Forensic Assessment of PTSD Via DSM-5 Versus ICD-11 Criteria: Implications for Current Practice and Future Research

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Abstract

Recognition of the high prevalence of trauma exposure and posttraumatic stress symptoms among adult and youth offenders has inspired calls for justice systems to engage in trauma-informed practices, particularly with regard to the assessment of trauma histories and posttraumatic reactions in legal contexts. Accordingly, skills in trauma assessment have become essential professional competencies for those conducting psychological evaluations in the justice system. However, there are a number of challenges to effective practice, including the existence of two distinctly different sets of diagnostic criteria for posttraumatic stress disorder (PTSD) in the DSM-5 versus ICD-11; controversies over whether separate diagnostic entities comprising complex PTSD and developmental trauma disorder are valid; limitations of the existing measures for assessing and diagnosing the disorder(s); difficulties with differential diagnosis of overlapping disorders and detection of malingering; and limited attention to cultural, ethnic, and racial diversity in the idioms and expressions of posttraumatic stress reactions. The present article reviews these challenges and offers recommendations for future research and clinical practice.

Keywords Trauma · PTSD · Complex PTSD · Diagnosis · Assessment

Trauma exposure and posttraumatic stress reactions comprise forms of psychological injury that are very relevant to forensic contexts (Young, 2016). Approximately 75% of incarcerated adults report histories of trauma exposure, with even higher rates among women in the justice system, many of whom have experienced sexual assault in childhood or adulthood (see Allely & Allely, 2020). Among adolescent offenders, studies including large-scale samples find that between 80 and 98% report a history of trauma exposure, with rates of clinically significant posttraumatic stress symptoms (PTSS) found in approximately 30% of boys and 50% of girls (Kerig & Becker, 2012). Accordingly, it is not surprising that a disproportionately large number of justice-involved adults and youth meet criteria for a diagnosis of posttraumatic stress disorder (PTSD), especially among girls and women (Goff, Rose, Rose, & Purves, 2007; Kerig & Becker, 2012). Moreover, a wealth of research attests to the negative short- and long-term effects of trauma exposure and PTSS on behavioral and emotional health, particularly in regard to an increased likelihood of offending and recidivism among adults (Taylor et al., 2020) and adolescents (Becker & Kerig, 2011; Kerig & Becker, 2015). For example, prospective longitudinal research shows that childhood maltreatment is associated with a 59% increased likelihood of a juvenile arrest, a 28% increased probability of an adult arrest, and a 30% higher likelihood of violent crime perpetration (Widom, 2017). The psychologically injurious nature of trauma extends into the domains of biological, cognitive, emotional, behavioral, social, and vocational functioning, as is richly documented by a number of comprehensive overviews of the literature (e.g., Bremner, 2016; Ford, Grasso, Elhai, & Courtois, 2015; Friedman, Keane, & Resick, 2015; Kerig, 2017; Nader, 2020; Weems, Russell, Neill, & McCurdy, 2019; Young, 2017a).

In fact, recognition of the prevalence of trauma among adults and youth with legal involvement has led to a national-level call for the creation of trauma-informed justice systems, a major mandate of which is to increase trauma-related screening and assessment (Howard & Tener, 2008; Listenbee & Torre, 2012; NCTSN Justice Coordinating Committee, 2016). Thus, trauma exposure history, presence of PTSS, and diagnosis of PTSD are increasingly raised as

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issues to be considered in legal decisions, forensic assessments, and expert testimonies related to culpability, sentencing, and disposition planning (Young, 2016). However, there are a number of critical issues and pitfalls involved in the forensic assessment of PTSD, including the fact that there is a lack of consensus among experts in the field regarding the definition of trauma and the diagnostic criteria that must be met in order establish the presence of the disorder. Other important complicating factors include ethnic and cultural differences in the expression of PTSS, and the overlap of PTSD symptoms with other disorders for which definitive differential diagnostic criteria have not yet been established (Young, Lareau, & Pierre, 2014). With these concerns in mind, the purpose of this article is to review the diagnostic criteria and techniques available for assessing PTSD associated with competing diagnostic models, including the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; (American Psychiatric Association, 2013), the International Statistical Classification of Diseases and Related Health Problems (11th ed.; ICD-11; (World Health Organization, 2020), and the proposed new diagnosis of Developmental Trauma Disorder (van der Kolk et al., 2009). We then go on to discuss challenges in the forensic context, including limitations of the available assessment instruments, differential diagnosis, malingering, and cultural differences especially relevant to assessing the disproportionately ethnically diverse population of adults and youth in the justice system. Finally, we discuss implications for informing future research and clinical practice.

Competing Diagnostic Frameworks for the Diagnosis of PTSD

Although the two major diagnostic frameworks utilized in Western psychiatry, the DSM-5 and ICD-11, cohere in many respects, in the case of the diagnosis of PTSD the committees planning the most recent revisions of these diagnostic compendia resolved a number of debates in significantly different ways that led them to take significantly different directions (Brewin, 2013; Friedman, 2013a, 2013b; Friedman, Resick, & Keane, 2014; Kilpatrick, 2013; Maercker & Perkonigg, 2013). First, a point of convergence between the two was that PTSD should be removed from the category of anxiety disorders and placed in a separate grouping of disorders associated with trauma and extreme stress, which are set apart in both diagnostic systems by virtue of their etiology explicitly deriving from a traumatic experience. Both diagnostic systems also were concerned with "criterion creep," in which the diagnosis was seen as increasingly being applied to a wider and wider range of experiences and presentations (Brewin, Lanius, Novac, Schnyder, & Galea, 2009), including the growing body of research on adverse childhood

experiences (ACEs; Anda et al., 2006), also termed toxic stress (Shonkoff et al., 2012), which was being cited in the popular literature in ways that applied the term "trauma" to such broad adversities such as growing up in a single-family home or living with a person who abuses substances. Therefore, both systems sought increased precision in defining the kinds of experiences that should be deemed as truly "traumatic" (Maier, 2007; Weathers & Keane, 2007a, 2007b). However, as we will discuss in more detail, the direction the DSM-5 took was to expand the definition of traumatic event and to increase the number of signs and symptoms of posttraumatic stress, whereas the ICD-11 took the tack of decreasing and simplifying both aspects of the diagnosis. Another significant point of debate with which the two systems contended concerned the long-standing argument for a separate complex form of PTSD resulting from complex traumatic experiences (Bryant, 2012; Goodman, 2012; Herman, 2012). Arising from the groundbreaking work of Herman (1992a, 1992b) and Terr (1991), complex PTSD had long been considered to represent a potential consequence of prolonged, chronic, repeated traumatic experiences and to be associated with the development of severe forms of psychopathology beyond "simple PTSD," such as impaired self-esteem, relational difficulties, and dissociative experiences (Herman, 1992a, 1992b). However, here again the two diagnostic systems took significantly different tacks; with ICD-11 introducing a new Complex PTSD (CPTSD) diagnosis and DSM-5 instead incorporating many "complex" symptoms into the main diagnostic criteria (Resick et al., 2012; Resick et al., 2012) while introducing a subtype to capture the phenomenon of posttraumatic dissociation (Lanius et al., 2014). Interestingly, neither of these sets of revisions incorporated the recommendations of yet another set of voices calling for a fresh look at complex PTSD, which was that of a committee proposing the addition of a Developmental Trauma Disorder (DTD) diagnosis specific to the sequelae of violence exposure and maltreatment during childhood (van der Kolk, 2005). With this very brief outline of the history and intentions underlying the current revisions, we follow with a more detailed outline of each of the diagnostic criteria.

