

***ICD-11 Versus DSM-5 Conceptualizations of Posttraumatic Psychopathology:
Implications for Prevalence, Comorbidity, and Measurement of PTSD and Complex PTSD***

by

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Keywords: PTSD, CPTSD, *ICD-11*, *DSM-5*,
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Abstract

ICD-11 and *DSM-5* represent disparate approaches to diagnostic categories and criteria for posttraumatic psychopathology. First, *DSM-5* follows a broad approach to posttraumatic stress disorder (PTSD) symptom criteria, whereas *ICD-11* follows a narrow approach. Second, *ICD-11* includes a diagnostic category of complex PTSD (CPTSD), whereas *DSM-5* does not. *ICD-11*'s narrower approach to PTSD was intended to reduce unwarranted diagnoses, heterogeneity, and comorbidity, and its inclusion of CPTSD was intended to provide diagnostic coverage for symptoms that often occur following prolonged trauma. Previous research has demonstrated that the *ICD-11* PTSD criteria lower prevalence, but findings regarding comorbidity are mixed, due in part to variability across studies in measurement methodology. The present research ($N_{\text{Study 1}} = 938$, $N_{\text{Study 2}} = 246$) sought to further examine the effect of these differing diagnostic criteria on prevalence and comorbidity of PTSD and CPTSD. It also is the first known research to examine the impact of deriving an *ICD-11* PTSD diagnosis from a *DSM-5* measure, the PTSD Checklist for *DSM-5* (PCL-5), versus a dedicated *ICD-11* measure, the International Trauma Questionnaire (ITQ). Across two studies, results demonstrated a reduction in PTSD prevalence for *ICD-11* compared to *DSM-5* criteria. Comorbidity findings differed across studies, with *ICD-11* demonstrating generally lower comorbidity than *DSM-5* PTSD in Study 2, but little evidence of comorbidity differences in Study 1. *ICD-11* CPTSD prevalence was similar to that of *ICD-11* PTSD, and lower than that of *DSM-5* PTSD, while displaying similar comorbidity to *DSM-5* PTSD. Regarding the measurement aim, there was poor diagnostic agreement between *ICD-11* PTSD derived from the ITQ versus the PCL-5; prevalence and comorbidity also differed between measurement methods. Taken together, the results broadly corroborate prior findings regarding the effect of *ICD-11* criteria on prevalence, mirror the discrepant comorbidity

literature to date, and suggest the importance of accurate *ICD-11* PTSD measurement. Additional findings, such as those for CPTSD, and associated implications, such as those for measurement, are discussed.

Keywords: ICD-11, DSM-5, PTSD, CPTSD, prevalence, comorbidity, measurement

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List of Abbreviations

PTSD	Posttraumatic stress disorder
CPTSD	Complex posttraumatic stress disorder
<i>ICD-11</i>	<i>International Classification of Diseases, 11th edition</i>
<i>DSM-5</i>	<i>Diagnostic and Statistical Manual of Mental Disorders, 5th edition</i>
ITQ	International Trauma Questionnaire
PCL-5	PTSD Checklist for <i>DSM-5</i>
PAI	Personality Assessment Inventory
SOM	Somatic Concerns
ANX	Anxiety
ARD	Anxiety Related Disorders
DEP	Depression
MAN	Mania
PAR	Paranoia
SCZ	Schizophrenia
BOR	Borderline Features
ANT	Antisocial Features
ALC	Alcohol Problems
DRG	Drug Problems
SUI	Suicidal Ideation

In some ways disease does not exist until we have agreed that it does—by perceiving, naming, and responding to it . . . what is often overlooked, however, is the process of disease definition itself . . . and the consequence of those definitions, once they are agreed upon, in the lives of individuals, in the making and discussion of social policy, and in the structuring of medical care.

—Charles E. Rosenberg, *Disease in History: Frames and Framers*, 1989

Chapter 1: Introduction

Currently in the field of traumatic stress, there are two disparate approaches to the diagnostic criteria for posttraumatic stress disorder (PTSD). The *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (*DSM-5*; American Psychiatric Association [APA], 2013) takes a broad approach, with twenty symptoms in four clusters: (a) reexperiencing, (b) avoidance, (c) negative alterations in cognition and mood, and (d) arousal. This approach follows from the assumption that diagnostic criteria should include all symptoms commonly found in the clinical presentation of a disorder, regardless of whether some of these features overlap with other disorders. In contrast, the *International Classification of Diseases*, 11th ed. (*ICD-11*; World Health Organization [WHO], 2019) takes a narrow approach, with seven symptoms in three clusters: (a) reexperiencing, (b) avoidance, and (c) sense of threat. This narrow approach follows from the assumption that diagnostic criteria should include only those symptoms that represent the core features of the disorder, that is, those that distinguish the disorder from other disorders.

Additionally, unlike *DSM-5*, *ICD-11* includes a sibling diagnosis, complex posttraumatic stress disorder (CPTSD), which the *DSM-5* Trauma/Stressor-Related and Dissociative Disorders Sub-Workgroup ultimately rejected based on its determination that there was insufficient evidence to include as a separate diagnosis. CPTSD, conceptualized as a disorder that often occurs in response to prolonged trauma, includes six symptoms in three clusters: (a) affect dysregulation, (b) negative self-concept (e.g., feelings of worthlessness), and (c) difficulty in sustained relationships (WHO, 2019). Notably, *ICD-11* requires that an individual cannot be diagnosed with both CPTSD and PTSD. That is, to be eligible for a CPTSD diagnosis, an individual must first meet PTSD criteria; if they then meet CPTSD criteria, they are given that diagnosis alone.

This divergence in criteria for posttraumatic symptomatology raises crucial conceptual and practical issues regarding assessment, diagnosis, and treatment of trauma-related disorders. Investigators have debated these issues vigorously over the last ten years, but, although substantial empirical evidence has emerged, there is little resolution or consensus in the field as to which of these two conceptualizations more accurately depicts the characteristic posttraumatic syndrome. Before reviewing these practical and theoretical implications, the following chapter presents a historical overview of the development of *DSM* and *ICD* conceptualizations of posttraumatic pathology, reviewing the evolution of PTSD and CPTSD criteria leading up to the current presentations in *ICD-11* and *DSM-5*. Next, previous research regarding the effects of the present diagnostic criteria on prevalence and comorbidity is outlined, which provides a context for the purpose of the present thesis.

Chapter 2: Historical Overview

To contextualize the present discussion of differences in the conceptualization of posttraumatic pathology across *DSM-5* and *ICD-11*, it is important to understand the evolution of PTSD and CPTSD symptomatology across the two classification systems. The following review provides a brief chronological synopsis, first of the evolution of PTSD criteria, and then of the evolution of CPTSD criteria. See Appendix A for a visual representation of the symptom evolution. In the following overview, for the purposes of the present thesis, attention is focused on the symptom criteria, rather than other criteria such as the traumatic event criteria or other diagnostic requirements such as impairment criteria. For a full discussion of the evolution of PTSD criteria, see Turnbull (1998) and Weathers (2018), on which the following history is based, in tandem with the primary diagnostic criteria across each revision.

PTSD Prior to DSM-5

PTSD was introduced as a diagnostic category in 1980 in *DSM-III* (APA, 1980). In contrast, the *ICD* first included PTSD in 1992, in *ICD-10*. The diagnostic criteria for PTSD have undergone significant revision since the disorder was introduced as a diagnostic category in *DSM-III* (APA, 1980) and *ICD-10* (WHO, 1990). Prior to the formal iterations of the disorder, reactions to trauma were included in both systems. *DSM-I* (1952) included *gross stress reactions*, while *DSM-II* (1968) included *anxiety neurosis/transient situational disturbance*, which made reference to “response to overwhelming environmental stress” (APA, 1952; Turnbull, 1998), an early iteration of Criterion A (i.e., the trauma exposure criterion), and can therefore be thought of as an early iteration of PTSD. Similarly, *ICD-9* (1978), included *acute reaction to stress* and *adjustment reaction* following exposure to acute stress, which is thought to have guided the *DSM-III* (1980) delineation of PTSD (Turnbull, 1998).

DSM-III (1980). The initial criteria for PTSD comprised 12 symptoms, across three clusters—reexperiencing, numbing, and a miscellaneous category. The reexperiencing cluster included (a) intrusive recollections, (b) nightmares, and (c) flashbacks. The numbing cluster included (d) diminished interest, (e) social detachment or estrangement, and (f) constricted affect. Finally, the last cluster comprised miscellaneous symptoms, including (g) hyperalertness or exaggerated startle, (h) sleep disturbance, (i) survivor guilt, (j) memory impairment or trouble concentrating, (k) avoidance of activities eliciting trauma reminders, and (l) intensification of symptoms cued by trauma reminders (APA, 1980).

DSM-III-R (1987). Multiple revisions were made to the PTSD criteria for *DSM-III-R*, including subdivision of the previous miscellaneous cluster, in part to emphasize the role of avoidance, resulting in 17 symptoms. These comprised three clusters: reexperiencing, avoidance and numbing, and arousal. Intensification of symptoms from the previous miscellaneous category was divided into (a) physiological reactivity and (b) intense psychological distress, with the latter being moved to the reexperiencing cluster and the former in the newly named arousal cluster. Similarly, avoidance of activities was moved to the new avoidance and numbing cluster, which included (a) avoidance of thoughts and memories, as well as (b) memory impairment, now “psychogenic amnesia,” while (c) retaining the previous numbing symptoms. Guilt was removed (APA, 1987).

ICD-10 (1992). The original *ICD* version of PTSD in *ICD-10* comprised three clusters of PTSD: reexperiencing, avoidance, and amnesia and/or increased psychological sensitivity and arousal (e.g., difficulty falling or staying asleep, irritability, difficulty concentrating, exaggerated startle response). In this way, *ICD-10* PTSD closely resembled that of *DSM-III-R*, with the exception of amnesia being grouped with arousal rather than avoidance (WHO, 1992).

DSM-IV (1994) and DSM-IV-TR (2000). Physiological reactivity, previously grouped in the hyperarousal category in *DSM-III-R*, was moved to the reexperiencing category in *DSM-IV* (APA, 1994). No other changes were made to symptom criteria for *DSM-IV*, nor for *DSM-IV-TR* (APA, 2000).

Thus, the diagnostic criteria for PTSD remained relatively stable from *DSM-III-R* onward until the most recent iterations in *DSM-5* and *ICD-11*. *DSM-5* represents an expansion of these stable criteria, with additional symptoms that recognize that PTSD is broader than the original fear-conditioning conceptualization. This relative stability until recent years suggests a consensus in characteristic symptoms of PTSD, which allowed for a common construct to anchor research findings and diagnostic decisions across classifications systems.

CPTSD Prior to ICD-11

CPTSD in *ICD-11* stems from a broader construct introduced by Herman (1992), which subsequently existed in part as *disorders of extreme stress not otherwise specified* (DESNOS) in proposals for *DSM-IV* (1994) and as *enduring personality change after catastrophic experience* in *ICD-10* (1992). Herman's foundational conceptualization of CPTSD comprised alterations in: (a) affect regulation, (b) consciousness (e.g., dissociation), (c) self-perception (e.g., shame), (d) perception of perpetrator, (e) relations with others, and (f) systems of meaning (e.g., hopelessness), specifically following prolonged trauma (e.g., concentration camp, childhood abuse). In the research literature on this construct, it has been referred to as both CPTSD and DESNOS, although not precisely interchangeably. The following historical overview alternates between these two terms, mirroring the literature and diagnostic systems.

ICD-10 (1992). The *ICD-10* can be thought of as the first diagnostic system to present CPTSD, delineated in part through *enduring personality change after catastrophic experiences*

(Beltran 1999; Maercker & Perkonig, 2013; Nemčić-Moro et al., 2011), though some argue that this disorder is distinct from CPTSD and should be preserved as a distinct diagnosis (Tanaka et al., 2018). These diagnostic criteria included: (a) hostile or distrustful attitude, (b) social withdrawal, (c) feelings of emptiness or hopelessness, (d) a chronic feeling of “being on edge” as if constantly threatened, and (e) estrangement (WHO, 1992). The criteria note that “the stress must be so extreme that it is not necessary to consider personal vulnerability in order to explain its profound effect on the personality” (e.g., prolonged traumas such as captivity, concentration camps; WHO, 1992, 2019). This aligns with Herman’s conceptualization of CPTSD as precipitated by prolonged, inescapable trauma.

DSM-IV (1994) and DSM-IV-TR (2000). DESNOS was also considered for possible inclusion in *DSM-IV*. DESNOS proposals examined in symptom field trials for *DSM-IV* (van der Kolk et al., 2005) broadly followed Herman’s initial conceptualization and included alterations in: (a) affect regulation, (b) attention or consciousness, (c) self-perception, (d) relations with others, and (e) systems of meaning, in addition to (f) somatization (Luxenberg et al., 2001). Following field trials (van der Kolk et al., 2005; Sar, 2011), committees for *DSM-IV* (1994) and its subsequent text revision, *DSM-IV-TR* (2000), chose not to include DESNOS as a separate diagnostic category, nor as a subtype of PTSD (Beltran, 1999; Friedman et al., 2013; Sar, 2011; van der Kolk et al., 2005). They cited insufficient evidence for a new, distinct diagnostic category because the PTSD diagnosis seemed to capture most of those who received the DESNOS label (Friedman et al., 2013). Instead, elements of DESNOS were preserved, though not by name, in the “Associated Features and Disorders” section of *DSM-IV* PTSD:

The following associated constellation of symptoms may occur and are more commonly seen in association with an interpersonal stressor (e.g., childhood sexual or physical

abuse, domestic battering, being taken hostage, incarceration as a prisoner of war or in a concentration camp, torture): impaired affect modulation; self-destructive and impulsive behavior; dissociative symptoms; somatic complaints; feelings of ineffectiveness; shame, despair, or hopelessness; feeling permanently damaged; a loss of previously sustained beliefs; hostility; social withdrawal; feeling constantly threatened; impaired relationships with others; or, a change from the individuals previous personality characteristics. (APA, 1990, 1994, p. 465)

The overlap with Herman's (1992) CPTSD criteria is evident in this description. For a discussion of *DSM-5*'s consideration of including CPTSD, see Rationale for Present Conceptualizations in *DSM-5* and *ICD-11*, in the following chapter. Given the historical context of posttraumatic symptomatology, the following chapter reviews the rationale for present conceptualization. This historical overview provides context for understanding the rationale for and specific changes to the *DSM-5* revision, objections to the *DSM-5* changes, and the emergence of the *ICD-11* approach.

Chapter 3: Rationale for Present Conceptualizations in *DSM-5* and *ICD-11*

PTSD in DSM-5 (2013)

As noted above, *DSM-5* approached PTSD with a broad perspective that diagnostic criteria should contain all those symptoms present in the clinical picture, rather than just those that distinguish it from others. Moreover, the PTSD diagnosis underwent a thorough evaluation and revision process for *DSM-5*. Reviews of the process are provided by Friedman (2013), Friedman (2014), and Weathers (2018); the following section is based primarily on the latter unless otherwise noted. Primary goals of the revision process were to maintain backward compatibility with prior iterations of PTSD, while addressing criticisms and incorporating evolving evidence on the construct. In this revision process, the *DSM-5* Trauma and Stressor-Related Disorder Sub-Workgroup adopted a conservative approach, in which any revision or addition was made under a preponderance of evidence, yet employed a broad approach to symptom criteria. This contrasts with the *ICD-11* narrow approach, which additionally did not require as high a burden of evidence (Friedman, 2014).

