0.4)	4.4*	(2.2-8.6)
No PTSD	2.2	(0.4)	1.0	-	1.2	(0.1)	1.0	-	0.7	(0.1)	1.0	-	0.3	(0.0)	1.0	-
II. DSM-5																
Narrow[a,b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total[a]	87.5	(2.4)	492.7*	(289.9-837.5)	8.2	(1.8)	5.3*	(2.9-9.4)	5.5	(0.8)	7.8*	(5.2-11.7)	2.0	(0.5)	5.6*	(3.0-10.4)
All others	59.4	(3.9)	82.1*	(56.7-118.8)	2.5	(0.9)	1.5	(0.6-3.5)	2.4	(0.5)	3.2*	(1.8-5.5)	1.1	(0.3)	3.8*	(1.9-7.4)
No PTSD	2.2	(0.4)	1.0	-	1.2	(0.1)	1.0	-	0.7	(0.1)	1.0	-	0.3	(0.03)	1.0	-
III. ICD-10																
Narrow[a]	52.0	(6.1)	52.9*	(28.1-95.7)	1.6	(0.9)	1.0	(0.3-3.6)	2.4	(0.9)	3.6*	(1.5-8.5)	1.1	(0.5)	4.7*	(1.8-12.2)
Total[a]	73.4	(2.8)	164.3*	(114.2-236.3)	4.6	(0.8)	2.9*	(1.8-4.6)	4.0	(0.5)	5.4*	(3.7-7.9)	1.5	(0.4)	4.8*	(2.6-8.9)
All others	78.7	(6.1)	273.4*	(135.9-550.2)	8.6	(4.1)	5.2*	(1.7-15.4)	4.2	(1.2)	5.7*	(2.8-11.5)	1.7	(0.6)	4.8*	(2.4-9.5)
No PTSD	2.2	(0.4)	1.0	-	1.2	(0.1)	1.0	-	0.7	(0.1)	1.0	-	0.3	(0.03)	1.0	-
IV.ICD-11																
Narrow[a]	57.2	(10.5)	89.1*	(32.9-241.4)	1.1	(1.0)	0.4	(0.1-3.0)	0.5	(0.2)	0.5	(0.2-1.5)	0.8	(0.4)	2.4	(0.7-8.0)
Total[a]	82.4	(3.1)	346.1*	(211.3-566.7)	5.5	(1.1)	3.1*	(1.8-5.4)	4.0	(0.6)	5.3*	(3.5-8.0)	1.6	(0.5)	4.2*	(2.0-8.9)
All others	63.8	(4.1)	93.3*	(61.5-141.6)	5.3	(2.0)	3.6*	(1.7-8.0)	4.0	(0.8)	5.8*	(3.5-9.4)	1.5	(0.4)	5.7*	(3.2-10.0)
No PTSD	2.2	(0.4)	1.0	-	1.2	(0.1)	1.0	-	0.7	(0.1)	1.0	-	0.3	(0.03)	1.0	-
n				23,936				(22,030)[c]				(79,83 6)[d]				(112,460)[e]

[*] Significantly different from respondents who did not meet criteria for PTSD in any of the four diagnostic systems at the .05 level, two-sided test.

[a] *Narrow* cases are those that meet criteria for PTSD in the one diagnostic system represented in the subheading but in none of the other three systems. *Total* cases, in comparison, are all those who meet criteria for PTSD in the diagnostic system represented in the subheading whether or not they also meet criteria in one or more of the other three systems. *All others*, finally, are all those who do not meet criteria for PTSD in the diagnostic system represented in the subheading but do meet criteria in one or more of the three other systems. All three groups are contrasted with respondents who had a traumatic experience but did not develop PTSD according to the criteria of any of the four systems.

[b] Respondents with narrow DSM-5 PTSD were excluded from analysis due to their small number.

[c] Respondents with a history of suicidal ideation at an earlier age than when they experienced the focal TE were excluded.

[d] Four distress disorders were included in the analysis (major depressive disorder, bipolar disorder, generalized anxiety disorder, and obsessive-compulsive disorder). A separate observational file was created for each of these disorders excluding respondents with a lifetime history of this disorder at an earlier age than when they experienced the focal TE. The four data files were then stacked and a single set of coefficients was estimated for the pooled within-disorder odds of onset in the year of TE exposure. The sample size given here is for the stacked dataset. Disorder-specific samples ranged in size from 11,925 for obsessive-compulsive disorder (OCD) to 23,500 for bipolar disorder. The small sample size for OCD is due to the fact that OCD was assessed in only a subsample of cases in a subset of countries.