DSM-5 Diagnosis of PTSD

Trauma Exposure As mentioned, the DSM-5 PTSD criteria constitute a significant revision from previous editions, particularly regarding Criterion A (see Table 1), which defines what comprises a traumatic event. Criterion A is essential given that it is the "gateway" to a PTSD diagnosis: this criterion must be met first before any of the other symptoms can "qualify" as being posttraumatic. DSM-5 narrows and refines the definition by specifying that traumatic experiences occur in only three contexts: actual or threatened death, injury, or sexual

Table 1 Comparison of DSM-5 and ICD-11 criteria for the PTSD Diagnosis in older children and adults

Diagnostic criterion	DSM-5 (ages 7 and above)	ICD-11
Trauma exposure	Exposure to an event involving actual or threatened death, injury, or sexual violence via directly experiencing or witnessing the event, learning about it occurring to family member/close friend, or exposure to aversive details (not via media)	"Exposure to an extremely threatening or horrific event or series of events"
Reexperiencing/intrusions	One or more symptom: Distressing memories, distressing dreams, flashbacks, distress upon exposure to reminders	Re-experiencing the event via "vivid intrusive memories, flashbacks, or nightmares" … typically accompanied by strong or overwhelming emotions … and physical sensations"
Avoidance	One or more symptom: Efforts to avoid memories/thoughts/feelings about event, efforts to avoid people/places/things that arouse memories	Avoidance of thoughts, memories, or activities, situations, or people reminiscent of the event(s)
Alterations in thoughts or mood	Two or more symptoms: Amnesia about the event, negative beliefs about self/others/world, distorted cognitions about cause or consequences of event, persistent negative emotional state, loss of interest in previously enjoyed activities, detachment or estrangement, lack of positive emotions	–
Arousal/threat	Two or more symptoms: Irritability/anger, reckless or self-destructive behavior, hypervigilance, exaggerated startle response, concentration problems, sleep disturbance	Persistent perceptions of current threat, as indicated by hypervigilance or enhance startle response
Functional effects	Significant distress or functional impairment	Significant impairment in functioning
Duration of symptoms	More than 1 month	Several weeks
Dissociative subtype	Depersonalization (feeling the self is unreal, or detatched) or derealization (feeling the environment is unreal, dreamlike, or distorted)	–
Complex PTSD (CPTSD)	–	A. Exposure to extremely threatening or horrific event(s), commonly those that are prolonged, repetitive, and unescapable B. All criteria for PTSD are met C. Additional symptoms: 1. Affect dysregulation 2. Diminished self-perceptions; feelings of guilt, shame, failure 3. Difficulties sustaining relationships and feeling close to others

Note: Separate DSM-5 criteria for children ages 6 and younger are described in the manual

violence. In contrast, the definition was widened in some ways, in that it for the first time includes indirect exposure—that is, exposure to aversive details of another person's traumatic experiences—as a form of traumatic experience, variously termed secondary traumatic stress (STS) or vicarious trauma (Kerig, 2019a, 2019b).

The accuracy of this definition has been called into question, however, in that individuals often label as "traumatic,"

and demonstrate clinically significant posttraumatic symptoms in response to, nonviolent events that differ markedly from the DSM-5 criteria (Bodkin, Pope, Detke, & Hudson, 2007; Gold, Marx, Soler-Baillo, & Sloan, 2005). Similarly, the developmental appropriateness of this definition has been questioned in that the emergence of posttraumatic stress symptoms also follows many non-Criterion A events experienced by youth, such as bullying, romantic partner rejection, racial discrimination, parental incarceration and other separations, unplanned pregnancy, and anticipated deaths of aging or terminally ill family members (Copeland, Keeler, Angold, & Costello, 2010; Kaplow, Howell, & Layne, 2014; Loyd et al., 2019; Nielsen, Tangen, Idsoe, Matthiesen, & Magerøy, 2015; Taylor & Weems, 2009). Nonetheless, these experiences do not meet the formal DSM-5 criteria for trauma exposure, which stand unaltered across developmental epochs with the exception that, for children 6 years and younger, indirect trauma (learning about an event) applies solely to a violent event occurring to a parent or caregiver.

Another significant way in which the DSM-5 definition of trauma was revised is that it now relies solely on evidence that relevant experiences were undergone and no longer requires that, in the moment, the individual showed evidence of having been "traumatized" by the event by displaying peritraumatic reactions such as fear, helplessness, or horror. This second part of the previous DSM-IV criterion (termed A2) was debated for a number of reasons, with the argument ultimately prevailing that it conferred no value-added in reliably establishing the diagnosis (Bedard-Gilligan & Zoellner, 2008). This was a contentious decision, however, given the large body of research establishing the centrality of appraisals in determining whether objectively extremely stressful events lead to PTSD symptoms (Bovin & Marx, 2011; Meiser-Stedman et al., 2019; Vance, Kovachy, Dong, & Bui, 2018). Instead of disavowing the value of peritraumatic reactions, critics argued, the prevailing research suggested that DSM-IV had targeted the wrong reactions—rather than fear, helplessness, or horror, evidence suggests that other appraisals, such as guilt, humiliation, or disgust, are more powerful predictors of which adults and youth will develop PTSD in the aftermath of traumatic events (Badour, Feldner, Blumenthal, & Knapp, 2013; Kerig & Bennett, 2013; Rizvi, Kaysen, Gutner, Griffin, & Resick, 2008). Nevertheless, for the forensic assessor, the key take-home message is that no longer is evidence required of any such subjective reactions or appraisals at the moment of trauma exposure to establish that an experience meets the definition of "traumatic."

As mentioned above, there is significant diversity in individuals' responses to traumatic events, not all of which culminate in PTSD (Young, 2016). For example, large-scale epidemiological studies find that only approximately 20–30% of those exposed to a single-event Criterion A stressor will develop PTSD in its aftermath (Breslau, Davis, Andreski, &

Peterson, 1991), with higher probability associated with preexisting trauma histories or mental health problems, as well as with the proximity, intensity, duration, repetitiveness, gruesomeness, disruptiveness, and malevolence of the trauma(s) experienced (Kerig, 2017). Nonetheless, this homogeneity of response points to another potential pitfall in forensic assessment of PTSD, which is a commonly seen predilection to equate having experienced trauma with having PTSD. Although this is clearly not in accordance with either diagnostic manual, we have seen many psychological reports submitted to courts and in other contexts in which assessors have come to the conclusion that an individual should be diagnosed with PTSD solely on the basis of significant trauma exposure in the past, in the absence of evidence for posttraumatic symptoms in the *present* (i.e., within the past 30 days, per DSM-5). Accordingly, it is appropriate that we turn next to describing each of these symptom clusters.