DSM-5 PTSD retained all 17 symptoms from *DSM-IV*, some of which were revised, while splitting Criterion C (i.e., avoidance and numbing) into two separate clusters: the new Criterion C (i.e., avoidance) and Criterion D (i.e., negative alterations in cognition and mood), the latter of which included previous numbing symptoms, to a new negative alterations in cognition and mood category. This new category also included three new symptoms: (a) posttrauma cognitions (e.g., blame), (b) persistent negative emotional state (e.g., fear, shame); and (c) reckless or self-destructive behavior (APA, 2013). Additionally, a new “Trauma and Stressor-Related Disorders” chapter was created, which included PTSD and other trauma-related disorders, formally in the “Anxiety Disorders” chapter in *DSM-IV*. Finally, two subtypes were

delineated: a dissociative subtype and a preschool subtype. Despite these changes, *DSM-5* PTSD maintains backward compatibility with earlier iterations of PTSD, from *DSM-III* (1980) onward.

CPTSD Non-Inclusion in DSM-5 (2013)

Though CPTSD was considered for *DSM-5*, the sub-workgroup did not find sufficient evidence from field trials (e.g., Regier et al., 2013) to support its inclusion as a distinct diagnostic category at the time, noting similarities with PTSD (e.g., Regier et al., 2013; Friedman et al., 2011; Resick, 2012; as reviewed in Friedman, 2014). Conversely, other authors have provided evidence that PTSD, CPTSD, and borderline personality disorder are distinct classes (e.g., Cloitre et al., 2013; see CPTSD in *ICD-11*, below). Sar (2011) argued for its inclusion as a PTSD subtype (Friedman, 2013). Instead, similar to *DSM-IV* and *DSM-IV-TR*'s handling of DESNOS, CPTSD was included in part through *Associated Features Supporting Diagnosis* section:

Following prolonged repeated and severe traumatic events (e.g., childhood abuse, torture), the individual may additionally experience difficulties in regulating emotions or maintaining stable interpersonal relationships, or dissociative symptoms. (APA, 2013, p. 276)

Moreover, the addition of new symptoms of PTSD (e.g., externalizing symptoms) and the new dissociative subtype, can be seen as elements of CPTSD included in *DSM-5*, leading some to call the *DSM-5* PTSD conceptualization “DESNOS-ish” (Friedman, 2013).

Criticisms of DSM-5 PTSD

Multiple criticisms have been raised in response to the *DSM-5* revision (e.g., Brewin, 2013; Maercker, & Perkonig, 2013). One of the most prominent criticisms centers on the overlap between the symptoms of PTSD and other disorders (e.g., negative alterations in

cognition and mood with depression), which some investigators argue are nonspecific symptoms that increase rates of comorbidity (Brewin et al., 2009; Brewin, 2013). Likewise, some have argued that the broad approach of *DSM-5* allows for too much heterogeneity, with Galatzer-Levy and Bryant (2013) noting 636,120 possible combinations of *DSM-5* PTSD symptoms. In response to these criticisms, researchers have noted that despite its heterogeneity, PTSD had one of the highest inter-rater reliabilities ($\kappa = .67$) among psychiatric conditions in *DSM-5* field trials (Regier et al., 2013). Additionally, although this degree of heterogeneity is mathematically plausible, actual heterogeneity seen in clinical practice may be far less variable, and others have noted that the heterogeneity of PTSD does not call into question its validity (Young & Breslau, 2016). Nonetheless, the criticisms are still pertinent, and were part of the basis for the *ICD-11* PTSD revision.

PTSD in ICD-11 (2019)

ICD-11's narrow approach to PTSD aimed to distill symptoms to those core to the disorder or the those with the most discriminant validity (Maercker et al. 2013a; Weathers, 2018). This narrowing of PTSD is in line with the goal of the *ICD-11* as a whole to improve clinical utility (Brewin, 2013; Reed, 2010; see Shelvin, 2018 for a review). This is accomplished in part through eliminating non-specific symptoms to reduce heterogeneity and thereby comorbidity, in turn preventing "unwarranted PTSD diagnoses" (Maercker et al., 2013, p. 204). The latter point can be interpreted as aiming to reduce prevalence, or improve specificity over sensitivity—which in turn may affect prevalence. The *ICD-11* revision also aimed to address concerns about overuse of the PTSD diagnosis, particularly in humanitarian settings (e.g., with refugees whose normative "reactions to extreme circumstances may be misdiagnosed as PTSD;" Maercker et al., 2013a, p. 198; Wisco et al., 2016, 2017).

The most notable difference between *ICD-11* and *DSM-5* is the exclusion of negative alterations in cognition and mood, considered by *ICD-11* to be nonspecific and overlapping with other disorders (e.g., depression), and thus contributing to high rates of comorbidity (e.g., Maercker et al., 2013a). Another key difference is in *ICD-11*'s conceptualization of reexperiencing, which emphasizes reexperiencing the trauma as if it were occurring *in the present*, through “*vivid* intrusive memories, flashbacks, or nightmares” (World Health Organization, 2019; emphasis added). Likewise, the International Trauma Questionnaire (ITQ; Cloitre et al., 2018), the accompanying measure of *ICD-11* PTSD and complex PTSD, specifies two symptoms for this category:

- (a) having upsetting dreams that replay part of the experience or are clearly related to the experience, and (b) having powerful images or memories that sometimes come into your mind in which you feel the experience is *happening again in the here and now* (Cloitre et al., 2018, p. 11, emphasis added).

The critical point here is that *ICD-11* specifies that the reexperiencing must feel as though it is occurring *in the present* (World Health Organization, 2019; emphasis added), indicating a required element of dissociation. This specifier stands in contrast to *DSM-5* PTSD. Although *DSM-5* includes dissociative reactions such as flashbacks that would be experienced as occurring in the present, *DSM-5* also includes non-dissociative forms of reexperiencing, such as intrusive memories, and reactions to trauma reminders that are not specified as occurring vividly or in the present (APA, 2013). Because dissociative reactions such as flashbacks are low base rate symptoms of PTSD, requiring these symptoms for diagnosis may in turn affect prevalence and severity of the disorder (Shevlin, Hyland, Vallières, et al., 2018; see Prevalence, below).

CPTSD in ICD-11 (2019)

The inclusion of CPTSD as a separate diagnosis from PTSD in *ICD-11* was a milestone for the field and was supported by latent profile analyses that found CPTSD to be a distinct entity from PTSD and borderline personality disorder (Cloitre et al., 2013). Much like the narrow approach to PTSD criteria, and consistent with *ICD-11* recommendations as a whole (e.g., Reed, 2010), *ICD-11* provides a narrow definition of CPTSD, which stems from a larger historical construct, as previously discussed. The core symptom clusters of CPTSD presented in *ICD-11* include: (a) affect dysregulation, (b) negative self-concept, and (c) disturbances in relationships, which together comprise “disturbances in self-organization” (DSO; e.g., Cloitre et al., 2018).

These six symptoms were chosen based on the frequency and impairment from symptoms, as noted by both patients and expert clinicians (Cloitre et al., 2011; Shevlin, Hyland, Roberts et al., 2018), and further grounded in *DSM-IV* field trials of DESNOS (e.g., van der Kolk et al., 2005). The criteria therefore exclude other CPTSD symptoms that were part of Herman’s original conceptualization, such as dissociation (Herman, 1992). Moreover, a distinct difference between *ICD-11* CPTSD and earlier conceptualizations is the requirement that all diagnostic criteria for PTSD are met in order to meet criteria for CPTSD. However, as mentioned earlier, it should further be noted that *ICD-11* requires that an individual cannot be diagnosed with both CPTSD and PTSD (Brewin, 2020). Additionally, although *ICD-11* notes that CPTSD often follows prolonged or repetitive trauma from which escape is impossible (*cf.* Herman, 1992), it does not require it, thereby allowing for single-event traumas as the index event for diagnosis.

Criticisms of ICD-11 PTSD and CPTSD

An open question in the literature is whether *ICD-11* selected the correct symptoms in its narrowing of PTSD criteria. This is an essential issue because the selection of symptoms has

significant implications for construct validity, assessment, and diagnosis. A key criticism of *ICD-11* PTSD is that by eliminating nonspecific or overlapping symptoms (e.g., negative alterations in cognition and mood), it omits core symptoms of the disorder. Supporting this criticism, network analyses have demonstrated that *ICD-11* PTSD includes only three of the six symptoms central to the network (Cero & Kilpatrick, 2020; Mitchell et al., 2017). Central symptoms excluded from *ICD-11* were (a) intrusive thoughts and memories, (b) negative mood, and (c) anhedonia (Mitchell et al., 2017). It should be noted that although *ICD-11* includes intrusive memories as a reexperiencing symptom, it is distinct from the *DSM-5* intrusive thoughts and memories, as it is specified as “in the present” and “vivid,” suggesting that their conceptualization of memories is more akin to flashbacks, as previously discussed. Further, symptoms of negative alterations in cognition and mood, which *ICD-11* eliminated due to concerns of symptom overlap, were some of the most central to the network (Cero & Kilpatrick, 2020). Further supporting this, item response theory analysis demonstrated that dysphoria symptoms (i.e., symptoms of negative alternations in cognition and mood) were some of the most discriminating (Silverstein et al., 2020). These findings suggest that the *ICD-11* conceptualization of PTSD may be too narrow, excluding central and discriminating PTSD symptoms, which has important implications, as discussed in the next chapter.

Chapter 4: Implications of *ICD-11* and *DSM-5* Conceptualizations

Subsequent research has begun to examine implications of *ICD-11* versus *DSM-5* conceptualizations of posttraumatic psychopathology. The following chapter reviews the literature on the implications of *ICD-11* revisions on prevalence, heterogeneity, and comorbidity.

Prevalence

PTSD. To date, most studies have found that PTSD prevalence is lower for *ICD-11* than for *DSM-5*, though prevalence varies as a function of the population examined. This difference has held across a number of trauma samples, including patients at a trauma clinic (79.8% vs. 90.4%; Hyland et al., 2018), veterans (e.g., 25.3% vs. 35.3%; Wisco et al., 2016; Wisco et al., 2017), internally displaced persons (21.0% vs. 27.4%; Shevlin, Hyland, Vallières, et al., 2018), and multiple trauma samples (22.6% vs. 30.4%; Hansen et al., 2015), as well as general samples, including a random hospital sample (3.3% vs. 6.7%; O'Donnell et al., 2014) and a community sample (2.4% vs. 3.7%; Wisco et al., 2016). In contrast, a multinational sample across 13 countries demonstrated a negligible difference between *ICD-11* (3.2%) and *DSM-5* (3.0%; Stein et al., 2014). Likewise, there was not a significant difference between *ICD-11* and *DSM-5* within adolescent survivors of a terrorist attack (9.8% vs. 11.1%); for their parents, however, *ICD-11* resulted in a significantly lower prevalence of PTSD (3.0% vs. 6.4%; Hafstad et al., 2017).

For comparison, *DSM-5* reports a lifetime prevalence rate of 8.7% (Kessler et al. 2005a), and a yearly prevalence rate of 3.5% (Kessler et al., 2005b) in the United States, using *DSM-IV* criteria (as cited in APA, 2013). Likewise, a national estimate showed a lifetime *DSM-5* PTSD prevalence of 8.3%, with a 3.8% and 4.7% prevalence for past year and past 6-month, respectively (Kilpatrick et al., 2013). Interestingly, Hyland et al. (2016) found that when the *ICD-11* “recurrent nightmares” criterion was substituted with “recurrent thoughts/memories,”

rates of *ICD-11* and *DSM-5* were no longer disparate, which points to the restrictive nature of *ICD-11*'s reexperiencing criterion (see O'Donnell et al., 2014 and Shelvin et al., 2018, below).

CPTSD. Prevalence of CPTSD has been found to differ as a function of the population in which it is examined, with CPTSD tending to be less prevalent than PTSD in community settings, and more prevalent than PTSD in clinical and highly traumatized populations. For example, in a U.S.-based nationally representative sample, there was a small difference in lifetime prevalence, with 3.4% for *ICD-11* PTSD and 3.8% for *ICD-11* CPTSD (7.2% combined prevalence; Cloitre et al., 2019). In a nationally representative sample from Israel, there was a larger difference in prevalence of PTSD (9.0%) and CPTSD (2.6%; Ben-Ezra et al., 2018). Conversely, in a sample of non-institutionalized Irish adults, prevalence rates of CPTSD (7.7%) were greater than that of PTSD (5.0%; Hyland et al., 2021). Likewise, in a trauma center sample, prevalence rates were 90.4% *DSM-5* PTSD compared to 79.8% *ICD-11* PTSD and CPTSD, $z = 2.14$, $SE = 0.05$, $p = .016$, where the majority of individuals met the diagnostic criteria for CPTSD (62.5%) as compared to PTSD (17.3%; Hyland et al., 2018).

Previous research, therefore, largely demonstrates that *ICD-11* criteria produce lower prevalence relative to *DSM-5*. However, although *ICD-11* reduces PTSD prevalence and thereby potentially minimizes “unwarranted” PTSD diagnoses (Maercker et al., 2013), the narrowing of symptomatology in turn omits some individuals with clinically significant PTSD symptoms (Wisco et al., 2016, 2017). Further, diagnostic discordance between the two systems is a concern, with a substantial proportion (62.5%) of individuals meeting criteria for only one system (Wisco et al., 2016). Additionally, it has been argued that in narrowing PTSD criteria, and thus requiring symptoms with low base rates (e.g., flashbacks, nightmares; O'Donnell et al., 2014), *ICD-11* essentially raises the threshold for PTSD and creates a more severe PTSD, which, despite

lowering prevalence, may hold implications for associated comorbidity as well (Shevlin, Hyland, Vallières, et al., 2018).

Comorbidity of PTSD and CPTSD

PTSD. Research findings on comorbidity across *ICD-11* and *DSM-5* are less consistent. While some have found that *ICD-11* reduces comorbidity (Morina et al., 2014; Stein et al., 2014), others have found no significant difference (Green et al., 2017; Hansen et al., 2015; Morina et al., 2014; Wisco et al., 2016; Wisco et al., 2017). Further, comorbidity with some disorders, such as alcohol abuse/dependence was significantly greater in *ICD-11* (as compared to *DSM-IV*; Wisco et al., 2016). Likewise, comorbidity with disorders such as anxiety and depression in addition to disability (e.g., impairment in self-care, household activities) was found to be significantly higher in *ICD-11* versus *DSM-5* (Shevlin, Hyland, Vallières, et al., 2018). This is understandable given that, as previously noted, *ICD-11* can be thought of as creating a more severe disorder by narrowing criteria to rely more heavily on less prevalent symptoms (e.g., flashbacks), and it might reasonably be expected that a more severe disorder would be associated with greater comorbidity and disability (Shelvin et al., 2018). Taken together, results of existing comorbidity literature are indeterminate and suggest continued comorbidity research is warranted.

CPTSD. Some authors have examined comorbidity profiles across PTSD and CPTSD. For example, Hyland et al. (2018) examined clinical and behavioral correlates across the two disorders, finding more comorbidity in CPTSD than PTSD (e.g., dissociation, depression, self-harm). Likewise, in a U.S. nationally representative sample, CPTSD was associated with greater comorbidity and lower well-being than PTSD (Cloitre et al., 2019). Likewise, Karatzias et al. (2019) examined comorbidity with major depressive disorder, generalized anxiety disorder,

alcohol use disorder, suicidality, and chronic illness, and found that those who met for CPTSD criteria were more likely to meet for all other conditions, while those meeting PTSD criteria were more likely to meet for all other conditions except chronic illness. A unique risk factor for CPTSD distinct from PTSD was the presence of interpersonal trauma (Karatzias et al., 2019), which is consistent with conceptualizations of CPTSD (e.g., Herman, 1992). Previous research, therefore, demonstrates CPTSD as having more comorbidity than PTSD, lending credit to its merit as a distinct disorder.