[e] Five fear disorders were included in the analysis (agoraphobia, panic disorder, separation anxiety disorder, social phobia, and specific phobia). A separate observational file was created for each of these disorders, excluding respondents with a lifetime history of this disorder at an earlier age than when they experienced the focal TE. The four data files were then stacked and a single set of coefficients was estimated for the pooled within-disorder odds of onset in the year of TE exposure. The sample size given here is for the stacked dataset. Disorder-specific samples ranged in size from 20,429 for specific disorder to 23,629 for agoraphobic.

TABLE 5

Sociodemographic and trauma-related predictors of broadly defined PTSD and PTSD based on each of the diagnostic systems

	Broadly defined PTSD versus noncases		Among respondents with broadly defined PTSD							
			Narrow[a] DSM-IV versus Others		Total[b] DSM-5 versus others		Narrow[a] ICD-10 versus others		Narrow[a] ICD-11 versus others	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
I. Sociodemographic										
Age of traumatic exposure										
Age in decades	1.0	(0.9-1.1)	0.9	(0.7-1.1)	0.9	(0.7-1.0)	1.2	(1.0-1.5)	1.1	(0.8-1.5)
χ_1^2	0.1		1.5		2.2		3.5		0.6	
Sex										
Female	1.8[c]	(1.3-2.4)	1.7	(0.7-4.1)	0.9	(0.6-1.5)	0.8	(0.4-1.5)	1.2	(0.6-2.8)
Male			1.0	-	1.0	-	1.0	-	1.0	-
χ_1^2	15.4[c]		1.2		0.0		0.7		0.3	
II. Trauma type										
War events	0.7	(0.3-1.4)	0.0[c]	(0.0-0.0)	0.4	(0.1-1.2)	1.3	(0.3-6.3)	6.1	(1.0-38.1)
Other interpersonal violence	0.9	(0.6-1.4)	0.1[c]	(0.0-0.4)	0.8	(0.4-1.7)	0.9	(0.4-2.4)	5.8[c]	(1.6-21.7)
Intimate/sexual violence	2.6[c]	(1.9-3.8)	0.0[c]	(0.0-0.2)	1.3	(0.6-2.5)	0.4	(0.2-1.1)	4.5[c]	(1.2-17.0)
Accident	0.6[c]	(0.4-0.8)	0.0[c]	(0.0-0.2)	0.8	(0.4-1.6)	1.7	(0.4-6.4)	0.4	(0.1-1.9)
Network events	0.8	(0.5-1.2)	0.5	(0.2-1.5)	0.5[c]	(0.3-1.0)	1.5	(0.7-3.4)	0.8	(0.3-2.6)
Death	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-
Other	2.0[c]	(1.4-3.0)	0.1[c]	(0.0-0.4)	0.9	(0.4-2.0)	1.5	(0.5-4.6)	0.8	(0.2-3.3)
χ_6^2	88.1[c]		913.3[c]		9.9		9.0		16.3*	
III. Lifetime prior history of mental disorders										
Fear/distress disorders										
0	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-
1	2.0[c]	(1.5-2.7)	0.7	(0.3-1.8)	1.3	(0.8-2.2)	1.2	(0.6-2.2)	0.6	(0.2-1.7)

	Broadly defined PTSD versus noncases		Among respondents with broadly defined PTSD							
			Narrow[a] DSM-IV versus Others		Total[b] DSM-5 versus others		Narrow[a] ICD-10 versus others		Narrow[a] ICD-11 versus others	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
2+	4.3[c]	(3.1-5.9)	1.6	(0.5-5.2)	1.2	(0.8-1.9)	1.0	(0.5-2.2)	1.1	(0.4-3.2)
χ^2_2	83.7[c]		2.5		1.7		0.3		1.4	
Behavioral/substance disorders										
0	1.0	-	1.0	-	1.0	-	1.0	-	1.0	-
1	1.2	(0.8-1.8)	5.5[c]	(1.7-17.4)	1.1	(0.6-2.1)	0.8	(0.3-1.9)	0.6	(0.2-2.3)
2+	2.1[c]	(1.6-2.9)	1.1	(0.2-6.1)	1.6	(0.7-3.7)	1.4	(0.3-6.3)	0.2[c]	(0.0-1.0)
χ^2_2	24.1[c]		8.7[c]		1.0		0.5		4.2	
n	23,936		728		1,581		669		796	

[a] *Narrow* cases are those that meet criteria for PTSD in the one diagnostic system represented in the column heading but in none of the other three systems.

[b] *Total* cases are all those who meet criteria for DSM-5 PTSD whether or not they also meet criteria in one or more of the other three systems. Total cases were used instead of narrow cases of DSM-5 PTSD because of the rarity of narrow DSM-5 PTSD.

[c] Significant difference between PTSD according to the diagnostic system indicated by the column heading and one or more of the other three diagnostic systems.