Criterion B: Intrusions Intrusive symptoms are often considered to be the hallmark of PTSD in that they are more distinctive to PTSD than are the other symptoms, many of which overlap with other disorders (Kerig, 2017). Intrusions refer to images, thoughts, or sensations regarding the traumatic event coming into the mind unwanted or unbidden. Intrusions can take the form of flashbacks, in which some aspect of the traumatic event is re-experienced as though it were recurring in the here-and-now, which is quite different from the ruminative memories that might be seen in a depressive disorder. Other classic symptoms of intrusions include "triggered" responses upon encountering reminders (e.g., heart racing upon sighting a stranger resembling the assailant) and nightmares (about the traumatic event, or about any distressing images for children). Recent research has highlighted the significance of sleep disruptions in PTSD (Rosen et al., 2019), especially those related to nightmares (Youngren, Hamilton, & Preacher, 2020), and it has even been suggested that if only one question could be asked to rule in the possibility of a PTSD diagnosis it should be "Have there been changes in your sleep since this event?" (Kerig, 2017). Intrusions are defined similarly in the diagnostic criteria for young children, except that they may emerge as reenactments in play that are not necessarily accompanied by signs of distress.

Criterion C: Avoidance Symptoms of avoidance include active attempts to avoid memories, thoughts, or feelings about the traumatic event (cognitive avoidance) and active attempts to avoid people, places, or things that are reminders of the event (behavioral avoidance). Avoidance symptoms can be highly debilitating in that those with PTSD may need to reorganize their daily lives substantially in order to accommodate them, sometimes at the cost of work and family life. The DSM-5 explanatory text also describes age differences among youth, in that symptoms of avoidance may be displayed in

developmentally specific ways: for example, as loss of interest in play among preschoolers, social withdrawal in schoolage children, and reluctance to pursue age-appropriate pursuits (e.g., driving, dating) among adolescents. Although not unique to PTSD, avoidance is considered to be a central feature of the disorder in that many different kinds of maladaptive responses in the aftermath of trauma exposure can be interpreted as serving the functions of cognitive or behavioral avoidance, including substance abuse, binge-eating, workaholism, emotional suppression, aggression, self-harm, social withdrawal, and preoccupation with physical health (Resick, Monson, & Chard, 2016).

Criterion D: Negative Alterations in Cognition and Mood (NACM) The NACM cluster comprises a diverse grouping of symptoms, many of which were relegated to an addendum of "associated features" associated with chronic, repeated traumatic events in previous editions of the DSM. As will be discussed later, this was a significantly different choice than the one made by the ICD-11 committee to separate such symptoms and to associate them with complex PTSD. The 7 symptoms of NACM cover a wide range of manifestations, including inability to remember key aspects of the event; persistent negative beliefs about oneself, others, or the world (e.g., belief that one is "ruined" or that the future is hopeless); distorted appraisals about the cause or consequences of the event (e.g., excessive self-blame or blame of others); negative mood; loss of interest in previously enjoyed activities; feelings of detachment or estrangement from others; and inability to experience positive emotions, such as pleasure or joy. The list of applicable symptoms is reduced in the diagnostic criteria for children 6 years and younger, and focuses on those that involve observed behavior (negative mood states, diminished interest in activities, social withdrawal, and lack of positive emotions) rather than developmentally advanced appraisals; these symptoms also are placed in a single cluster with those of avoidance, and only one symptom in this entire list must be demonstrated by young children.

In the body of research that has grown around the DSM-5 diagnosis to date, among the NACM symptoms, amnesia is one that has fared less well than the others in establishing its coherence with the other diagnostic criteria for PTSD (Benfer et al., 2018; Miller et al., 2013). This is an important detail particularly for potential forensic assessors and expert witnesses to note, given the widely disseminated notion of repressed and later "recovered" trauma memories, which may be brought into question in court proceedings (Dalenberg, Brand, Loewenstein, Frewen, & Spiegel, 2020; Lynn et al., 2014). Rather than wholesale forgetting of a traumatic event, evidence suggests that the PTSD diagnosis may be associated with distortions in memory, such as "time skew" (Terr, 1983) in which the ordering of events is reversed, or blank spots in the ability to report on seemingly crucial aspects of the event

(e.g., whether the assailant had tattoos on his face) because their attention was entirely absorbed by a life-threatening detail (e.g., the design on the shaft of his knife). This is in keeping with what is known about how the neurobiology of the trauma response system affects the encoding and retrieval of information (Schwabe, 2017) and also explains the ways in which trauma survivors may have difficulty meeting the expectations held by law enforcement officers and attorneys for eyewitness accounts, depositions, or court testimonies that are sequentially ordered, complete, and precise (Crespo & Fernández-Lansac, 2016). As will be discussed further in the section on differential diagnosis, it is important to note that, to qualify for the diagnosis of PTSD, NACM symptoms must be attributable to an index traumatic event.

Cluster E: Arousal The last symptom cluster in the DSM-5 diagnosis includes signs of hyperarousal, including hypervigilance, exaggerated startle response, concentration problems, and sleep disturbance. In addition, this cluster includes irritability or anger and, new to the DSM-5 diagnosis of PTSD, the symptom of reckless or self-destructive behavior, which is included only in the criteria for older children, adolescents, and adults. Irritability or anger and reckless or self-destructive behavior have grouped together in tests of alternative models of PTSD symptom structure, loading onto an "externalizing" dimension of PTSD that is differentially associated with aggression and rule-violating behavior in samples of both adults and youth (Armour et al., 2015; Cao, Wang, Cao, Zhang, & Elhai, 2017). Consequently, it has been proposed that these symptoms—and, in particular, reckless or self-destructive behavior—might be uniquely implicated in the association between trauma exposure and offending (Kerig, 2019a, 2019b; Modrowski & Kerig, 2019).

Dissociative Subtype Also new to the DSM-5 diagnosis of PTSD is the inclusion of a subtype presenting with dissociation, which is established by the presence of one of two possible dissociation symptoms: depersonalization, the perception that one is unreal or outside one's body; or derealization, the sense that the world is unreal or dreamlike. The addition of the dissociation subtype follows upon decades of empirical research on the phenomenology of dissociation and its association with traumatic experiences (Putnam, 1997) and its validity has been supported in recent studies (see Ellickson-Larew, Escarfulleri, & Wolf, 2020; Hansen, Ross, & Armour, 2017) for reviews. Dissociation during a traumatic event (peritraumatic dissociation) also is predictive not only of who develops PTSD in its aftermath but also of who meets the dissociative subtype (Bennett, Modrowski, Kerig, & Chaplo, 2015; Meiser-Stedman et al., 2019; Modrowski & Kerig, 2017). However, a caveat is that the DSM-5 definition is narrow and specific to depersonalization and derealization, and does not encompass the wider range of dissociative

phenomena that has been documented in research (Armour, Contractor, Palmieri, & Elhai, 2014; Choi et al., 2017; Kerig et al., 2016; Ross, Armour, Kerig, Kidwell, & Kilshaw, 2020) or clinical observations (Putnam, 2006a, 2006b). Especially relevant to forensic contexts, the boundaries between dissociative symptoms in the DSM-5 diagnosis of PTSD need to be demarcated from other more pervasive dissociative phenomena, such as dissociative identity disorder (Brand, Schielke, & Brams, 2017; Brand, Schielke, Brams, & DiComo, 2017).