Measurement. A final question that remains unexamined in the literature regards differing research methods of establishing *ICD-11* PTSD status. Specifically, literature to date on *ICD-11* versus *DSM-5* PTSD prevalence and comorbidity follows two differing methods of establishing diagnostic status for *ICD-11* PTSD: (a) extracting *ICD-11* PTSD symptoms from *DSM-5* PTSD questionnaires such as the PTSD Checklist for *DSM-5* (PCL-5; Weathers et al., 2013), primarily out of necessity prior to the publication of *ICD-11* and the development of the dedicated *ICD-11* measure, the ITQ; and (b) establishing *ICD-11* PTSD diagnosis directly from the ITQ. For example, of the research findings reviewed above, some utilized the ITQ (e.g., Ben-Ezra et al., 2018; Cloitre et al., 2019; Hyland et al., 2018; Stein et al., 2018 [preliminary stage ITQ]), while others extracted *ICD-11* PTSD symptoms from *DSM-5* measures (e.g., Hafstad et al., 2017; Hansen et al., 2015; Stein et al., 2014; Wisco et al., 2016, 2017).

It has been argued that semantic differences between *DSM-5* measures and *ICD-11* measures could influence findings such as prevalence, indicating that research conducted prior to the development of the ITQ may not accurately reflect *ICD-11* constructs. However, it remains unclear whether slight semantic differences in the *ICD-11* ITQ and *DSM-5* measures such as the PCL-5 may or may not impact prevalence and comorbidity findings, and whether results from

studies using these two methods can be compared. See Appendix B for a comparison of the language between the PCL-5 and the ITQ. Though semantic differences appear slight, it is important to statistically evaluate the effect of these two methods of determining *ICD-11* PTSD, in order to inform interpretation of findings to date. To the author's knowledge, no studies to date have directly compared these two methods of deriving *ICD-11* PTSD. It is therefore important to evaluate the concordance of *ICD-11* diagnoses derived from *DSM-5* based measures (e.g., the PCL-5) as compared to those derived from *ICD-11* based measure (i.e., the ITQ), as the results hold implications for the interpretation of prior literature and guide future research.

Chapter 5: Present Study

As the preceding discussion has illustrated, a number of questions remain in the *ICD-11* versus *DSM-5* literature. Previous research on the impact of *ICD-11* and *DSM-5* revisions is mixed, suggesting that further study is warranted. Comorbidity research specifically has been varied in findings and been limited in breadth, with depression being a major focus (e.g., Morina et al., 2014), due in part to the ongoing debate regarding nonspecific symptoms and negative alterations in cognition and mood (Friedman, 2014). That said, some research has examined a broader scope of comorbidity between *DSM-5* and *ICD-11*, such as that with social phobia, drug use disorders, and alcohol use disorders (Wisco et al., 2017). As a whole, however, the literature lacks research on broadband comorbidity with *ICD-11* versus *DSM-5* PTSD. Therefore, additional work employing such scope is warranted.

Moreover, research on prevalence should continue to be replicated in additional samples, particularly employing the ITQ, as some prior research on the impact of *ICD-11* diagnoses was undertaken prior to the development and publication of the ITQ, and therefore derived *ICD-11* diagnoses from existing measures rather than an *ICD-11*-specific measure. This leads to an additional question examined in the present research, namely, the effect of differing methods of deriving *ICD-11* PTSD diagnostic status. Additionally, although some *ICD-11* prevalence research has been conducted in the U.S. (e.g., Cloitre et al., 2019), the majority of work to date has been in European samples; therefore, it is important for this to be replicated in additional U.S. samples.

Aims, Hypotheses, and Research Questions

Given the aforementioned gaps in the literature and areas to be replicated and expanded on, the present study aimed to further evaluate comorbidity, prevalence, and measurement of

ICD-11 and *DSM-5* PTSD and CPTSD across two studies. Specifically, the first aim was to replicate previous research on prevalence, utilizing two methods of deriving *ICD-11* PTSD (i.e., in Study 1, extracted from PCL-5; in Study 2, derived from ITQ). The second aim was to expand comorbidity findings by employing a broadband, continuous measure of comorbidity (i.e., the Personality Assessment Inventory; Morey, 1991) and utilizing profile analysis. A sub-aim of this was to examine the comorbidity of CPTSD as compared to PTSD, potentially lending further credit to its distinctness as a diagnosis (Cloitre et al., 2013). Additionally, this sub-aim sought to further examine whether the comorbidity of CPTSD may be more akin to *DSM-5* PTSD than *ICD-11* PTSD, if *DSM-5* PTSD is really “DESNOS-ish” (Friedman, 2013) and subsumes CPTSD. Finally, the third aim, for Study 2 only, was to compare methods of deriving *ICD-11* PTSD from: (a) the *ICD-11*-specific ITQ versus (b) items extracted from a *DSM-5* specific measure (i.e., the PCL-5).

Overall, the present study extends and improves on prior prevalence literature by utilizing the ITQ and a U.S.-based sample and on prior comorbidity literature by employing a measure of broadband comorbidity (see Measures, below). Moreover, the examination of comorbidity of CPTSD compared to PTSD further aims to distinguish it from PTSD, potentially supporting previous latent class analysis research (e.g., Cloitre et al., 2013). Finally, the goal of comparing methods of deriving *ICD-11* PTSD contributes to the literature in a novel manner through informing interpretation prior findings, particularly those published prior to the development and publication of the ITQ and/or during *ICD-11* proposals.

Specific hypotheses derived from empirical findings, or exploratory questions where literature is less definitive, are as follows, organized by the aims addressed:

1. **Prevalence aim:** Examine prevalence rates of *DSM-5* PTSD and *ICD-11* PTSD and CPTSD, derived from each diagnosis' respective measure (i.e., PCL-5 and ITQ):
 - a. H1: Rates of *ICD-11* PTSD will be lower than those *DSM-5* PTSD.
 - b. Q1: How many of those diagnosed by each respective system will also meet diagnosis by the other system?
 - c. Q2: How will CPTSD prevalence compare to PTSD prevalence?
 - d. Q3: How might CPTSD prevalence be affected by requiring the trauma criteria to be prolonged (i.e., as in Herman's original conceptualization) or allowed to be a single event (i.e., as allowed by the *ICD-11* criteria)?
2. **Comorbidity aim:** Compare comorbidity across *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD:
 - a. Q4: How does the pattern of comorbidity compare across the two systems?
 - b. Q5: How does the comorbidity of CPTSD differ from *ICD-11* PTSD and *DSM-5* PTSD? Is its comorbidity more akin to *DSM-5* PTSD than *ICD-11* PTSD?
 - c. Q6: Will the comorbidity of *ICD-11* PTSD be less than that of *DSM-5* PTSD as the *ICD-11* revision aimed?
 - d. Q7: Do the additional 13 or 14 symptoms from *DSM-5* not included in *ICD-11* exist as "comorbidity" with the *ICD-11* diagnosis?
3. **Measurement aim:** Examine the impact of differing methods of deriving *ICD-11* PTSD (i.e., from the *ICD-11*-dedicated ITQ versus from items extracted from *DSM-5*-specific measures such as the PCL-5):
 - a. Q8: What is the diagnostic agreement between *ICD-11* PTSD derived from these two methods?

- b. Q9: Will *ICD-11* PTSD prevalence differ between these two measurement methods (Sample 1 and 2)?
- c. Q10: Will *ICD-11* PTSD comorbidity differ between these two measurement methods (Sample 1 and 2)?
- d. Q11: Does diagnostic agreement, prevalence, and/or comorbidity differ by the PCL-5 item selected for the ITQ vivid memories item that seems to be a combination of the *DSM-5* flashbacks and intrusive memories criteria (i.e., selected PCL-5 flashbacks item vs. memories item)?

Chapter 6: Study 1

Method

Participants

Participants were 2280 undergraduates from a large southeastern university who provided informed consent and completed an online survey battery comprising questionnaire measures of trauma exposure, symptoms of PTSD, and comorbid psychopathology (see Measures below). All study activities were approved by the university's institutional review board. Of the original sample, 1141 (50.04%) were excluded on the basis of their index event not meeting Criterion A status (see Procedure below for a description of the Criterion A coding scheme), or on the basis of missing large portions of data. This left 1139 participants exposed to Criterion A traumas. Further, 201 (17.65%) of these participants were excluded from data analyses for reasons of invalid responding on the PAI (see Inclusion and Exclusion Criteria, below). This left a final sample of 938. The most prevalent trauma types endorsed in this sample included transportation accident, suicide, and sexual assault. See Table 1 for additional demographic information.

Measures

PTSD Checklist for *DSM-5*. The PTSD Checklist for *DSM-5* (PCL-5; Weathers et al., 2013) is a 20-item measure of *DSM-5* PTSD symptoms. Participants rate how much they have been bothered by each symptom in the past month on a Likert-like scale from 0 (*Not at all*) to 4 (*Extremely*), and the PCL-5 provides a total severity score (0–80). The PCL-5 exhibits strong psychometric properties, including internal consistency ($\alpha = .94$), test-retest reliability ($r = .82$), and convergent ($r = .74-.85$) and discriminant ($r = .31-.60$) validity (Blevins et al., 2015).

Personality Assessment Inventory. The Personality Assessment Inventory (PAI; Morey, 1991) is a 344-item broadband measure of adult psychopathology normed on clinical and

community samples. It includes 22 non-overlapping scales on clinical constructs, treatment concerns (e.g., suicidal ideation; SUI), and interpersonal functioning, in addition to critical items and response validity scales. Clinical scales include: somatization (SOM), anxiety (ANX), anxiety related disorders (ARD; e.g., obsessive compulsive), depression (DEP), mania (MAN), paranoia (PAR), schizophrenia (SCZ), borderline features (BOD), antisocial features (ANT), alcohol problems (ALC), and drug problems (DRG), where *T* scores of 70 and above denote clinical significance. Participants rate how true each item is for them using four choices: F = *False, not at all true*; ST = *Slightly true*; MT = *Mainly true*; and VT = *Very true*. The PAI has demonstrated good internal reliability (.81 to .86), one-month test-retest reliability (.79 to .92), and convergent and discriminant validity with other clinical constructs (Morey, 2007).

Procedure

Inclusion and Exclusion Criteria. Participants were included in analyses if they met Criterion A status as outlined below. Additionally, participants were excluded from analyses due to indications of careless or inattentive responding. These included PAI validity indices Infrequency (INF) *T* scores above 75 (indicating that the PAI profile is invalid because the respondent did not attend properly to item content) and inconsistency *T* scores above 73 (indicating that the PAI profile is invalid because the respondent demonstrated inconsistent endorsement of similar items). Individuals missing these PAI validity indices scores due to large proportion of missing data on the PAI generally, were also excluded.

Criterion A Coding. First, syntax was created in SPSS (Version 26) to determine initial Criterion A status based on participant questionnaire responses. Participants indicated if they had experienced Criterion A events by self-selecting event type (e.g., sexual violence, transportation accident, learning about accidental or violent death), exposure type (i.e., experienced, witnessed,

learned about), and presence of threat, serious injury, or death. Following this, trained graduate student raters independently read participants' narratives described their index event and rated agreement or disagreement with syntax-identified Criterion A or non-Criterion A status, in addition to utilizing information from (a) label for index event, (b) exposure level (i.e., experienced, witnessed, learned about), (c) description of threat or injury, (d) how the death occurred if the individual learned about a death (e.g., accident or violence, natural causes), and (e) how they responded during the event or soon after. Raters also indicated the confidence in their ratings (i.e., high confidence, low confidence) based on available information in the written narrative (e.g., vague descriptions without key information to ascertain complete certainty about Criterion A status). Interrater agreement was 91% for Study 1, which is above the desired threshold of 80%. Disagreements were resolved through consensus discussion with the primary project mentor, an expert in the assessment of trauma exposure and PTSD. For the purposes of obtaining a sufficiently powered sample, participants with both high confidence and low confidence Criterion A ratings were retained in the final dataset.

Provisional PTSD Coding. Provisional *DSM-5* PTSD diagnoses were derived from PCL-5 scores, where an item score of *moderately* (2) or higher is considered endorsement of a symptom. Following the *DSM-5* algorithm, participants qualified for provisional *DSM-5* PTSD if they endorsed at least one Cluster B, one Cluster C, two Cluster D, and two Cluster E symptoms, given that all participants were exposed to Criterion A traumas.

Provisional *ICD-11* PTSD diagnosis was estimated following procedures similar to those in Kuester et al. (2017) and Haravuori et al. (2016), utilizing items from the PCL-5. The 6 items of the PCL-5 that align with *ICD-11* diagnostic criteria were considered endorsed if the item score was two or higher. Following the *ICD-11* algorithm, participants qualified for provisional

ICD-11 PTSD if they endorsed at least one reexperiencing (i.e., dreams, flashbacks), one avoidance symptom (i.e., internal avoidance, external avoidance), and one sense of threat (i.e., hypervigilance, startle) symptom.

Diagnostic Grouping. Following Wisco et al. (2016, 2017), participants were categorized into five diagnostic groups for analyses: (a) “all *ICD-11*” (i.e., those meeting *ICD-11* criteria, regardless of also meeting for *DSM-5*), (b) “all *DSM-5*” (i.e., those meeting *DSM-5* criteria, regardless of also meeting for *ICD-11*), (c) “*ICD-11* only” (i.e., those meeting *ICD-11* criteria but not *DSM-5*), (d) “*DSM-5* only” (i.e., those meeting *DSM-5* criteria but not *ICD-11*), and (e) “*ICD-11* and *DSM-5*” (i.e., those meeting for both *ICD-11* and *DSM-5* criteria). Table 2 presents PCL-5 means across these five groups.

Data Analytic Strategy

Data analyses were conducted using SPSS (Version 26). The proportion of missing data was small (< 5%). Additionally, data was missing completely at random (MCAR) according to Little’s MCAR tests in Study 1, $\chi^2(199) = 185.02, p = .75$, $\chi^2(399) = 437.70, p = .09$. Given that this amount and type of missing data is likely inconsequential (Schafer, 1999), data was handled using SPSS’s default deletion of cases for each analysis (e.g., pairwise, listwise) with missing data on the dependent variable.

The first part of the data analytic strategy replicated Wisco et al. (2016, 2017) and Green et al. (2017). Specifically, prevalence was reported as a proportion of the total sample, and prevalence rates were statistically compared utilizing McNemar’s test on all *ICD-11* and all *DSM-5* groups. Comorbidities were reported for each group, while statistical analyses comparing comorbidities between groups (i.e., profile analysis, chi-square) were conducted between non-overlapping groups (i.e., all *ICD-11*, *DSM-5* only) following Wisco et al. (2016, 2017). Chi-

square analyses were used to compare the frequency of clinically significant PAI scales ($T > 70$) between groups.

In the second part of the data analytic strategy, profile analysis was conducted to compare the PAI comorbidity in non-overlapping groups (i.e., all *ICD-11* and *DSM-5* only). Specifically, profile analysis was conducted using multivariate analysis of variance (MANOVA; e.g., Tabachnick & Fidell, 2013) to quantify the pattern across multiple dependent variables (i.e., SOM, ANX, ARD, DEP, MAN, PAR, SCZ, BOR, ANT, ALC, DRG, SUI) on one scale (i.e., PAI). The levels test was used to determine whether one group's mean *T* scores was higher or lower than the other group's overall mean scores across the PAI scales. This is visually depicted through a difference in vertical height between plotted group profiles. Second, the parallelism test analyzed if the groups had similar or different patterns of severity (i.e., highs and lows) across PAI scales, and is visually depicted through non-parallel plotted group profiles. Since a general departure from parallelism does not indicate where the differences are localized across the pattern of responses, follow-up one-way analysis of variance using two-tailed significance tests were conducted to determine which PAI mean *T* scores differed between groups.

Results

Prevalence

Frequencies and McNemar's test indicated that prevalence for *ICD-11* PTSD was lower than that of *DSM-5*, $p < .001$. Specifically, 13.4% of the full sample met *ICD-11* criteria ($n = 126$), whereas 17.6% met *DSM-5* criteria ($n = 165$).