It is noteworthy that although the adult literature that informed the DSM-5 revision indicates that the dissociative subtype is present in only a small minority of trauma-exposed individuals, research on samples of justice-involved adolescents reveals an extremely high prevalence of the dissociative subtype (Bennett et al., 2015) and of dissociative symptoms more broadly (Carrion & Steiner, 2000; Modrowski & Kerig, 2017), especially among youth with histories of family violence and child abuse (Plattner et al., 2003). Moreover, dissociative symptoms in these samples also are associated with an increased risk for serious offending and heightened emotional and behavioral problems (Chaplo, Kerig, Bennett, & Modrowski, 2015; Ford, Charak, Modrowski, & Kerig, 2018; Kerig & Modrowski, 2018). Therefore, assessment of dissociative symptoms, including those going beyond depersonalization and derealization only, may have high value for disposition planning, particularly among young offenders.

ICD-11 Diagnoses

ICD-11 Diagnosis of PTSD Although historically the DSM has been the diagnostic system used in the US, whereas the ICD prevailed in Europe, ICD codes are increasingly being adopted in the US as per the Health Insurance and Accountability Act (HIPAA); therefore, it is increasingly important for assessors to understand the ICD and how it differs from the DSM. In the case of the PTSD diagnosis in the most recent versions of the two systems, the differences are significant. Whereas the list of PTSD criteria in DSM-5 stretch across two pages, with a further 6.5 pages of explanatory text, the ICD-11 criteria are described in only half a page, consistent with the developers' goals of parsimoniously focusing on core features unique to PTSD that clearly differentiate it from other disorders (Maercker et al., 2013). As with DSM-5, the diagnosis begins with the criterion of trauma exposure, which is defined as "an extremely threatening or horrific event or series of events." Three additional criteria must be met for the diagnosis: (1) symptoms of re-experiencing, as evidenced by intrusive memories, flashbacks, or nightmares that are accompanied by strong emotional reactions; (2) cognitive or behavioral avoidance; and (3) persistent perceptions of current threat, such as indicated by hypervigilance or enhanced startle

reaction. The symptoms must cause significant impairment and persist for "at least several weeks."

In total, then, the ICD-11 lists 5 criteria that must be met for the diagnosis and most of these are similar to those required in DSM-5. Subtle but important differences from the DSM-5 criteria concern the definition of trauma exposure, which is less specific and includes an element of subjectivity; the specification that re-experiencing is accompanied by strong emotional reactions; and the qualification that hyperarousal symptoms must involve a perception of *current* threat. Notably absent from the ICD-11 criteria is the dissociative subtype; dissociative symptoms are instead associated with the CPTSD diagnosis, as we will see. To date, only a very small body of work has emerged investigating the reliability and validity of the ICD-11 criteria. In one study, Hansen, Hyland, Armour, Shevlin, and Elklit (2015) administered items assessing both the ICD-11 and DSM-5 symptoms of PTSD to seven different samples of traumatized adults (N = 3746) and utilized confirmatory factors analyses to determine how well the data fit the symptom cluster models predicted by each of the classification systems. The investigators reported that fit indices indicated the ICD-11 model was an excellent fit to the ICD-11 symptoms in six of the seven samples, whereas the DSM-5 model provided a poor fit to the DSM-5 symptoms across all samples. Further research will be needed to replicate these findings as well as to confirm whether the purported ICD-11 symptom structure provides a superior fit to the data when compared to alternative models, parallel to the large body research that has investigated competing models of DSM-5 symptom structure (see Armour, Műllerová, and Elhai, 2016).

ICD-11 Diagnosis of CPTSD Perhaps the most striking difference between ICD-11 and DSM-5, and a point of major contention between their developers (Bryant, 2012; Goodman, 2012; Herman, 2012; Resick, Bovin, et al., 2012; Resick, Wolf, et al., 2012) is the inclusion in the former of the CPTSD diagnosis. The CPTSD diagnosis requires that there must be exposure to event(s) of "an extremely frightening or horrific nature" and also specifies that these events are typically prolonged or repeated and are of the kind from which escape is impossible, such as in torture, enslavement, domestic violence, and child abuse. Notably, individuals must also meet all of the criteria for the ICD-11 PTSD diagnosis (i.e., re-experiencing, avoidance, and threat) in order to qualify for CPTSD. In addition, the CPTSD criteria require symptoms in three spheres of functioning. The first of these concerns problems in affect regulation, such as heightened emotional reactivity, reckless behavior, emotional numbing, and dissociation. The second involves persistent negative belief about the self, as evidenced by feelings of worthlessness, shame, or guilt. The third sphere of functioning affected by CPTSD is the interpersonal, resulting is difficulty sustaining relationships

or feeling closeness with others. As always, these symptoms must significantly interfere is functioning. No requirement is stated regarding their duration.

Initially, skepticism about the CPTSD proposal hinged on doubt that it would prove to be distinguishable from PTSD (Resick, Bovin, et al., 2012). However, the small body of research conducted to date has found that, although symptoms of the two disorders are highly correlated, CPTSD can be reliably differentiated from PTSD, both in regard to the kinds of trauma histories experienced and the symptom profiles presented by individuals in a wide range of international samples (e.g., Karatzias et al., 2016, 2017; for a comprehensive review, see Bailey & Brown, 2020). For example, in a recent study involving over 300 clinical patients, Karatzias et al. (2020) found that PTSD, CPTSD, and Adjustment Disorder comprised three correlated but distinct latent variables, and that childhood trauma exposure uniquely differentiated the CPTSD group.

Comparison of the DSM-5 and ICD-11 Diagnoses of PTSD

As noted, major motivating factors guiding the revisions to the diagnosis of PTSD in DSM-5 included the desire to focus the diagnosis on a specific conceptualization of what comprises a traumatic event in order to avoid "criterion creep," as well as to capture in the nomological net relevant symptoms that had previously not been deemed central to the disorder (i.e., NACM, reckless behavior) and rarer but significant symptoms that warranted recognition (i.e., dissociation). In contrast, major concerns for the ICD-11 developers were to achieve better precision and clarity by narrowing the scope of the diagnosis to identify a small set of core features that were specific to PTSD and overlapped as little as possible with other comorbidities. Another difference between the two diagnostic systems is that DSM-5 at least nominally takes into account developmental differences by having a reduced list of diagnostic criteria for children under 7 years of age, and by including in the explanatory text some nuances in the ways that symptoms may be displayed different across development, whereas ICD-11 makes no allowance for the age-related changes in the expression of PTSS that have been observed clinically (Kerig, 2017).

Each diagnostic system has strong proponents and detractors (e.g., Brewin, 2013; Kilpatrick, 2013) for various reasons, but one that warrants attention is the extent to which Criterion A is predefined in DSM-5 (i.e., only threatened or actual death, injury, or sexual violence pertain) versus the way in which exposure is described subjectively in ICD-11 (i.e., we might ask what constitutes an event as extremely threatening; and by whose definition is it deemed horrific, that of the survivor or the assessor conducting the diagnostic interview?).