Comorbidity

Mean PAI scores are provided in Table 3, and a graph of these means is provided in Figure 1. Frequencies of clinically significant elevations on PAI scales ($T > 70$) are provided in

Table 4. The profile analysis on PAI *T* scores between non-overlapping *DSM-5* PTSD and *ICD-11* PTSD groups did not reveal a significant levels test, $F(1, 158) = 0.002, p = .96$. Specifically, there was no overall difference across PAI *T* scores between the *DSM-5* PTSD group and the *ICD-11* PTSD group. However, the parallelism test was significant, $F(11, 148) = 2.17, p = .02, \Lambda = .86, \eta_p^2 = .14$, indicating a departure from parallelism. As shown in Table 5, follow-up analyses via *F* tests (Table 5) of pairwise comparisons at each PAI *T* score demonstrated that the only significant group difference was that the *ICD-11* PTSD group had higher *T* scores than *DSM-5* PTSD group on ARD. There was no significant difference between groups on ANX, DEP, MAN, PAR, SCZ, SOM, ALC, DRG, or SUI.

Additionally, chi-square tests revealed group differences in the rate of clinically significant comorbidities ($T > 70$) between non-overlapping *DSM-5* PTSD and *ICD-11* PTSD groups consistent with the profile analysis results. The *ICD-11* group had higher rates of ARD compared to the *DSM-5* group and no other differences. Follow-up analyses with the three subscales that comprise ARD, traumatic stress (ARD-T), phobias (ARD-P), and obsessive-compulsive (ARD-O), demonstrated that only rates of ARD-T were significantly between the *ICD-11* and *DSM-5* groups ($p = .01$). See Table 4 for rates of clinically significant ($T > 70$) *T*-scores across groups.

Discussion

The results of Study 1 support prior findings that demonstrated lower prevalence of provisional *ICD-11* PTSD relative to provisional *DSM-5* PTSD (e.g., Ben-Ezra et al., 2018; Cloitre et al., 2019). Comorbidity findings did not support lower comorbidity for provisional *ICD-11* PTSD compared to provisional *DSM-5* PTSD, with the exception of significantly higher comorbidity of *ICD-11* PTSD with ARD. Follow-up chi-square tests indicated that this

difference was likely driven by the traumatic stress subscale, not comorbid obsessive compulsive or phobia symptoms. These results suggested that provisional *ICD-11* PTSD and provisional *DSM-5* PTSD likely have comparable comorbidity.

Chapter 7: Study 2

Method

Participants

Participants were 449 undergraduates from a large southeastern university. As in Study 1, they provided informed consent and completed an online survey battery comprising questionnaire measures of trauma exposure, symptoms of PTSD, and comorbid psychopathology (see Measures below). As previously noted, all study activities were approved by the university's institutional review board. Of the original sample, 113 (25.17%) were excluded on the basis of their index event not meeting Criterion A status, as outlined in Study 1. This left 336 participants exposed to Criterion A traumas. Additionally, 90 (26.79%) of these participants were excluded from data analyses for reasons of invalid responding on the PAI (i.e., Infrequency T score > 75 and/or Inconsistency T score > 73); those who were missing these indices were excluded given that they were also missing large portions of other data. This left a final sample of 246. The most prevalent trauma types endorsed in this sample included sexual assault, transportation accident, and sudden unexpected death. See Table 1 for additional demographic information.

Measures

PTSD Checklist for *DSM-5* and Personality Assessment Inventory. Study 2 also included the PCL-5 and the PAI, described in Study 1.

International Trauma Questionnaire. The International Trauma Questionnaire (ITQ; Cloitre et al., 2018) is an 18-item measure of *ICD-11* PTSD and Disturbances in Self-Organization (DSO) symptoms used to assess CPTSD. It includes 6 items in 3 clusters for PTSD (avoidance, hyperarousal, and re-experiencing) along with 3 items of functional impairment, as well as 6 items in 3 clusters for DSO (interpersonal relationships, negative self-concept, and

affect dysregulation) along with 3 items for functional impairment. On the PTSD subscale, participants rate how much they have been bothered by symptoms and impairment in the past month on a Likert-like scale from 0 (*Not at all*) to 4 (*Extremely*). On the CPTSD subscale, participants rate how much each item is true of them on a Likert-like scale from 0 (*Not at all*) to 4 (*Extremely*). Initial studies support the psychometric properties of the ITQ, finding support for its reliability and convergent, concurrent, and discriminant validity (e.g., Ho et al., 2019; Hyland et al., 2017; Maercker et al. 2018; Karatzias et al., 2017).

Procedure

Inclusion and Exclusion Criteria. The same inclusion and exclusion criteria as outlined in Study 1 were utilized in Study 2.

Criterion A and Prolonged Trauma Coding. Criterion A was assessed by the same method described in Study 1. Interrater agreement was 88.72% for Study 2, which is above the desired threshold of 80%. Additionally, in order to examine the Study 2 research question regarding prevalence of CPTSD following prolonged versus non-prolonged traumas, cases were also coded for exposure to prolonged trauma, consistent with descriptions of traumas often precipitating CPTSD from Herman (1992) and the *ICD-11* (e.g., repeated abuse, captivity, torture). This was determined by reviewing the combination of written narratives indicating key words: (e.g., “multiple times,” “lost count,” “several times,” “repeatedly,” “routinely”), duration (e.g., “over several years,” “between age 5-8”) and verb tense (e.g., “would hurt”), in addition to self-selected trauma type, and the number of times participants self-reported the index event occurred (>1). Of note, separate traumas that occurred multiple times (e.g., being raped by two different people at different, unrelated times) and learning about prolonged trauma (e.g., learning about someone having been sexually abused) were not coded as prolonged trauma. Additionally,

combat experiences (besides those involving captivity or being taken a prisoner of war) were not coded as prolonged trauma. Of the Study 2 Criterion A sample of 336 participants, 23 met the above criteria for exposure to prolonged trauma, consisting primarily of prolonged interpersonal traumas such as sexual abuse and domestic violence.

Provisional PTSD Coding. For Study 2, three provisional diagnoses were derived in addition to *DSM-5* PTSD, which was derived from the PCL-5 as in Study 1, except that functional impairment endorsement from the ITQ was required for provisional *DSM-5* diagnosis. This additional requirement was included to account for this as a potential difference in rates between the *DSM-5* and *ICD-11*. Table 6 presents ITQ and PCL-5 means across *DSM-5* PTSD diagnoses derived from the PCL-5 with and without functional impairment, as compared to *ICD-11* PTSD derived from the ITQ. First, provisional *ICD-11* PTSD diagnosis was derived from the dedicated ITQ, where an item score of two (“moderately”) or higher is considered symptom endorsement. Following the *ICD-11* algorithm, participants met criteria for provisional *ICD-11* PTSD if they endorsed at least one reexperiencing, one avoidance, one sense of threat, and one functional impairment symptom on the ITQ.

Second, provisional CPTSD diagnosis was also derived from the ITQ, where an individual must meet criteria for PTSD, in addition to endorsement of at least one least of each disturbances in self-organization (DSO) cluster (i.e., affect dysregulation, negative self-content, relationship difficulties) and endorsement of at least one item of functional impairment related to CPTSD. Of note, traumatic exposures were not required to be prolonged or repetitive for CPTSD diagnosis, as *ICD-11* does not require this. Finally, for the measurement aim, provisional *ICD-11* PTSD diagnosis was also estimated from PCL-5 items using the same method as Study 1, without functional impairment so as to mirror the literature to date for this aim.

Diagnostic Grouping. The same five diagnostic groups considered in Study 1 were created again for Study 2, with the “all *ICD-11*,” “*ICD-11* only,” and “*DSM-5* and *ICD-11*” being further subdivided into *ICD-11* PTSD and CPTSD. Table 7 presents PCL-5 means across these five groups and Table 8 presented the ITQ scores.

Data Analytic Strategy

The same missing data strategy as outlined in Study 1 was utilized in Study 2 given that the proportion of missing data was small (< 5%) and missing completely at random (MCAR) according to Little’s MCAR tests, $\chi^2(1833) = 701.40, p = 1.00$.

Study 2 utilized the data analytic plan outlined in Study 1, including assessing prevalence between all *ICD-11* PTSD and CPTSD and all *DSM-5* PTSD using McNemar’s test and comorbidity between non-overlapping diagnostic groups (i.e., all *ICD-11* PTSD and CPTSD, *DSM-5* PTSD only) using profile analysis with both PAI and PCL-5 scores as dependent variables. Study 2 also included analyses addressing the measurement aim, which compared prevalence and comorbidity analyses between two groups of participants with provisional *ICD-11* PTSD derived from different self-report instruments (i.e., dedicated ITQ vs. estimated from PCL-5). Lastly, Study 2 also examined prevalence rates of *ICD-11* CPTSD when requiring prolonged index trauma vs single event traumas.

Results

Prevalence

Frequencies and McNemar’s test indicated that prevalence for *ICD-11* PTSD was lower than that of *DSM-5*, $p < .001$. Specifically, 4.9% of the full sample met *ICD-11* criteria ($n = 12$), while 13.9% met *DSM-5* criteria ($n = 34$). An additional 4.9% of individuals ($n = 12$) met for *ICD-11* CPTSD, with the overall prevalence for *ICD-11* diagnoses was 9.8% ($n = 24$).

McNemar's test revealed that this combined *ICD-11* prevalence was not significantly different from *DSM-5* PTSD, $p = .09$. Likewise, Frequencies and McNemar's tests indicated that prevalence for *ICD-11* CPTSD (4.9%, $n = 12$) was not significantly different than *ICD-11* PTSD, though it was significantly less than the prevalence of *DSM-5* PTSD, $p < .001$. CPTSD prevalence did not significantly differ between those indicating a prolonged trauma as their index event (0.8%, $n = 2$) versus a single event trauma (4.1%, $n = 10$).

Diagnostic agreement between *ICD-11* and *DSM-5* PTSD was poor, $\kappa = .12$, while diagnostic agreement between *ICD-11* CPTSD and *DSM-5* PTSD was fair, $\kappa = .23$. Specifically, frequencies revealed that 6.1% of the total sample met diagnostic criteria for both *DSM-5* and *ICD-11*. While 14.2% of the total sample met *DSM-5* PTSD criteria, 8.2% of the total sample met for *DSM-5* PTSD criteria but not *ICD-11* criteria. Of the 9.8% of the total sample that met for *ICD-11* PTSD or CPTSD, 3.6% of the total sample met for *ICD-11* but not also *DSM-5* PTSD criteria. That is, 25% of those who met for *ICD-11* CPTSD did not also meet for *DSM-5* PTSD, 50% of those who met for *ICD-11* PTSD did not also meet for *DSM-5* PTSD, and 57.14% of those who met for *DSM-5* PTSD did not also meet for *ICD-11* PTSD. Despite this, PCL-5 total scores suggested that even those who met criteria for one system but not the other had clinically significant PTSD symptoms (see Table 8). See Figure 2 for a Venn Diagram displaying the overlap between those diagnosed according to each respective system.

Comorbidity

Profile Analyses. See Table 9 for PAI T scores across all, including overlapping, diagnostic groups, and Table 10 for rates of clinically significant ($T > 70$) T scores across these groups. The results of the profile analysis on PAI T scores between non-overlapping groups of *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD revealed a significant levels test, $F(2, 33) =$

6.10, $p = .006$, $\eta_p^2 = .27$. Specifically, there was an overall difference across PAI T scores between the *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD groups (see Figure 3 for plot; see Table 9 for group means). However, the parallelism test was non-significant, $F(22, 46) = 1.66$, $p = .07$, Wilks $\Lambda = .31$, $\eta_p^2 = .44$, indicating that groups did not depart from parallelism.

Follow-up analyses via F tests (Table 11) of pairwise comparisons at each PAI T score demonstrated significant differences between *DSM-5* PTSD and *ICD-11* PTSD groups on ANX, ANX, DEP, MAN, SCZ, BOR, and SUI, where *DSM-5* PTSD was higher than *ICD-11* PTSD all of these scales. Between *ICD-11* CPTSD and *DSM-5* PTSD, there was a significant difference only on ARD, with *ICD-11* CPTSD significantly higher than *DSM-5* PTSD. Finally, between *ICD-11* PTSD and *ICD-11* CPTSD there was a significant difference on ANX, ARD, DEP, MAN, SCZ, BOR, and SUI, with *ICD-11* CPTSD higher than *ICD-11* PTSD on all of these scales.

See Table 8 for PCL scores across all, including overlapping, diagnostic groups. The second profile analysis on PCL item scores between non-overlapping groups of *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD revealed a significant levels test $F(2, 40) = 3.67$, $p = .04$, $\eta_p^2 = .38$. Specifically, there was an overall difference across PCL item scores between *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD groups (see Figure 4 for plot; see Table 8 for group means). However, the parallelism test was non-significant, $F(38, 44) = 0.72$, $p = .85$, Wilks $\Lambda = .38$, $\eta_p^2 = .38$, indicating that groups did not depart from parallelism.

Follow-up analyses via F tests (Table 12) of pairwise comparisons at each PCL-5 item demonstrated significant differences between *DSM-5* PTSD and *ICD-11* PTSD groups on just one item, PCL 11 (negative feelings), where *DSM-5* was significantly higher than *ICD-11* PTSD. Between *ICD-11* CPTSD and *DSM-5* PTSD, there was a significant difference on PCL 3

(flashbacks), PCL 13 (feeling distant from others), and PCL 16 (risky behavior), with *ICD-11* CPTSD being higher than *DSM-5* PTSD. Finally, between *ICD-11* PTSD and *ICD-11* CPTSD there was a significant difference on PCL 9 (negative beliefs), PCL 11 (negative feelings), PCL 12 (loss of interest), PCL 14 (anhedonia), PCL 15 (irritability), and PCL 19 (concentration difficulty), with *ICD-11* CPTSD higher than *ICD-11* PTSD on all of these scales.

Chi-Square Analyses. Additionally, chi-square tests revealed some group differences in the rate of clinically significant comorbidities ($T > 70$) between non-overlapping *DSM-5* PTSD, *ICD-11* PTSD, and *ICD-11* CPTSD groups. Similar to the profile analysis, there were significant differences in rates of between *ICD-11* PTSD, *ICD-11* CPTSD, and *DSM-5* PTSD on ANX, DEP, and SCZ. There were no significant differences in rates of SUI, SOM, ARD, MAN, APR, BOR, ANT, ALC, or DRG. See Table 10 for rates of clinically significant ($T > 70$) T-scores across groups.

Measurement

Cohen's kappa revealed poor diagnostic agreement between *ICD-11* PTSD derived from the ITQ and *ICD-11* PTSD estimated from the PCL-5. Diagnostic agreement did not differ between *ICD-11* PTSD estimated from the PCL-5 when utilizing the PCL-5 "flashbacks" ($\kappa = .13$) or "memories" ($\kappa = .16$) items to estimate ITQ Item 2 (i.e., powerful images or memories in which the event feels as though it is happening again in the here-and-now). At the item level, correlations between ITQ items and corresponding PCL-5 items revealed significant correlations between all item pairs, with moderate to high associations ($r = .41-.73$). The ITQ "powerful images/memories in the here-and-now" item showed similar association with the PCL-5 "flashbacks" item (.41) and the PCL-5 "memories" item (.43). Item-level diagnostic agreement between ITQ and PCL-5 item pairs demonstrated fair to moderate agreement ($\kappa = .23-.60$). The

ITQ “powerful images/memories in the here-and-now” item showed similar agreement with the PCL-5 “flashbacks” item (.23) and “memories” item (.28), with this ITQ item showing the worst diagnostic agreement with the PCL-5 than the other items of the ITQ (.42–.60).

There was a significant difference between the rate of *ICD-11* PTSD estimated from the PCL-5 (10.6%) as compared to the rate of *ICD-11* derived from the ITQ (4.9%). This difference was even greater when estimating *ICD-11* PTSD from the PCL-5 when utilizing the PCL memories item (14.7%) rather than the flashbacks item. Lastly, *ICD-11* PTSD derived from the ITQ had lower rates of comorbidity (i.e., as indicated by descriptive statistics) than *ICD-11* PTSD derived from the PCL-5. Of the two versions of *ICD-11* PTSD derived from the PCL-5, the diagnosis estimate using the PCL-5 flashbacks item had lower rates of comorbidity than that estimated using the memories item. See Table 13 for rates of clinically significant PAI comorbidities ($T > 70$) and mean PAI *T* scores between *ICD-11* PTSD measurement groups.