As research on ICD-11 proceeds, it will be of interest to examine whether subjectivity enters into examiners' classification of an individual's self-reported "worst event" as meeting the definition of trauma.

Another major difference between the two disorders is the sheer number of criteria that must be met. All told, to receive a diagnosis of PTSD in DSM-5, older children, adolescents, and adults must meet a minimum of 8 criteria: a traumatic event meeting a narrow definition, at least one intrusion symptom, at least one avoidant symptom, two or more symptoms of NACM, two or more symptoms of arousal, and functional impairment or distress (note that the list is reduced to 6 criteria for preschoolers). Although this increase in symptoms previous DSMs initially raised concern that it might create a higher bar for the diagnosis, this has not so far been borne out by research (Danzi & La Greca, 2016; Modrowski, Bennett, Chaplo, & Kerig, 2017). Moreover, even though there are a greater number of criteria that must be met for the DSM-5 than the ICD-11 version of the diagnosis, the nascent body of research that has emerged to date following the release of the final ICD-11 criteria suggests that it is ICD-11 that has created a higher bar. For example, in large sample of Danish trauma victims, Hyland et al. (2016) found that 60.0% met criteria as per DSM-5 but only 49.1% did so as per ICD-11. Similar results have been found in samples of adult injury patients (O'Donnell et al., 2014) but not children exposed to a natural disaster (Danzi & La Greca, 2016). Major reasons that individuals who meet criteria for PTSD in DSM-5 fail to meet ICD-11 criteria include the specification in ICD-11 that re-experiencing must be accompanied by "strong emotions" (Hyland et al., 2016) and that arousal in ICD-11 must be characterized by perceptions of current threat. However, evidence also suggests that the ICD-11 diagnosis is "cleaner," with less overlap and comorbidity with other disorders (Hyland et al., 2016; O'Donnell et al., 2014). In addition, as we have noted, the small body of research to date has indicated that items on measures assessing the ICD-11 PTSD symptoms form three clusters that map onto those purported by the diagnostic system. However, controversy remains over whether the DSM-5's symptom structure is accurately represented by its purported four clusters. For example, in a systematic review of the literature, Armour and colleagues (Armour et al. 2016) found that the DSM-5 four-cluster model fits the data better than alternative models tested among only three out of the 14 different studies located. Instead, several studies conducted on widely diverse samples of different ages and from different geographic regions found superior fit of a seven-factor structure of DSM-5 symptoms, comprising intrusions (e.g., flashbacks, reactivity to reminders), avoidance (e.g., avoiding thoughts or reminders of the trauma), Negative Affect (e.g., negative beliefs, negative emotions), anxious arousal (e.g., hypervigilance, exaggerated startle response), dysphoric arousal (e.g., difficulty concentrating,

sleep disturbance), and externalizing (e.g., irritability/anger, self-destructive behavior). Nevertheless, given the newness of these diagnostic criteria, especially in the case of ICD-11, further research will be needed to establish the precedence of one over the other and, given that either diagnostic system may be used in legal contexts, assessors are well-advised to be familiar with both.

Most strikingly different in the two diagnostic systems is the inclusion in ICD-11 of a trauma-related diagnosis that is completely absent in DSM-5, and that is CPTSD. As we have noted, some of the symptoms that had been classically associated with complex trauma were folded into the PTSD diagnosis in DSM-5; in contrast, CPTSD in ICD-11 captures a constellation of long-lasting alterations in emotional, self, and interpersonal functioning that stands apart from what Herman (1992a, 1992b) termed "simple" PTSD. In particular, a major point of departure between the two systems is that the ICD-11 views dissociation as a sign of emotion dysregulation within the complex form of PTSD, whereas the DSM-5 views dissociation as a separate phenomenon that occurs in a small subtype of mainstream PTSD, and is narrowly defined as comprising only depersonalization and derealization. However, consistent with the CPTSD conceptualization, research in both child and adolescent samples has shown that dissociative symptoms are most likely to emerge when trauma exposure has been chronic, prolonged, and repeated and that dissociative symptoms are linked to the most pervasive and severe functional deficits (Modrowski & Kerig, 2017; Steuwe, Lanius, & Frewen, 2012; Wolf et al., 2012). In fact, one of the most significant consequences of adopting the CPTSD diagnosis is that it places within the purview of traumagenic disorders—and trauma-based treatments—presentations that otherwise might be attributed to personality disorders and subject to very different disposition recommendations. Hence, an important avenue for future research will be to investigate the diagnoses applied and the consequences that ensue for traumatized individuals diagnosed via the DSM-5 who would have met CPTSD criteria had they been diagnosed using DSM-11.

Moreover, CPTSD may be particularly germane to understanding traumagenic dysfunctions in forensic contexts. Although the criteria for PTSD in both DSM-5 and ICD-11 require the experience of only a single traumatic event, research evidences that single-incident trauma is not the common form found in the lives of adults (Allely & Allely, 2020) or youth (Kerig & Becker, 2012) who become involved in the justice system. For example, our lab's research replicates findings that have emerged in multiple other samples, that youth in the justice system report an average of 4–6 different kinds of traumatic experiences, many of which were undergone multiple times over the course of development (e.g., Modrowski et al., 2017). Moreover, many of these traumas are characterized by interpersonal victimization, including domestic violence, maltreatment, and exposure to community violence. The experience of multiple forms of interpersonal trauma, termed polyvictimization (Finkelhor, Ormrod, & Turner, 2007), is associated with the most pervasive and serious emotional and behavioral problems among detained adolescents (Charak, Ford, Modrowski, & Kerig, 2019; Ford et al., 2018; Kerig & Modrowski, 2018), consistent with the CPTSD concept.

In contrast to these ways in which they differ, DSM-5 is now similar to ICD-11 in that there no longer is a category of "partial PTSD" as there was in earlier versions of the DSM, which directed clinical attention toward those meeting criteria in some symptom clusters but not others. For a diagnosis of PTSD in both of these systems, individuals must meet criteria in every symptom cluster. This presumption that PTSD is a discrete categorical construct also is at odds with research demonstrating that it is best considered as dimensional, with clinically meaningful variabilities in symptom severity both above and below the diagnostic threshold (Broman-Fulks et al., 2006).

All told, the implications of these competing frameworks are profound for when PTSD has its "day in court." Forensic assessors and expert witnesses using one or the other diagnostic system may, in good conscience and with sound methodology, arrive at discrepant opinions for which there is no authoritative resolution. In addition, the fact that knowledgeable experts cannot agree might undermine confidence in the validity of the diagnostic enterprise held by court personnel and jurors.

Developmental Trauma Disorder

In 2009, when the DSM-5 revisions were still under discussion, a committee consisting of leading child clinicians and developmental psychopathology researchers presented a proposal for a new diagnosis, developmental trauma disorder (DTD; van der Kolk et al., 2009). Although the proposal did not pass muster with the DSM-5 committee, it struck a strong chord in the clinical community as well as the general public, and thus has been widely disseminated and has inspired a growing body of research (D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012; Ford et al., 2018; Spinazzola, van der Kolk, & Ford, 2018; Stolbach et al., 2013). Therefore, even though DTD is not an officially recognized diagnosis, the likelihood that questions about DTD will be raised in legal contexts suggests that it will be valuable for those engaged in forensic work to be familiar with the proposed classification.

The proposed diagnosis of DTD differs from ICD-11's CPTSD in that DTD is a disorder specifically requiring childhood onset (see Table 2). Furthermore, the traumatic experiences undergone must be of two types: (1) direct experience or

Table 2 Draft criteria for the proposed diagnosis of developmental trauma disorder (van der Kolk et al., 2009)

A. Exposure to multiple or prolonged adversities for at least 1 year beginning in childhood or early adolescence, involving both:

A1. Direct experiencing or witnessing of interpersonal violence

A2. Significant disruptions in caregiving (e.g., repeated changes in caregiver, separations from caregiver, emotional abuse)

B. Affective and physiological dysregulation (two or more of the following):

B1. Inability to modulate, recovery from, or tolerate strong affective states (e.g., extreme tantrums, immobilization)

B2. Disturbances in regulations of body functions (e.g., disturbed sleeping, eating, elimination; over- or under-reactivity to touch and sounds)

B3. Diminished awareness of sensations, emotions, or bodily states

B4. Impaired capacity to describe emotions or bodily states

C. Attentional and behavioral dysregulation (three or more of the following):

C1. Preoccupation with threat or impaired capacity to perceive threat

C2. Impaired capacity for self-protection, including extreme risk taking

C3. Maladaptive attempts at self-soothing

C4. Intentional self-harm

C5. Inability to initiate or sustain goal-directed behavior

D. Self and relational dysfunction

D1. Preoccupation with safety of the caregiver or difficulty tolerating reunion after separation

D2. Persistent negative sense of self

D3. Extreme and persistent distrust, defiance, or lack of reciprocity in close relationships

D4. Reactive physical or verbal aggression

D5. Inappropriate attempts to achieve intimate contact or excessive reliance on others

D6. Impaired capacity to regulate empathic responding (e.g., lack of empathy, intolerance for others' distress, or excessive responsiveness to others' distress)

E. Posttraumatic spectrum symptoms: The child exhibits at least one symptom in at least two of the three *DSM* symptom clusters. [Note: these criteria were developed when DSM-IV was in effect, in which PTSD was represented by only three symptom clusters.]

F. The duration of the disturbance is at least 6 months.

G. Functional impairment in at least two areas: scholastic, familial, peer, legal, health, or vocational

witnessing of interpersonal violence (e.g., being physically abused or growing up in a home marked by domestic violence); and (2) significant disruptions in the quality of the caregiving relationship (e.g., repeated separations from or changes in caregivers, incapacitated caregivers, emotional abuse). The focus on the profound and pervasive negative effects on the developing child that are associated with injuries to the attachment relationship not only lends DTD its uniqueness but also integrates the proposal with decades of research

inspired by John Bowlby's (1980) attachment theory. Of particular interest in the current context is that Bowlby's (1944) original hypothesis that insecurity and loss of attachments were related to later offending has been supported by a wealth of research (see Kerig & Becker, 2010 for a review).

The DTD proposal then goes on to describe symptoms associated with disruptions in three developmental contexts: affective and physiological dysregulation (e.g., inability to modulate or recover from strong affective states, poor regulation of bodily functions, lack of awareness of internal states); attentional and behavioral dysregulation (e.g., risky behavior, self-harm, inability to initiate or sustain goal-directed behavior); and self and relational dysregulation (negative sense of self, reactive aggression, lack of reciprocity in relationships). In keeping with the idea that dysregulation takes two forms—that of underregulation vs. overregulation—many of the DTD criteria represent opposite poles of a single continuum (e.g., over- versus underreactivity to stimulation; preoccupation with versus impaired capacity to perceive threat; lack of empathy versus excessive responsiveness to others' distress). An additional criterion is that DSM symptoms of PTSD must also be present, with at least one symptom in at least two clusters; this requirement, in addition to the criteria specifying that trauma exposure must include violence of a type consistent with DSM's Criterion A, shows that DTD was intended as an addendum to rather than a replacement for the DSM diagnosis. Similarly, functional impairment must be evident in at least two contexts. However, consistent with the idea of profound developmental disruption, the duration of symptoms must be much longer than those of PTSD—at least 6 months—in order for the DTD diagnosis to pertain.

One of the chief goals of the DTD proposal developers was to achieve parsimony. As can be seen, the criteria for the disorder are expansive across developmental contexts and in descriptive terms may be seen as overlapping with those of a number of other disorders (e.g., conduct disorder, attention deficit/hyperactivity, depression, emerging borderline personality traits, and even psychotic disorders). However, in the DTD conceptualization, consistent with the fundamental underlying conceptualization of PTSD that was introduced first in DSM-III, the key is that the emergence of these symptoms can be attributed to the experience of a traumatic event. Moreover, the proposal argues young persons displaying this constellation of symptoms are frequently labeled with multiple diagnoses when the diagnostic process focuses on the surface presentation of disparate symptoms rather than on an understanding of their shared underlying etiology. Therefore, it was argued, the DTD classification explains and organizes into a single diagnosis a complex intersection of symptoms, and promises to help point the way toward more appropriate interventions for those who display such symptoms in the aftermath of exposure to violence and attachment injuries.

Assessment of PTSD According to DSM-5 Criteria

Instruments for Adults

Self-Reports for Adults Since the publication of the DSM-5 diagnostic criteria, several instruments have been updated for the assessment of PTSD; a comprehensive overview can be found in Reardon, Brief, Miller, and Keane (2015). One of the most widely utilized screening tools for adults is the PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013). The PCL-5 is a self-report measure that has three versions: one that does not assess for Criterion A, one that briefly assesses for Criterion A, and a third version that includes an in-depth assessment of Criterion A through the Life Events Checklist for DSM–5 (LEC-5; Weathers et al., 2013). The PCL-5 also includes 20 items that measure the DSM-5 symptoms of PTSD. Although initially validated among veterans, the PCL-5 is widely used with civilian populations and demonstrates good validity and reliability (Blevins, Weathers, Davis, Witte, & Domino, 2015). The measure has also been utilized for research with samples of incarcerated women and men (Howard, Karatzias, Power, & Mahoney, 2017; Karatzias et al., 2018; Woodfield, Dhingra, Boduszek, & Debowska, 2016) with good internal consistency demonstrated. Furthermore, research has found high comparability between previous versions of the PCL and the PCL-5, suggesting that the extensive literature establishing the utility of the PCL lends provisional support to the likely utility of the PCL-5 with a wide range of populations (Blevins et al., 2015; Bovin et al., 2016). Researchers have established a cutoff score of 33 on the PCL-5 as indicating probable PTSD among veterans and incarcerated women (Bovin et al., 2016; Karatzias et al., 2018).

The Posttraumatic Diagnostic Scale for DSM-5 (PDS-5; Foa et al., 2016) is a self-report measure designed to closely follow all of the diagnostic criteria for PTSD, including symptom onset, duration, and severity, as well as functional impairment. Psychometric research has shown that the 24-item PDS-5 demonstrates excellent reliability and good validity among diverse samples (Foa et al., 2016).