Discussion

The results of Study 2 supported prior findings that demonstrated lower prevalence of provisional *ICD-11* PTSD relative to provisional *DSM-5* PTSD (e.g., Ben-Ezra et al., 2018; Cloitre et al., 2019). Diagnostic agreement between the two systems was poor, with a large percentage of participants who met for one diagnostic system but not the other (i.e., despite mean PCL-5 scores above the threshold of clinical significance). Moreover, the prevalence of provisional *DSM-5* PTSD was similar to the combined prevalence of provisional *ICD-11* PTSD and CPTSD. Provisional *ICD-11* CPTSD and provisional *ICD-11* PTSD prevalence were similar and did not differ as a function of prolonged trauma versus single-event trauma.

Comorbidity findings from profile analyses on PAI *T* scores broadly suggested less comorbidity with provisional *ICD-11* PTSD than provisional *DSM-5* PTSD. Specifically,

participants with provisional *ICD-11* PTSD endorsed less ANX, ARD, DEP, MAN, SCZ, BOR, and SUI than participants with provisional *DSM-5* PTSD, largely supporting the *ICD-11* revision goal of reducing comorbidity. Findings from profile analyses on PCL-5 items indicated that participants with provisional *DSM-5* PTSD endorsed more negative feelings than participants with provisional *ICD-11* PTSD, which is consistent with *ICD-11*'s reduced emphasis on NACM symptoms. However, the overall lack of differences between these groups on 19 of the 20 PCL-5 items indicated that these *DSM-5* PTSD symptoms not included in the *ICD-11* diagnosis are likely still part of participants' experience. The question remains whether *ICD-11* PTSD eliminated PTSD symptoms or symptoms of depression and anxiety truly non-specific to PTSD.

There was higher endorsement of ARD and endorsement of three PCL-5 items (flashbacks, risky behavior, distance from others) for participants with provisional *ICD-11* CPTSD compared to provisional *DSM-5* PTSD. Given these few differences observed, provisional *DSM-5* PTSD appeared highly similar to provisional *ICD-11* CPTSD in the current study, consistent with Friedman's (2013) theory. Participants with provisional *ICD-11* CPTSD had more comorbidity (i.e., ANX, ARD, MAN, SCZ, BOR, and SUI) and PCL-5 item endorsement than provisional *ICD-11* PTSD, suggestive of a distinction between these two constructs. Overall, the profile of comorbidity seemed to suggest a possible spectrum of increasing severity across provisional *ICD-11* PTSD, *DSM-5* PTSD, and *ICD-11* CPTSD diagnoses.

Chapter 8: General Discussion

Across two studies, the present research examined the effect of disparate posttraumatic psychopathology criteria (i.e., *ICD-11* PTSD, *ICD-11* CPTSD, *DSM-5* PTSD) on prevalence and comorbidity. Additionally, this is the first known study to examine the impact of deriving provisional *ICD-11* PTSD status from different questionnaire measures (i.e., PCL-5 vs. ITQ).

Summary of Results & Comparison to Prior Literature

Prevalence

Regarding the prevalence aim, the present results corroborated a reduction in PTSD prevalence when using *ICD-11* compared to *DSM-5* in both Study 1 and Study 2, despite the use of different questionnaire measures to derive *ICD-11* provisional diagnosis. Broadly, this aligned with prior research that has largely found lower prevalence rates of *ICD-11* PTSD as compared to *DSM-5* PTSD (Ben-Ezra et al., 2018; Cloitre et al., 2019; Hansen et al., 2015; Hyland et al., 2018; O'Donnell et al., 2014; Shevlin, Hyland, Vallières, et al., 2018; Wisco et al., 2016; Wisco et al., 2017). In Study 2, the prevalence rate of provisional *ICD-11* CPTSD was the same as *ICD-11* PTSD and lower than *DSM-5* PTSD, suggesting that the *ICD-11* criteria may reduce PTSD prevalence by moving non-specific symptoms (e.g., NACM) from PTSD to CPTSD (e.g., Friedman, 2013). This finding is consistent with Cloitre et al. (2019) who found similar rates of *ICD-11* CPTSD and PTSD in a U.S.-based nationally representative sample, but inconsistent with other studies which found lower rates of CPTSD in community settings (e.g., Ben-Ezra et al., 2018) or higher rates of CPTSD in treatment-seeking samples (Hyland et al., 2018; Hyland et al., 2021).

In the present study, the prevalence of provisional *ICD-11* CPTSD was not affected by requiring prolonged versus single-event trauma, though this analysis was limited by the low

number of participants with prolonged trauma. This appears to support the *ICD-11* diagnostic criteria which does not require prolonged trauma for a diagnosis of CPTSD, but contrasts with the theorized etiology of CPTSD (Herman, 1992) and prior findings of increased risk for CPTSD following prolonged interpersonal traumas specifically (Karatzias et al., 2019). It is possible that this finding could also be accounted for by the differences in *ICD-11* CPTSD criteria compared to prior descriptions that provided more construct coverage (e.g., dissociation, self-harm, suicidal ideation; Cloitre et al., 2011; Herman, 1992; Luxenberg et al., 2001).

PTSD prevalence findings across the five diagnostic groups (i.e., all *ICD-11* PTSD, all *DSM-5* PTSD, *ICD-11* PTSD only, *DSM-5* PTSD only, *ICD-11* and *DSM-5* PTSD) showed that many participants diagnosed by one system would not meet for diagnoses in the other, aligning with Wisco et al. (2016, 2017). Moreover, this can be seen as consistent with the aims of the *ICD-11* workgroup to narrow the criteria to reduce “unwarranted PTSD diagnoses” (Maerker et al., 2013a). However, given that these participants still reported clinically significant levels of *DSM-5* PTSD symptoms on the PCL-5, this raises further concerns that the *ICD-11* diagnosis may leave out some individuals with clinically significant PTSD (e.g., Wisco et al., 2017), limiting access to treatment depending on the diagnostic system used.

Comorbidity

Regarding the comorbidity aim, *ICD-11* had lower comorbidity than *DSM-5* PTSD across a number of comorbidities in Study 2 (i.e., anxiety, anxiety related disorders, depression, mania, schizophrenia, borderline features, and suicidal ideation). These findings are consistent with Morina et al (2014) and Stein et al. (2014). Conversely, there was no evidence of broad comorbidity differences in Study 1, consistent with other literature (Green et al., 2017; Hansen et al., 2015; Hyland et al., 2021; Morina et al., 2014; Wisco et al., 2016; Wisco et al., 2017).

A goal of the *ICD-11* revision was to reduce the heterogeneity of the PTSD diagnosis by narrowing the criteria to core symptoms and eliminating non-specific symptoms (i.e., negative alterations in cognition and mood), thereby also reducing comorbidity (e.g., depression) and improving discriminant validity (Maercker et al., 2013a; Maercker et al., 2013b; Wisco et al., 2017). Reflecting on this goal, the findings of Study 2 indicated that using *ICD-11* compared to *DSM-5* reduced a wide range of comorbidities in addition to depression. However, the results of the Study 2 profile analysis comparing *ICD-11* and *DSM-5* PTSD groups across PCL-5 items indicated very few differences in reported symptoms (i.e., negative feelings), with this difference falling within negative alterations in cognition and mood. Although *ICD-11* does not include many *DSM-5* PTSD symptoms, it is possible that clinically significant distress related to these symptoms is the same for individuals with *ICD-11* and *DSM-5* PTSD, highlighting the futility of narrowing criteria to impact heterogeneity (Hyland et al., 2021).

Regarding CPTSD, Study 2 findings generally provided support for CPTSD as distinct from *ICD-11* PTSD and closely related to *DSM-5* PTSD (e.g., Friedman, 2013). Specifically, comorbidity findings demonstrated higher rates of comorbidity for *ICD-11* CPTSD than *ICD-11* PTSD, consistent with prior research (Cloitre et al., 2019; Hyland et al., 2018; Karatzias et al., 2019). Interestingly, *ICD-11* CPTSD demonstrated similar rates of comorbidity to *DSM-5* PTSD. Similarly, the PCL-5 profile analysis provided further support of the overlap between CPTSD and *DSM-5* PTSD, as CPTSD only differed from *DSM-5* PTSD on three symptoms (i.e., flashbacks, feeling distant from others, risky behaviors) but widely differed from *ICD-11* PTSD. One possible explanation for this is the inclusion of symptoms of dysphoria in the *ICD-11* CPTSD diagnosis that were excluded from the *ICD-11* PTSD diagnosis. Additionally, it aligns with previous suggestions that *DSM-5* may be “DESNOS-ish,” or in other words, already

adequately capturing CPTSD (Friedman, 2013).

As a whole, the difference in findings between Study 1 and 2 echo the discrepant comorbidity findings in the literature to date (e.g., Green et al., 2017; Hansen et al., 2015; Hyland et al., 2021; Stein et al., 2014). In addition, the comorbidity differences found in Study 2 raise concerns about the construct validity of PTSD across diagnostic systems, and raise the question of whether *ICD-11* and *DSM-5* are measuring the same construct.

Measurement

Prior to the development of the ITQ and while proposals for *ICD-11* revisions were ongoing, *ICD-11* PTSD was routinely estimated from *DSM*-based measures such as the PCL-5, leaving questions as to whether potential measurement differences affected findings. Specifically, between the PCL-5 and ITQ, there are slight differences in semantics describing two *ICD-11* PTSD symptoms (i.e., nightmares, flashbacks/memories), while the other four symptoms are highly similar or verbatim. Moreover, the ITQ includes functional impairment items, while the PCL-5 does not (i.e., despite both diagnostic systems requiring functional impairment). Directly examining the effects of measurement, the present study found that diagnostic agreement of *ICD-11* PTSD status derived from the ITQ vs the PCL-5 was poor, further supported by differences in prevalence and comorbidity between the two measurement methods. There was more correspondence between *ICD-11* PTSD derived from PCL-5 and ITQ when the PCL-5 item “flashbacks” was used compared to “intrusive memories.”

This finding is unsurprising, given the base rate of flashbacks (Hyland et al., 2016), as well the language used in the ITQ and *ICD-11* to describe reexperiencing symptoms, which can be thought of as combining flashbacks and memories into one symptom, though more akin to flashbacks. This finding also likely reflects the different requirements of *ICD-11*, including a

more restrictive reexperiencing criterion that requires more severe and dissociative-like symptoms (see O'Donnell et al., 2014 and Shelvin et al., 2018), and the ITQ requirement of at least one type of symptom-related functional impairment. Thus, it is possible that the lack of a functional impairment requirement when estimating *ICD-11* PTSD in Study 1 compared to Study 2 could account for the findings of no comorbidity differences between diagnostic groups. Overall, these findings suggested that the ITQ and PCL-5 may not be capturing the same construct of PTSD, particularly because the PCL-5 lacks measurement of functional impairment. Therefore, results suggest it is appropriate to recommend that future research should utilize the ITQ, and warrant caution in interpreting prior research that estimated *ICD-11* PTSD from *DSM-5* measures.

Limitations and Future Directions

A number of limitations of the present research exist. First, a limitation of Study 1 was estimating *ICD-11* PTSD from a *DSM-5* measure. As such, the diagnostic agreement results from the Study 2 measurement aim indicated that semantic differences between *DSM-*correspondent and *ICD-*correspondent measures and the inclusions of a functional impairment criteria may have influenced findings. Study 2 addressed this limitation by directly examining the effect of estimating *ICD-11* PTSD from the PCL-5 vs. the dedicated ITQ, as well as including the ITQ functional impairment criteria in PCL-5 derived PTSD status in all other comparative analyses. There is currently a lack of research in the field on the use and effect of functional impairment criteria, and future research should include explorations of the differences in clinical symptom profiles between individuals who do and do not endorse functional impairment due to PTSD symptoms. Moreover, psychometric work could be undertaken to examine the PCL-5 with and without functional impairment, given the requirement of

impairment in the *DSM-5*.

Second, an additional limitation was the small sample size in Study 2 which resulted in small *ICD-11* PTSD and CPTSD groups for primary analyses and low number of participants with prolonged trauma for secondary analysis. Moreover, the findings regarding prolonged trauma could be obscured by coding prolonged trauma exposure from the index event and self-report questions rather than a comprehensive trauma history (e.g., though an individual may have endorsed a single-event trauma as their index event that currently bothered them the most, they may still have had a history of prolonged trauma). As such, future directions include examining the impact of prolonged trauma exposure on the development of *DSM-5* PTSD and *ICD-11* CPTSD in larger samples and with comprehensive trauma assessment methods.

Third, utilization of two undergraduate samples for the present research may have impacted the generalizability of the findings, although this concern is mitigated somewhat by the high rate of Criterion A trauma exposure in the samples. Lastly, despite rigorous Criterion A coding, the use of self-report measures as compared to clinician-administered interviews may have affected the rate of diagnoses and the accuracy of the findings. Specifically, the validity of self-report measures may be affected by respondents' understanding of the functional link between PTSD symptoms and the trauma, their accurate recall and report of symptom severity and frequency, and response bias more broadly. These concerns can be mitigated through use of clinician-administered interviews. Given this, replication of the present study using measures such as the Clinician-Administered PTSD Scale for *DSM-5* (CAPS-5; Weathers et al., 2018) and International Trauma Interview (ITI; Roberts et al., 2019) is warranted.

Additional future directions indicated by the present study include using other statistical methodology to explore the relationships between *DSM-5* and *ICD-11* PTSD symptoms and

DSO symptoms, such as network analysis exploring associations between symptoms. Relatedly, continued construct validation of PTSD diagnoses obtained from different diagnostic systems is warranted, specifically quantifying convergent and discriminant relationships within clinical psychopathology more generally. Future research in this area is important to clarify whether *ICD-11* PTSD, CPTSD, and *DSM-5* PTSD are separate constructs, subtypes of one another, or different levels of severity of the same diagnosis.

Conclusion

This study contributed to the literature on the impact of the disparate *ICD-11* and *DSM-5* posttraumatic conceptualizations by empirically testing several reasons for and implications of discrepancy in PTSD diagnostic criteria. Broadly, the present findings suggest discrepancies in the coverage of constructs captured by *ICD-11* and *DSM-5* PTSD that affect diagnostic agreement, prevalence, and comorbidity. Additionally, the findings suggest *DSM-5* PTSD and *ICD-11* CPTSD are highly overlapping and as such, possibly not unique disorders. Lastly, this study highlighted several differences between *ICD-* and *DSM-*correspondent measures and implications of using the ITQ versus PCL-5 to assess *ICD-11* PTSD. Given these findings, revisions to diagnostic criteria may be warranted to enhance the diagnostic agreement between the two systems, in line with calls to reduce *ICD* and *DSM* discrepancies more broadly (First et al., 2021). Overall, the present research lends credit to concerns that others have noted regarding the stability of constructs across the two systems, thereby holding implications for assessment, diagnosis, and treatment in the lives of individuals.

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Table 1*Sample Demographics of Study 1 and Study 2 Participants Included in Analyses*

	Study 1	Study 2
<i>N</i>	938	246
Mean Age (<i>SD</i>)	19.82 (1.46)	19.80 (4.62)
Gender		
Woman/Female ^a	75.6%	82.5%
Man/Male	24.3%	16.2%
Non-binary/Fluid	–	0.8%
Race (%)		
White	89.9%	89.0%
Black	5.8%	5.7%
Asian	2.1%	5.7%
American Indian or Alaskan Native	0.5%	1.6%
Hispanic/Latino/Spanish Origin	–	4.1%
Middle Eastern/North African	–	0.8%
Native Hawaiian or Pacific Islander	0.2%	0.4%
Multiracial or other ^b	1.5%	–
Prefer not to answer	–	1.2%
Ethnicity (%)		
Hispanic/Latino	4.1%	4.1%

^a Study 2 utilized best practices for asking demographics questions (Hughes et al., 2016), in which participants are asked to write how they would currently describe their gender identity.