Diagnostic Interviews for Adults In contrast to many screening measures, diagnostic tools systematically instruct individuals to provide an index criterion A or a single "worst" traumatic event to anchor their reports of PTSD symptoms and inquire about functional impairment related to PTSD symptoms. Although self-report measures may be more time-effective, diagnostic interviews have higher sensitivity for detecting PTSD (Kerig, Ford, & Olafson, 2015; Kerig, 2017). For adults, the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5; Weathers et al., 2013) is the gold standard diagnostic interview. The CAPS-5 is a structured interview including 30 questions that assess PTSD symptoms, their onset and duration, severity, and related functional impairment (Weathers, Marx, Friedman, et al., 2014). The CAPS-5 also inquires about depersonalization and derealization to assess for the dissociative subtype of PTSD. The measure developers recommend that the CAPS-5 be administered in conjunction with the Life Events Checklist (LEC-5) for a more in-depth assessment of Criterion A events (Weathers et al., 2013). Currently, there are three versions of the CAPS-5, which assess three timeframes: past week, past month, and worst month (Weathers et al., 2014). To date, the only published psychometric study of which we are aware was performed using a sample of veterans, and indicated excellent validity and reliability (Weathers et al., 2018). Nevertheless, research has shown the CAPS-5 to have good convergent validity with the previous version, and thus the extensive literature supporting the use of the CAPS-IV may similarly apply to the CAPS-5 (Weathers et al., 2018), including good validity and reliability among incarcerated samples (Weathers, Keane, & Davidson, 2001).

Another diagnostic interview for adults based on the DSM-5 is the Posttraumatic Stress Disorder Symptoms Scale Interview for DSM-5 (PSSI-5; Foa et al., 2016). The PSSI-5 is a 24-question semi-structured interview that asks about Criterion A events; onset, duration, frequency and intensity of PTSD symptoms; and functional impairment. Initial psychometric research has demonstrated that the PSSI-5 has good validity and reliability among a variety of samples, including veterans and civilians (Foa et al., 2016). The Structured Clinical Interview for DSM-5 Clinician Version (SCID-5-CV; First, Williams, Karg, & Spitzer, 2016) PTSD module is another widely used semi-structured interview that has shown strong validity and reliability in samples of psychiatric inpatients and non-patient participants (Osório et al., 2019).

Instruments for Children and Adolescents

Self-Report Measures for Youth Given that the diagnostic criteria for adults and older children are identical, measures for assessing PTSD in children and adolescents are essentially downward extensions that utilize age-appropriate wording (comprehensive overviews of PTSD measures for children and adolescents can be found in Briggs, Nooner, & Amaya-Jackson, 2015; Kerig, 2017). The most well-validated and widely used screening instrument for children and adolescents is the PTSD Reaction Index for DSM-5 (PTSD-RI-5; Pynoos & Steinberg, 2014). The PTSD-RI-5 is a comprehensive self-report measure that assesses Criterion A through a list of 14 types of potentially traumatic events followed by 31 items assessing PTSD symptoms, including

symptoms that correspond to the new dissociative sub-type of PTSD. A parent-report version is also available and may be used to gather collateral information. This instrument has demonstrated excellent validity and reliability among diverse populations and has shown good diagnostic accuracy, sensitivity, and specificity (Kaplow, Rolon-Arroyo, Layne, Rooney, Oosterhoff, Hill et al., 2019). For example, in a large psychometric study employing children and adolescents from 11 countries, researchers found that the PTSD-RI-5 showed good internal consistency and discriminant validity (Doric et al., 2019). Notably, the PTSD-RI-5 is also frequently used with samples of justice-involved youth and has demonstrated excellent internal consistency and predictive validity (Ford 2018; Kerig et al., 2016). Researchers have found the cutoff of 35 total points to indicate probable PTSD (Kaplow et al., 2019).

Another screening instrument for symptoms of PTSD designed for children and adolescents is the Structured Trauma-Related Experiences and Symptoms Screener (STRESS; Grasso, Felton, & Reid-Quiñones, 2015), a computer-administered youth- or parent-report measure that includes a list of 25 potentially traumatic and adverse childhood experiences followed by 21 items that assess PTSD symptoms based on the DSM-5. In a study conducted to examine the instrument's psychometric properties, researchers found that the STRESS tool demonstrated good internal consistency and convergent validity among a sample of children and adolescents in the welfare system (Grasso et al., 2015). The tool is currently being utilized in a number of juvenile justice contexts, although data are still forthcoming.

In contrast, the Massachusetts Youth Screening Inventory-2 (MAYSI-2, Grisso & Barnum, 2003) is a screening tool specifically designed to assess a wide range of mental health difficulties among justice-involved youth. The measure includes a Traumatic Experiences subscale containing five items, one of which pertains to PTSD symptoms. Thus, the MAYSI-2 is a limited measure that does not account for most PTSD symptoms and is not calibrated to the DSM-5. In addition, research indicates that the MAYSI-2 under-identifies youth with trauma histories and has only moderate sensitivity and specificity in detecting partial or full PTSD (Kerig, Arnzen Moeddel, & Becker, 2011). Therefore, the MAYSI-2 is best used in conjunction with other PTSD screening or diagnostic tools (Kerig et al., 2015).

Diagnostic Interviews for Youth Several diagnostic interviews based on the DSM-5 are also available for youth. For example, the Clinician-Administered PTSD Scale for Children and Adolescents for DSM-5 (CAPS-CA-5) is a structured interview for youth based on the CAPS-5. Although the CAPS-CA-5 has been used in research with samples of youth (Kaplow et al., 2019), to date, no validation studies or psychometric information has been published. Another widely used diagnostic tool

designed for children and adolescents includes the Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime Version (KSADS-PL; Kaufmanet al.,x` 2016) PTSD screen and supplement based on the DSM-5. The previous version of the KSADS-PL demonstrated good reliability and validity in a sample of youth (Kaufman et al., 1997); however, no evidence is available yet regarding the validity and reliability of the newer version. A strength of the KSADS-PL is that it can be administered to parents to obtain collateral information. Furthermore, the Child PTSD Symptom Scale for DSM-5 (CPSS-5; Foa et al., 2018) is a 27-item semi-structured interview adapted for children and adolescents from the PSSI-5. Researchers have found that the CPSS-5 interview has good validity and reliability among a sample of youth exposed to potentially traumatic events (Foa et al., 2018). The CPSS-5 tool for youth also has a self-report version available that shows strong validity and reliability (Foa et al., 2018).

Assessment of PTSD and CPTSD Based on ICD-11 Criteria

ICD-11 Measures for Adults

To date, few assessment instruments have been created to align with the new ICD-11 criteria for PTSD or CPTSD. Of the existing instruments, many are screening tools that cannot establish a true diagnosis of PTSD or CPTSD. For example, the Symptoms of Trauma Scale (SOTS; Ford et al., 2015; Opler, Muenzenmaier, Shelley, & Grennan, 2004) is a semi-structured 12-item interview screening instrument that assesses the severity of trauma-based symptoms. The instrument measures symptoms of PTSD based on DSM-IV and DSM-5 criteria, including the dissociative subtype, and symptoms of CPTSD based on ICD-11 criteria. An initial psychometric study found the SOTS generally has acceptable internal consistency and inter-rater reliability (Ford, Mendelsohn et al., 2015). Adequate convergent, discriminant, and construct validity was also found for several composite scales.