^b Study 2 allowed individuals to select as many identities as applied to them, and therefore a separate multiracial category was not needed.

Table 2*Means and Standard Deviations of PCL-5 Items and Total Score Across Groups in Study 1*

PCL-5 Item/Total	All DSM-5 n = 165	All ICD-11* n = 126	DSM-5 Only* n = 63	ICD-11 Only n = 24	DSM-5 & ICD-11 n = 102
1. Memories	2.42 (1.16)	2.64 (1.01)	1.78 (1.07)	1.92 (1.06)	2.81 (1.04)
2. Dreams	1.83 (1.36)	2.29 (1.15)	0.83 (1.06)	1.63 (0.97)	2.45 (1.14)
3. Flashbacks	1.65 (1.37)	2.21 (1.21)	0.41 (0.63)	1.29 (1.12)	2.42 (1.13)
4. Emotional reactions	2.96 (0.88)	2.98 (1.00)	2.57 (0.86)	2.04 (1.20)	3.21 (0.81)
5. Physical reactions	2.49 (1.15)	2.71 (1.13)	1.86 (1.06)	1.96 (1.23)	2.89 (1.03)
6. Internal avoidance	3.11 (0.88)	3.11 (0.96)	2.81 (0.91)	2.33 (1.13)	3.29 (0.82)
7. External avoidance	2.85 (1.14)	2.90 (1.12)	2.59 (1.21)	2.42 (1.25)	3.01 (1.07)
8. Amnesia	1.67 (1.48)	1.58 (1.45)	1.49 (1.48)	0.75 (1.03)	1.77 (1.47)
9. Negative beliefs	2.35 (1.34)	2.17 (1.47)	2.10 (1.25)	0.75 (0.85)	2.51 (1.38)
10. Blame	2.68 (1.32)	2.42 (1.53)	2.46 (1.26)	0.75 (1.03)	2.81 (1.04)
11. Negative feelings	2.97 (1.04)	2.87 (1.17)	2.56 (1.12)	1.38 (1.01)	3.23 (0.90)
12. Loss of interest	1.80 (1.42)	1.75 (1.43)	1.40 (1.37)	0.46 (0.59)	2.05 (1.40)
13. Feeling distant	2.20 (1.30)	1.95 (1.37)	2.03 (1.34)	0.46 (0.51)	2.30 (1.27)
14. Anhedonia	1.99 (1.34)	1.80 (1.39)	1.79 (1.32)	0.46 (0.59)	2.12 (1.35)
15. Irritability	1.59 (1.32)	1.55 (1.35)	1.33 (1.24)	0.67 (0.96)	1.75 (1.35)
16. Risk taking	1.10 (1.28)	1.07 (1.25)	0.84 (1.19)	0.29 (0.55)	1.25 (1.30)
17. Superalert	2.42 (1.36)	2.75 (1.13)	1.76 (1.40)	2.46 (0.88)	2.82 (1.17)
18. Easily startled	2.20 (1.38)	2.56 (1.23)	1.32 (1.23)	1.83 (1.31)	2.73 (1.16)
19. Concentration trouble	2.59 (1.22)	2.51 (1.31)	2.25 (1.28)	1.33 (1.34)	2.79 (1.14)
20. Sleep trouble	2.64 (1.19)	2.43 (1.35)	2.46 (1.26)	1.08 (1.38)	2.75 (1.14)
PCL-5 Total	45.45 (13.17)	46.21 (14.64)	36.62 (10.26)	26.25 (6.58)	50.90 (11.76)

* Indicates groups used in statistical comparison.

Table 3*PAI T-Score Means and Standard Deviations Across All Diagnostic Groups in Study 1*

Diagnosis	All DSM-5 PTSD n = 165		All ICD-11 PTSD* n = 126		DSM-5 PTSD Only* n = 63		ICD-11 Only n = 24		DSM-5 & ICD-11 PTSD n = 102	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Somatic Concerns	61.59	12.05	61.11	12.53	59.60	10.70	54.00	8.82	62.85	12.72
Anxiety	71.88	13.87	70.94	14.46	69.35	13.78	60.60	12.78	73.47	13.76
Anxiety Related Disorders	68.75	12.95	69.59	13.27	64.15	11.44	61.17	10.79	71.63	13.06
Depression	68.45	13.85	66.24	13.98	67.82	14.67	55.58	11.30	68.85	13.36
Mania	54.70	10.76	54.77	11.62	54.19	9.67	53.71	12.61	55.02	11.42
Paranoia	61.84	11.96	60.94	12.31	61.00	11.56	55.17	11.06	62.37	12.24
Schizophrenia	61.05	13.15	58.96	13.20	61.40	13.42	51.17	10.98	60.83	13.04
Borderline Features	66.43	11.03	65.46	11.84	65.47	10.66	58.92	12.13	67.04	11.26
Antisocial Features	56.25	12.05	56.39	12.57	54.69	11.45	52.96	13.06	57.21	12.37
Alcohol Problems	55.44	13.69	55.00	13.67	54.27	12.69	50.08	9.33	56.19	14.31
Drug Problems	54.28	12.72	53.39	11.83	54.69	12.83	50.58	6.50	54.06	12.72
Suicidal Ideation	62.88	17.19	60.37	17.59	63.06	15.29	50.21	8.49	62.76	8.34

* Indicates groups utilized in analyses.

Table 4*Rates of Clinically Significant PAI Scales ($T > 70$) Across All Diagnostic Groups in Study 1*

Diagnosis	All DSM-5 PTSD <i>n</i> = 165	All ICD-11 PTSD* <i>n</i> = 126	DSM-5 PTSD Only* <i>n</i> = 63	ICD-11 Only <i>n</i> = 24	DSM-5 & ICD-11 PTSD <i>n</i> = 102
Somatic Concerns	3.6%	2.6%	1.2%	0.2%	2.4%
Anxiety	8.9%	6.9%	2.6%	0.7%	6.3%
Anxiety Related Disorders	7.9%	6.7%	1.8%	0.7%	6.1%
Depression	7.2%	4.6%	2.9%	0.3%	4.2%
Mania	1.4%	1.3%	0.4%	0.3%	1.0%
Paranoia	3.6%	2.4%	1.3%	0.1%	2.3%
Schizophrenia	4.1%	2.6%	1.6%	0.1%	2.5%
Borderline Features	6.2%	4.7%	2.0%	0.4%	4.3%
Antisocial Features	2.2%	1.6%	0.8%	0.2%	1.4%
Alcohol Problems	3.1%	2.4%	1.0%	0.2%	2.2%
Drug Problems	1.5%	1.0%	0.5%	0.0%	1.0%
Suicidal Ideation	4.5%	3.2%	1.4%	0.1%	3.1%

* Indicates groups utilized in analyses.

Table 5*Profile Analysis Mean PAI Scale T Scores Across by Group in Study 1*

PAI Scale	<u>All ICD-11</u>		<u>DSM-5 Only</u>		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Somatic Concerns	60.89	12.09	59.75	10.64	0.35
Anxiety	70.81	14.59	68.54	13.39	0.93
Anxiety Related Disorders	69.70	13.39	63.75	11.90	7.76*
Depression	65.60	13.34	67.45	13.99	0.68
Mania	54.36	11.95	53.84	9.94	0.08
Paranoia	60.78	11.70	61.48	11.44	0.13
Schizophrenia	57.84	12.63	60.50	12.49	1.63
Borderline Features	65.60	11.48	65.18	10.07	0.05
Antisocial Features	55.69	12.30	54.96	11.87	0.13
Alcohol Problems	54.71	13.63	54.61	13.18	0.002
Drug Problems	53.33	12.11	54.64	13.17	0.40
Suicidal Ideation	59.71	17.17	63.50	15.57	1.89

Note. * $p < .05$

Table 6

ITQ and PCL-5 Means across PTSD with and without Functional Impairment in Study 2

	PCL-5 Total		ITQ PTSD Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
<i>DSM-5</i> PTSD without Functional Impairment ^a	43.65 †	13.37	13.20	5.94
<i>DSM-5</i> PTSD with Functional Impairment	46.20	13.47	13.94	6.27
<i>ICD-11</i> PTSD with Functional Impairment ^b	33.75	16.83	16.50	3.71

Note. The range of the PTSD Checklist for *DSM-5* (PCL-5) scores is 0 to 80, and the range of the International Trauma Questionnaire (ITQ) PTSD subscale scores is computed without the functional impairment items and ranges from 0 to 24.

^a This is the standard PCL-5, which does not include an explicit measure of functional impairment.

^b This is the standard ITQ, which includes an explicit measure of functional impairment.

Table 7

ITQ Means and Standard Deviations Across Overlapping and Nonoverlapping Groups in Study 2

	All DSM-5	All ICD-11*	DSM-5 Only*	ICD-11 Only	DSM-5 & ICD-11		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>		
		PTSD	CPTSD		PTSD	CPTSD	
Total ITQ PTSD score	13.94 (6.27)	16.50 (3.71)	18.58 (4.17)	9.90 (4.58)	14.83 (2.79)	14.00 (3.46)	19.33 (3.54)
1. Dreams	1.69 (1.45)	2.50 (1.31)	2.09 (1.44)	1.00 (1.12)	2.00 (1.41)	1.33 (1.15)	2.60 (1.35)
2. Images/memories in here and now	1.91 (1.67)	2.92 (1.08)	3.25 (0.87)	0.85 (1.23)	2.67 (1.03)	2.67 (0.58)	3.33 (0.98)
3. Internal avoidance	2.46 (1.38)	3.00 (0.60)	3.00 (1.13)	1.85 (1.39)	2.83 (0.75)	2.00 (0.00)	3.27 (0.88)
4. External avoidance	2.49 (1.40)	2.92 (0.90)	3.25 (1.22)	1.90 (1.33)	2.67 (1.03)	3.00 (1.00)	3.27 (1.10)
5. Superalert	2.94 (1.21)	2.83 (0.83)	3.75 (0.62)	2.45 (1.28)	2.67 (0.82)	3.00 (1.00)	2.60 (0.74)
6. Easily startled	2.46 (1.42)	2.33 (1.43)	3.25 (1.22)	1.85 (1.42)	2.00 (1.67)	2.00 (2.00)	3.27 (0.96)
7. Affected relationships †	2.69 (1.16)	2.75 (1.22)	2.83 (1.19)	2.35 (1.18)	2.67 (1.21)	1.33 (1.15)	3.13 (0.99)
8. Affected work	2.03 (1.50)	1.83 (1.47)	2.58 (1.44)	1.55 (1.43)	1.50 (1.52)	1.33 (1.15)	2.67 (1.40)
9. Affected other important parts of life	2.31 (1.47)	2.08 (1.44)	3.08 (1.31)	1.85 (1.35)	1.67 (1.37)	2.67 (1.15)	2.93 (1.44)
Total ITQ DSO Score	12.77 (5.63)	8.75 (2.99)	17.17 (4.45)	12.00 (5.25)	9.00 (2.61)	16.67 (4.16)	13.80 (6.13)
1. Long time to calm	2.40 (0.91)	1.67 (0.98)	2.75 (0.75)	2.45 (0.94)	1.50 (1.05)	3.00 (1.00)	2.33 (0.90)
2. Numb/shut down	1.97 (1.31)	1.83 (1.19)	2.83 (1.27)	1.80 (1.24)	2.33 (1.21)	3.00 (1.00)	2.20 (1.42)
3. Feel like a failure	2.14 (1.33)	1.00 (0.85)	3.08 (0.90)	1.95 (1.28)	0.83 (0.75)	2.67 (0.58)	2.40 (1.40)
4. Feel worthless	1.89 (1.30)	0.83 (0.94)	2.92 (0.90)	1.65 (1.18)	0.67 (0.82)	2.67 (0.58)	2.20 (1.42)
5. Feel distant	2.29 (1.30)	1.75 (1.22)	3.00 (1.04)	2.10 (1.25)	1.67(1.03)	3.00 (1.00)	2.53 (1.36)
6. Difficulty with emotional closeness	2.09 (1.52)	1.67 (1.07)	2.58 (1.31)	2.05 (1.57)	2.00 (0.89)	2.33 (0.58)	2.13 (1.51)
7. Distress about relationships †	2.29 (1.36)	1.83 (1.34)	3.08 (1.00)	2.05 (1.28)	1.83 (0.98)	3.00 (1.00)	2.60 (1.45)
8. Affected work	1.66 (1.39)	0.92 (1.16)	2.58 (1.08)	1.45 (1.36)	1.17 (1.47)	2.00 (1.00)	1.93 (1.44)
9. Affected other important parts of life	1.94 (1.37)	1.58 (1.38)	2.67 (0.89)	1.65 (1.35)	1.50 (1.22)	2.33 (0.58)	2.33 (1.35)

Note. $N_{\text{all DSM-5 PTSD}} = 35$, $N_{\text{all ICD-11 PTSD}} = 12$, $N_{\text{all ICD-11 CPTSD}} = 12$, $N_{\text{DSM-5 PTSD only}} = 20$, $N_{\text{ICD-11 PTSD only}} = 6$, $N_{\text{ICD-11 CPTSD only}} = 3$, $N_{\text{DSM-5 & ICD-11}} = 15$.

† Items 7–9 of each subscale of the ITQ are impairment items. * Indicates groups utilized in analyses.

Table 8*PCL-5 Means and Standard Deviations Across Overlapping and Nonoverlapping Groups in Study 2*

PCL-5	All DSM-5	All ICD-11*		DSM-5 Only*	ICD-11 Only		DSM-5 & ICD-11
	<i>M (SD)</i>	<i>M (SD)</i>		<i>M (SD)</i>	<i>M (SD)</i>		<i>M (SD)</i>
		PTSD	CPTSD		PTSD	CPTSD	
Total PCL-5 Score	46.20 (13.47)	33.75 (15.83)	50.75 (22.47)	38.85 (9.48)	19.83 (8.86)	18.33 (15.89)	56.00 (11.77)
1. Memories	2.43 (1.22)	2.08 (1.31)	2.50 (1.38)	2.00 (1.21)	1.17 (0.98)	1.00 (1.00)	3.00 (1.00)
2. Dreams	1.77 (1.44)	1.92 (1.56)	1.83 (1.59)	1.25 (1.16)	1.00 (1.10)	0.67 (1.15)	2.47 (1.51)
3. Flashbacks	1.49 (1.40)	1.00 (1.35)	2.00 (1.60)	0.90 (1.07)	0.17 (0.41)	0.33 (0.58)	2.27 (1.44)
4. Emotional reactions	3.08 (0.92)	2.08 (1.44)	3.25 (1.36)	2.70 (0.92)	1.00 (1.10)	1.33 (1.53)	3.60 (0.63)
5. Physical reactions	2.20 (1.30)	1.83 (1.59)	2.33 (1.37)	1.65 (1.18)	0.67 (0.82)	0.67 (0.58)	2.93 (1.10)
6. Internal avoidance	3.11 (0.80)	2.42 (1.38)	3.08 (1.31)	2.75 (0.79)	1.33 (1.03)	1.33 (1.53)	3.60 (0.51)
7. External avoidance	2.71 (1.30)	2.08 (1.51)	2.58 (1.56)	2.25 (1.41)	0.83 (0.75)	0.33 (0.58)	3.33 (0.82)
8. Amnesia	1.46 (1.58)	1.17 (1.27)	1.50 (1.73)	1.20 (1.51)	0.67 (0.82)	0.33 (0.58)	1.80 (1.66)
9. Negative beliefs	2.60 (1.33)	1.75 (1.29)	2.92 (1.38)	2.30 (1.42)	1.17 (1.17)	1.33 (1.53)	3.00 (1.13)
10. Blame	2.69 (1.41)	1.92 (1.08)	2.83 (1.64)	2.50 (1.54)	1.50 (0.84)	1.33 (2.31)	2.93 (1.22)
11. Negative feelings	3.09 (0.98)	2.00 (1.13)	3.17 (1.34)	3.00 (1.03)	1.50 (1.05)	1.67 (2.09)	3.20 (0.94)
12. Loss of interest	1.71 (1.29)	0.67 (0.98)	1.92 (1.38)	1.53 (1.31)	0.17 (0.41)	0.33 (0.58)	1.93 (1.28)
13. Feeling distant	2.46 (1.38)	1.83 (1.40)	2.92 (1.24)	1.85 (1.42)	0.67 (0.52)	1.33 (1.15)	3.27 (0.80)
14. Anhedonia	2.11 (1.47)	1.08 (1.16)	2.67 (1.44)	1.65 (1.50)	0.33 (0.52)	0.67 (0.58)	2.73 (1.22)
15. Irritability	1.57 (1.17)	0.75 (0.97)	2.00 (1.35)	1.50 (1.10)	0.50 (0.55)	1.67 (2.08)	1.67 (1.29)
16. Risk taking	1.11 (1.43)	0.83 (1.34)	1.83 (1.64)	0.55 (1.00)	0.50 (1.22)	0.33 (0.58)	1.87 (1.60)
17. Superalert	2.97 (1.04)	2.25 (1.14)	2.92 (1.44)	2.90 (1.12)	2.00 (1.55)	1.33 (1.53)	3.06 (0.96)
18. Easily startled	2.40 (1.29)	2.00 (1.13)	2.58 (1.73)	2.05 (1.19)	1.67 (1.21)	0.67 (1.15)	2.87 (1.30)
19. Concentration trouble	2.51 (1.36)	1.83 (0.93)	3.08 (1.38)	2.00 (1.45)	1.33 (1.03)	1.00 (1.00)	3.20 (0.86)
20. Sleep trouble	2.77 (1.46)	2.25 (1.22)	2.83 (1.64)	2.40 (1.57)	1.67 (0.82)	0.67 (1.15)	3.27 (1.16)

Note. $N_{\text{all DSM-5 PTSD}} = 35$, $N_{\text{all ICD-11 PTSD}} = 12$, $N_{\text{all ICD-11 CPTSD}} = 12$, $N_{\text{DSM-5 PTSD only}} = 20$, $N_{\text{ICD-11 PTSD only}} = 6$, $N_{\text{ICD-11 CPTSD only}} = 3$, $N_{\text{DSM-5 & ICD-11}} = 15$. * Indicates groups utilized in analyses.

Table 9*PAI T-Score Means and Standard Deviations Across All Diagnostic Groups in Study 2*

PAI Scale	All DSM-5	All ICD-11*		DSM-5 Only*	ICD-11 Only		DSM-5 & ICD-11
	<i>M (SD)</i>	<i>M (SD)</i>		<i>M (SD)</i>	<i>M (SD)</i>		<i>M (SD)</i>
		PTSD	CPTSD		PTSD	CPTSD	
Somatic Concerns	61.00 (12.10)	54.25 (9.37)	66.08 (15.47)	60.65 (9.92)	54.17 (5.98)	65.67 (20.31)	61.47 (14.89)
Anxiety	74.81 (10.47)	65.55 (10.42)	77.50 (13.30)	74.58 (9.31)	62.80 (11.52)	70.00 (18.19)	75.13 (12.18)
Anxiety Rel. Disorders	69.00 (10.85)	59.09 (10.13)	75.50 (12.07)	67.65 (7.96)	57.50 (10.07)	64.00 (1.41)	70.93 (14.13)
Depression	72.97 (12.17)	61.50 (8.23)	79.17 (18.14)	73.17 (16.06)	62.67 (5.65)	73.67 (16.62)	72.73 (19.00)
Mania	54.55 (11.64)	47.58 (8.25)	55.67 (7.91)	57.11 (12.43)	51.00 (8.41)	53.67 (2.08)	51.47 (10.18)
Paranoia	63.97 (11.37)	62.58 (7.72)	65.17 (11.82)	63.63 (12.19)	63.67 (9.87)	61.67 (8.39)	64.40 (10.64)
Schizophrenia	61.36 (12.66)	52.25 (8.16)	67.75 (14.58)	60.67 (8.82)	54.67 (7.12)	59.67 (10.60)	62.20 (16.45)
Borderline Features	66.65 (11.88)	59.00 (8.15)	68.92 (12.87)	67.42 (10.86)	59.50 (7.66)	64.33 (9.50)	65.67 (13.37)
Antisocial Features	53.20 (13.92)	49.67 (5.31)	54.58 (13.52)	54.35 (15.02)	52.50 (4.97)	53.67 (6.66)	51.67 (12.66)
Alcohol Problems	51.37 (9.80)	50.27 (5.21)	52.17 (9.08)	50.85 (11.19)	51.60 (6.50)	46.67 (6.66)	52.07 (7.88)
Drug Problems	49.18 (9.65)	55.00 (8.33)	49.00 (7.51)	49.79 (11.53)	58.00 (8.85)	58.00 (3.46)	48.40 (6.90)
Suicidal Ideation	62.24 (17.96)	49.83 (8.54)	64.67 (19.14)	63.63 (17.66)	50.83 (11.53)	54.00 (7.00)	60.47 (18.81)

Note. $N_{\text{all DSM-5 PTSD}} = 35$, $N_{\text{all ICD-11 PTSD}} = 12$, $N_{\text{all ICD-11 CPTSD}} = 12$, $N_{\text{DSM-5 PTSD only}} = 20$, $N_{\text{ICD-11 PTSD only}} = 6$, $N_{\text{ICD-11 CPTSD only}} = 3$, $N_{\text{DSM-5 & ICD-11}} = 15$.

* Indicates non-overlapping groups statistically compared in analyses.

Table 10

Rates (%) of Clinically Significant PAI Scales ($T > 70$) Across All Diagnostic Groups in Study 2

Diagnosis	All DSM-5 PTSD	All ICD-11*		DSM-5 PTSD Only*	ICD-11 Only		DSM-5 & ICD-11 PTSD
		PTSD	CPTSD		PTSD	CPTSD	
Somatic Concerns	3.3%	0.4%	1.7%	1.7%	0.0%	0.4%	1.7%
Anxiety	9.7%	1.3%	1.3%	5.5%	0.4%	0.4%	4.2%
Anxiety Related Disorders	6.4%	0.9%	2.6%	3.4%	0.4%	0.0%	3.0%
Depression	7.1%	0.4%	2.9%	4.6%	0.0%	0.8%	2.5%
Mania	0.9%	0.0%	0.0%	0.9%	0.0%	0.0%	0.0%
Paranoia	4.2%	0.8%	1.7%	2.1%	0.4%	0.0%	2.1%
Schizophrenia	3.0%	0.0%	2.6%	0.8%	0.0%	0.4%	2.1%
Borderline Features	5.4%	0.8%	2.5%	2.9%	0.4%	0.4%	2.5%
Antisocial Features	1.7%	0.0%	0.8%	0.8%	0.0%	0.0%	0.8%
Alcohol Problems	0.8%	0.0%	0.4%	0.4%	0.0%	0.0%	0.4%
Drug Problems	0.4%	0.4%	0.0%	0.4%	0.4%	0.0%	0.0%
Suicidal Ideation	0.4%	0.4%	1.7%	2.1%	0.4%	0.0%	1.7%

Note. $N_{\text{all DSM-5 PTSD}} = 35$, $N_{\text{all ICD-11 PTSD}} = 12$, $N_{\text{all ICD-11 CPTSD}} = 12$, $N_{\text{DSM-5 PTSD only}} = 20$, $N_{\text{ICD-11 PTSD only}} = 6$, $N_{\text{ICD-11 CPTSD only}} = 3$, $N_{\text{DSM-5 & ICD-11}} = 15$.

* Indicates non-overlapping groups statistically compared in analyses.

Table 11*Profile Analysis Pairwise Comparisons of Mean PAI Scale T Scores in Study 2*

PAI Scale	All ICD-11 PTSD	DSM-5 PTSD Only	F	DSM-5 PTSD Only	All ICD-11 CPTSD	F	All ICD-11 CPTSD	All ICD-11 PTSD	F
Somatization	55.00	59.80	1.57	59.80	65.20	1.24	65.20	55.00	3.71
Anxiety	65.55	75.00	5.70*	75.00	77.30	0.25	77.30	65.55	5.06*
Anxiety Rel. Disorders	59.00	66.87	5.09*	66.87	75.50	0.04*	75.50	59.00	11.15*
Depression	61.00	71.33	4.27*	71.33	80.20	0.20	80.20	61.00	9.61*
Mania	46.45	57.73	6.73*	57.73	56.20	0.74	56.20	46.45	7.55*
Paranoia	60.91	63.47	0.41	63.47	66.50	0.55	66.50	60.91	1.94
Schizophrenia	51.64	62.27	11.46*	62.27	69.50	0.12	69.50	51.64	12.46*
Borderline Features	57.73	67.13	8.07*	67.13	70.40	0.45	70.40	57.73	8.45*
Antisocial Features	49.09	54.60	1.12	54.60	55.80	0.85	55.80	49.09	2.07
Alcohol Problems	50.27	51.20	0.60	51.20	52.20	0.83	52.20	50.27	0.34
Drug Problems	54.73	51.07	0.68	51.07	48.60	0.58	48.60	54.73	3.11
Suicidal Ideation	47.64	60.60	8.92*	60.60	66.90	0.36	66.90	47.64	9.85*

* $p \leq .05$

Table 12*Profile Analysis Pairwise Comparisons of PCL-5 Items Means in Study 2*

PCL Items	All ICD-11 PTSD	DSM-5 PTSD Only	F	DSM-5 PTSD Only	ICD-11 CPTSD	F	All ICD-11 PTSD	ICD-11 CPTSD	F
1. Memories	2.08	2.00	0.03	2.00	2.50	1.09	2.08	2.50	0.57
2. Dreams	1.92	1.21	2.04	1.21	1.83	1.57	1.92	1.83	0.02
3. Flashbacks	1.00	0.89	0.06	0.89	2.00	5.23*	1.00	2.00	2.75
4. Emotional reactions	2.08	2.63	1.72	2.63	3.25	2.35	2.08	3.25	4.16
5. Physical reactions	1.83	1.58	0.26	1.58	2.33	2.68	1.83	2.33	0.68
6. Internal avoidance	2.42	2.68	0.49	2.68	3.08	1.17	2.42	3.08	1.47
7. External avoidance	2.08	2.16	0.02	2.16	2.58	0.63	2.08	2.58	0.64
8. Amnesia	1.17	1.26	0.03	1.26	1.50	0.16	1.17	1.50	0.29
9. Negative beliefs	1.75	2.21	0.85	2.21	2.92	1.90	1.75	2.92	4.59*
10. Blame	1.92	2.63	2.12	2.63	2.83	0.13	1.92	2.83	2.61
11. Negative feelings	2.00	3.05	7.17*	3.05	3.17	0.07	2.00	3.17	5.34*
12. Loss of interest	0.67	1.53	3.81	1.53	1.92	0.63	0.67	1.92	6.53*
13. Feeling distant	1.83	1.84	0.00	1.84	2.92	4.44*	1.83	2.92	4.02
14. Anhedonia	1.08	1.58	0.94	1.58	2.67	3.99	1.08	2.67	8.81*
15. Irritability	0.75	1.42	3.11	1.42	2.00	1.76	0.75	2.00	6.82*
16. Risk taking	0.83	0.58	0.36	0.58	1.83	6.95*	0.83	1.83	2.68
17. Superalert	2.25	2.84	2.03	2.84	2.92	0.03	2.25	2.92	1.58
18. Easily startled	2.00	1.95	0.02	1.95	2.58	1.54	2.00	2.58	0.96
19. Concentration trouble	1.83	2.05	0.21	2.05	3.08	3.79	1.83	3.08	6.74*
20. Sleep trouble	2.25	2.32	0.02	2.32	2.83	0.77	2.25	2.83	0.98

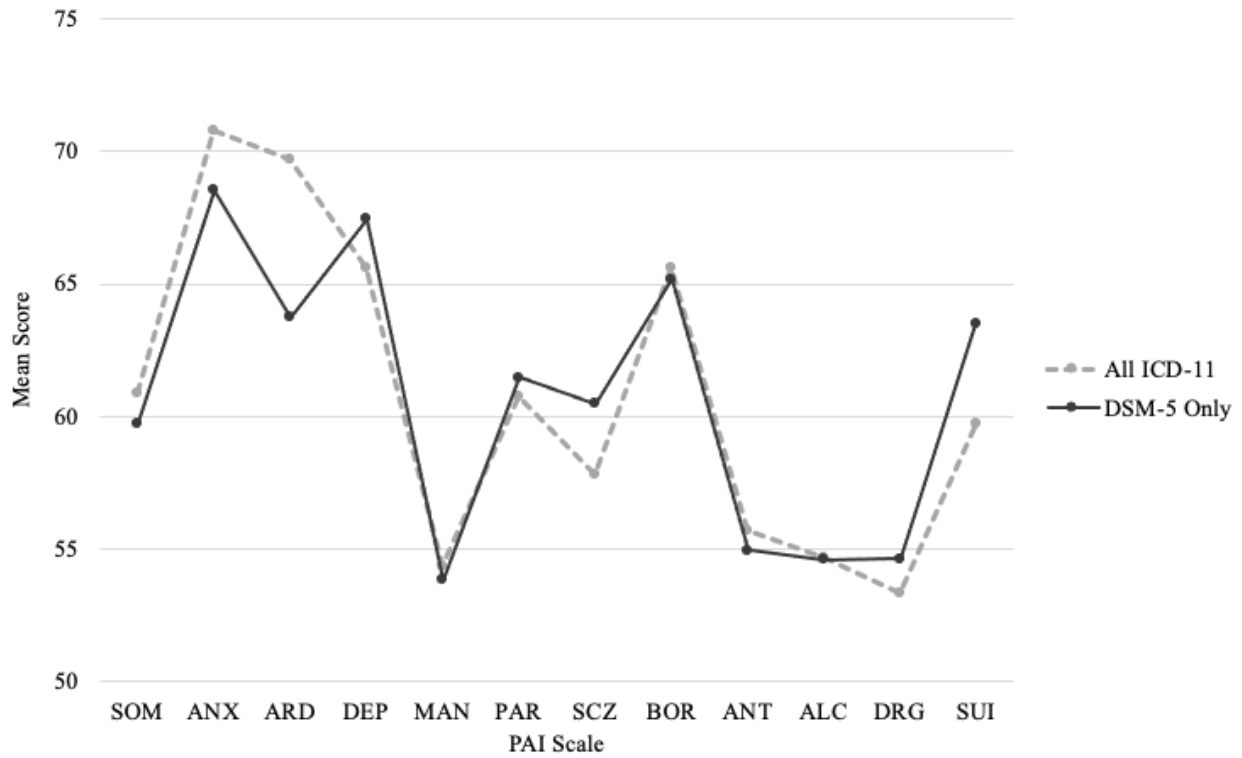
* $p < .05$

Table 13*PAI Means, Standard Deviations, and Rates of Clinically Significant Scales (T > 70) Across ICD-11 PTSD Measurement Methods*

PAI Scale	ITQ			PCL-5 (with flashbacks)			PCL-5 (with memories)		
	<i>M</i>	<i>SD</i>	% Clin. Sig.	<i>M</i>	<i>SD</i>	% Clin. Sig.	<i>M</i>	<i>SD</i>	% Clin. Sig.
Somatic Concerns	54.25	9.37	0.4%	55.61	11.13	1.3%	57.65	12.26	3.3%
Anxiety	65.55	10.42	1.3%	72.31	11.35	7.1%	71.12	10.91	8.8%
Anxiety Related Disorders	59.25	10.13	0.9%	65.67	12.13	4.3%	66.02	11.48	6.0%
Depression	61.50	8.23	0.4%	65.83	14.56	2.5%	66.65	15.74	4.6%
Mania	47.58	8.25	0.0%	53.75	11.63	10.4%	52.58	11.51	0.9%
Paranoia	62.58	7.72	0.8%	65.39	10.60	3.8%	62.88	11.50	3.8%
Schizophrenia	52.25	8.16	0.0%	56.93	13.41	2.1%	55.80	12.10	2.1%
Borderline Features	59.00	8.15	0.8%	61.53	12.82	2.5%	61.54	12.66	3.8%
Antisocial Features	49.67	5.31	0.0%	52.94	14.33	1.7%	51.21	13.47	1.7%
Alcohol Problems	50.27	5.22	0.0%	49.68	9.39	0.4%	50.77	9.24	0.4%
Drug Problems	55.00	8.33	0.4%	51.29	10.95	0.8%	50.38	10.17	0.8%
Suicidal Ideation	44.83	8.54	0.4%	55.77	11.53	1.6%	56.55	14.80	2.5%

Figure 1

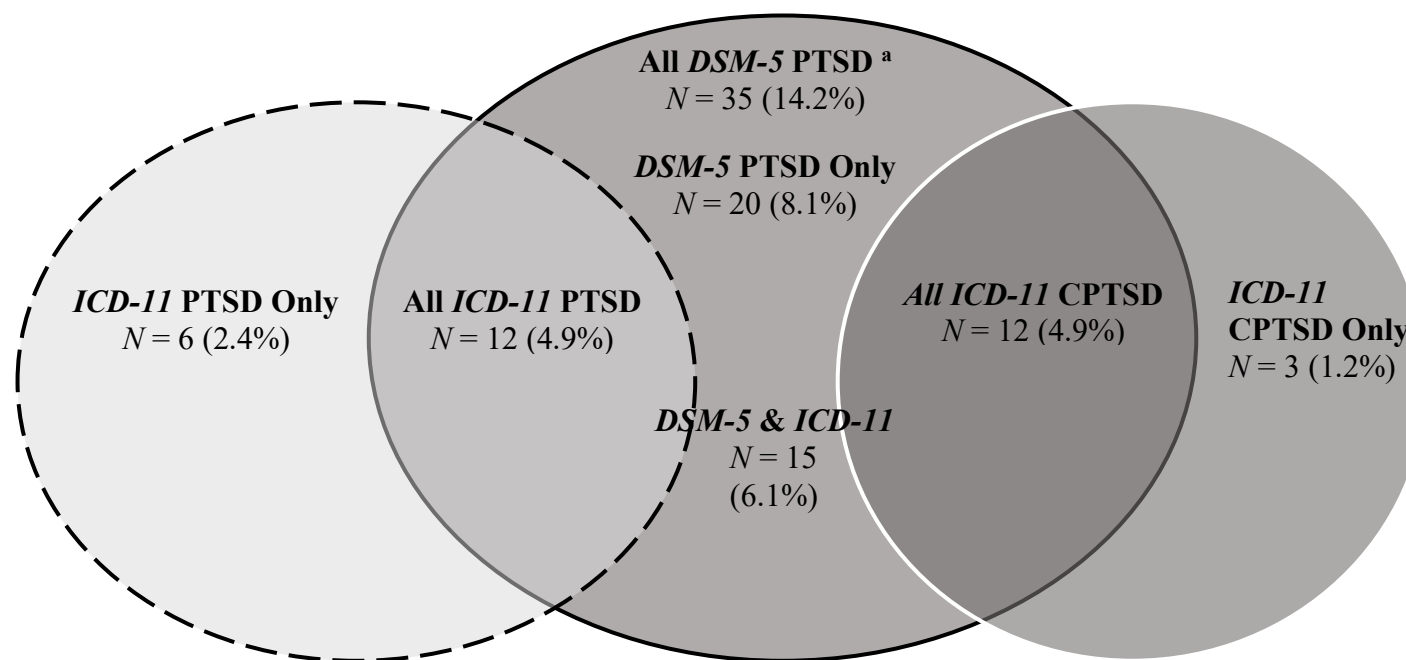
Profile Plot of PAI Scales by Diagnostic Group in Study 1



Note. $N_{all\ ICD-11} = 104$, $N_{DSM-5\ only} = 56$. PAI Scales: SOM = somatic concerns, ANX = anxiety, ARD = anxiety related disorders, DEP = depression, MAN = mania, PAR = paranoia, SCZ = schizophrenia, BOR = borderline features, ANT = antisocial features, ALC = alcohol problems, DRG = drug problems, SUI = suicidal ideation.

Figure 2

Venn Diagram Illustrating Concordance Between ICD-11 and DSM-5 Diagnoses in Study 2

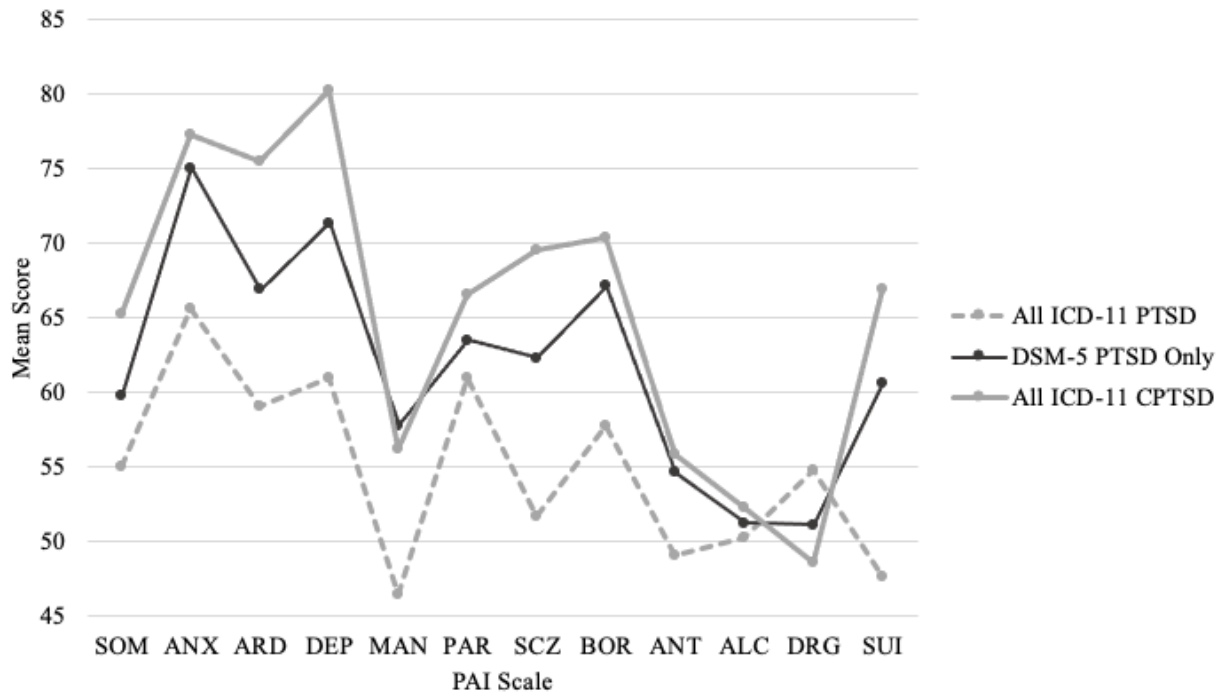


Note. Figure adapted from “Complex Trauma, PTSD and Complex PTSD in African Refugees,” by A. Barbieri, F. Visco-Comandini, D. Alunni Fegatelli, C. Schepisi, V. Russo, F. Calò, A. Dessì, G. Cannella, and A. Stellacci, 2019, *European Journal of Psychotraumatology*, 10(1), p. 7 (<https://doi.org/10.1080/20008198.2019.1700621>).

^a DSM-5 PTSD provisional diagnosis was computed with functional impairment as described in General Method.

Figure 3

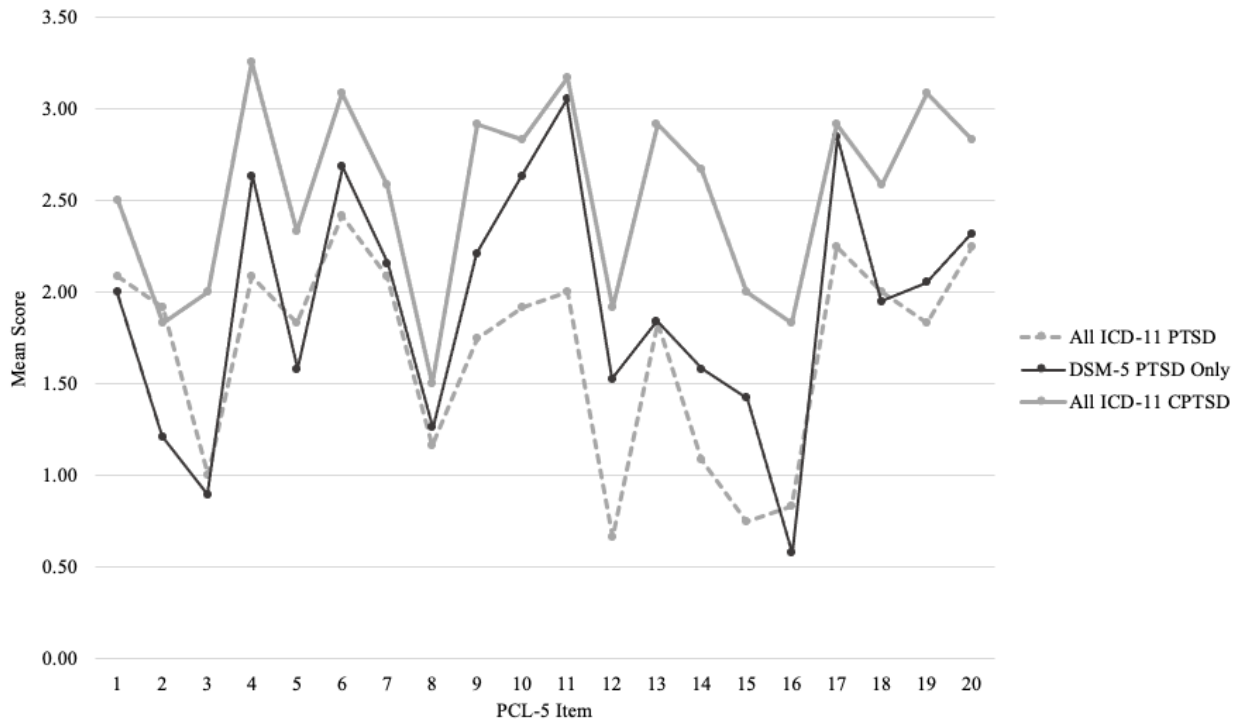
Profile Plot of PAI Scales by Diagnostic Group in Study 2



Note. $N_{\text{all ICD-11 PTSD}} = 11$, $N_{\text{DSM-5 only}} = 15$, $N_{\text{all ICD-11 CPTSD}} = 10$. PAI Scales: SOM = somatic concerns, ANX = anxiety, ARD = anxiety related disorders, DEP = depression, MAN = mania, PAR = paranoia, SCZ = schizophrenia, BOR = borderline features, ANT = antisocial features, ALC = alcohol problems, DRG = drug problems, SUI = suicidal ideation.

Figure 4

Profile Plot of PCL-5 Items by Diagnostic Group



Note. $N_{\text{all ICD-11 PTSD}} = 12$, $N_{\text{DSM-5 only}} = 19$, $N_{\text{all ICD-11 CPTSD}} = 12$. PCL-5 Items: 1 = intrusive memories, 2 = distressing dreams, 3 = flashbacks, 4 = cued psychological distress, 5 = physiological reactivity, 6 = internal avoidance, 7 = external avoidance, 8 = amnesia, 9 = negative beliefs, 10 = distorted cognitions, 11 = negative emotions, 12 = diminished interest, 13 = feeling detached from others, 14 = anhedonia, 15 = irritability, 16 = reckless or self-destructive behavior, 17 = hypervigilance, 18 = startle, 19 = concentration difficulties, 20 = sleep disturbance.

Appendix A

Evolution of PTSD Criteria Over Time

Symptom	<i>DSM-III</i>	<i>DSM-III-R</i>	<i>ICD-10</i>	<i>DSM-IV</i>	<i>DSM-5</i>	<i>ICD-11</i>
Intrusive memories	X	X	X	X	X	X [†]
Distressing dreams	X	X	X	X	X	X
Dissociative reactions (e.g., flashbacks)	X	X	X	X	X	X
Cued psychological distress	X	X		X	X	*
Physiological reactions		X		X	X	*
Internal avoidance		X		X	X	X
External avoidance	X	X	X	X	X	X
Amnesia		X		X	X	
Negative beliefs					X	
Distorted cognitions					X	
Sense of a foreshortened future		X		X		
Negative emotions					X	
Guilt (e.g., survivor guilt)	X					
Diminished interest	X	X		X	X	
Unresponsive to surroundings			X			
Feeling detached from others	X	X	X	X	X	
Anhedonia/constricted affect	X	X	X	X	X	
Irritability		X		X	X	
Reckless/self-destructive behavior					X	
Hypervigilance/hyperarousal	X	X	X	X	X	X
Startle	X	X	X	X	X	X
Concentration difficulties/memory impairment	X	X		X	X	
Sleep disturbance	X	X	X	X	X	
Depersonalization					X	
Derealization					X	

[†] The *ICD-11* criteria state “re-experiencing . . . in the present in the form of vivid intrusive memories, flashbacks or nightmares” (WHO, 2019), while the accompanying ITQ combines memories and flashbacks into one symptom “powerful images or memories . . . in which you feel the experience is happening again in the here and now” (Cloitre et al., 2018). Given the emphasis on “in the present” and “in the here and now,” it appears that the symptom is more akin to flashbacks than memories perse.

* Indicates symptoms suggested by *ICD-11* phrasing but not explicitly stated as symptoms. The *ICD-11* notes that “re-experiencing . . . is typically accompanied by strong or overwhelming emotions, particularly fear or horror, and strong physical sensations” (WHO, 2019).

Appendix B

Comparison of PCL-5 and ITQ Items

PCL-5 (Weathers et al., 2013)	ITQ (Cloitre et al., 2013)
1. Repeated, disturbing, and unwanted memories of the stressful experience?	
2. Repeated, disturbing dreams of the stressful experience? *	1. Having upsetting dreams that replay part of the experience or are clearly related to the experience?
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	2. Having powerful images or memories that sometimes come into your mind in which you feel the experience is happening again in the here and now?
4. Feeling very upset when something reminded you of the stressful experience?	
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	3. Avoiding internal reminders of the experience (for example, thoughts, feelings or physical sensations)?
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	4. Avoiding external reminders of the experience (for example, people, places, conversations, objects, activities or situations)?
8. Trouble remembering important parts of the stressful experience?	
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	
10. Blaming yourself or someone else for the stressful experience or what happened after it?	
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	
12. Loss of interest in activities that you used to enjoy?	
13. Feeling distant or cut off from other people?	
14. Trouble experiencing positive feelings (for example, being unable to feel happiness	

or have loving feelings for people close to you)?

15. Irritable behavior, angry outbursts, or acting aggressively?

16. Taking too many risks or doing things that could cause you harm?

17. Being “superalert” or watchful or on guard? 5. Being ‘super-alert’, watchful or on guard?

18. Feeling jumpy or easily startled? 6. Feeling jumpy or easily startled?

19. Having difficulty concentrating?

20. Trouble falling or staying asleep?

Note. Both measures are rated on a 0 (*Not at all*) to 4 (*Extremely*) Likert-type scale.

* PCL-5 items that have routinely been used to derived *ICD-11* PTSD are bolded (e.g., Kuester et al., 2017; Hickling et al., 2019; Haravuori et al., 2016).

** Only the PTSD subscale of the ITQ is included here, not the CPTSD subscale.