The ICD-11 Trauma Questionnaire (ICD-TQ; Cloitre, Roberts, Bisson, & Brewin, 2015) is a 23-item self-report screening instrument for symptoms of PTSD and CPTSD based on the ICD-11 criteria. The ICD-TQ includes questions that assess disturbances in self-organization, such as affective dysregulation, negative self-concept, and disturbances in relationships, which are components of the CPTSD diagnosis. Research examining the initial psychometric properties of the ICD-TQ has found that the measure exhibited acceptable validity and reliability within clinical samples (Karatzias et al., 2016). In turn, the International Trauma Questionnaire (ITQ; Cloitre, Roberts, Bisson, & Brewin, 2017) is a brief 12-item self-report measure for adults that assess

ICD-11 PTSD symptoms, CPTSD disturbances in self-organization, and functional impairment. Because it does not inquire about trauma exposure, the ITQ must be administered in conjunction with a trauma history tool such as the LEC-5 (Weathers et al., 2013). Researchers have found the instrument to function well in both community and clinical samples (Cloitre et al., 2018). Moreover, cross-cultural research indicates that the ITQ has good validity and reliability and is effective in distinguishing between PTSD and CPTSD (Karatzias et al., 2017).

ICD-11 Diagnostic Interviews

The International Trauma Interview (ITI; Roberts, Cloitre, Bisson, & Brewin, 2018) is a 12-item semi-structured interview that assesses the PTSD and CPTSD criteria based on the ICD-11 system and is administered by a clinician. The first part of the ITI is adapted from the CAPS-5 (Weathers et al., 2013) and measures PTSD symptoms. The second part focuses on assessing disturbances in self-organization. Both parts of the ITI have two additional questions that capture functional impairment. However, the ITI does not include a list of potentially traumatic events and must be used in conjunction with a trauma history tool such as the LEC-5 (Weathers et al., 2013). Following the administration of the LEC-5, individuals select a "worst" traumatic event, which is utilized to rate their symptoms. The ITI also assesses whether the PTSD and CPTSD symptoms began or worsened after the "worst" event. Researchers in Sweden found the ITI to have adequate internal reliability, as well as convergent and discriminant validity among a sample of adults exposed to potentially traumatic events (Bondjers et al., 2019).

ICD-11 Measures for Youth

Researchers have adapted the language of the ITQ for use with children and adolescents (ITQ-CA; Cloitre, Bisson, et al., 2018), with evidence for good construct validity of the both the PTSD and CPTSD diagnoses (Kazlauskas et al., 2020). To date, no other known instruments have been adapted for children or adolescents to assess PTSD and CPTSD based on the ICD-11diagnostic system. In addition, a recent study examined the psychometric properties of the adult version of the ITQ when utilized with a sample of Austrian children and adolescents in foster care and found the instrument to have good factorial, discriminant, and construct validity, as well as reliability (Haselgruber, Sölva, & Lueger-Schuster, 2020).

Assessment of DTD

As previously mentioned, although DTD is not currently recognized as a diagnosis in DSM-5 or ICD-11, there is a growing body of research supporting its validity. Thus, forensic assessors should be informed about potential instruments used to measure the presence of DTD among children and adolescents (see Ford, 2011, for a comprehensive review). For instance, the DTD Semi-Structured Interview (DTD-SI) is a 15-item tool administered by a clinician to a caregiver in order to assess the complex developmentally-related reactions proposed by the DTD criteria (Ford, Spinazzola, van der Kolk, & Grasso, 2018). The DTD-SI is used in conjunction with the Traumatic Experiences Screening Instrument (TESI; Ford, 2002) to assess potential Criterion A events and additional questions also must be added in order to establish the presence of functional impairment (Spinazzola et al., 2018). The DTD-SI has been used among diverse samples of youth, and researchers have found the instrument to have good interrater reliability, as well as construct, convergent, and discriminant validity (Ford, Spinazzola, et al., 2018; Spinazzola et al., 2018).

Additional Instruments for the Assessment of PTSD, CPTSD, and DTD Symptoms

The assessment of PTSD, CPTSD, and DTD in forensic contexts will be strengthened by the triangulation of data derived from multiple instruments and multiple measures. (Although we will only touch on a few key measures here, Brown, 2009; Ford, 2011; Spinazzola & Briere, 2020; Young, 2017b provide comprehensive reviews of evidence-based measures of complex trauma symptoms; and Brand, Schielke, Brams, & DiComo, 2017 provide a review of methods for assessing dissociative phenomena specifically in forensic contexts). For example, the administration of additional measures assessing specific trauma symptoms can provide convergent and incremental validity for the PTSD diagnosis and can also assess symptoms associated with CPTSD and DTD. Another benefit to incorporating additional instruments in the forensic assessment of PTSD, CPTSD, and DTD is to confirm the validity of the evaluee's responses and to detect potential malingering, as will be reviewed in more detail below (Brown, 2009; Young, 2017b).

Among the omnibus measures that assess an array of symptoms consistent with complex PTSD, the Trauma Symptom Inventory-2 (TSI-2; Briere, 2011) is a well-established and validated 136-item self-report measure for adults that captures symptoms of PTSD and complex trauma, although these are not indexed specifically to the DSM-5 nor ICD-11 criteria. Similarly, the Trauma Symptom Checklist for Children (TSCC; Briere, 1996) is a widely used 54-item self-report tool that assesses symptoms consistent with PTSD, CPTSD, and DTD, such as dissociation and cognitive dysregulation (Ford, 2011; Spinazzola & Briere, 2020) although, again, not in

relation to the DSM-5 nor ICD-11 criteria. Other instruments focused on cognitive and behavioral dysregulation may also help assess symptoms associated with CPTSD and DTD, particularly among children and adolescents (Ford, 2011; Spinazzola & Briere, 2020). For instance, the Child Behavior Checklist compendium (CBCL; Achenbach & Rescorla, 2001) includes youth self-report, parent-report, and teacher-reports to assess a range of psychological symptoms, including somatic, thought, and behavioral problems. Some studies have successfully used the TSCC and the CBCL in conjunction to assess CPTSD and DTD among children and adolescents (Stolbach et al., 2013; Wamser-Nanney & Vandenberg, 2013). Although attempts also have been made to create a cluster of CBCL items that would be sensitive to detecting PTSD according to older DSM models, evidence for the validity of the resulting Posttraumatic Stress Problems (CBCL-PTSP) scale has been questioned (Ayer et al., 2009).

Although not designed to diagnose PTSD, personality assessment instruments may be useful in the forensic assessment of PTSD, CPTSD, and DTD given that the clinical profiles may provide corroborating evidence for indicators consistent with these diagnoses (Brown, 2009; Spinazzola & Briere, 2020; Weathers et al., 2014). Among the existing adult personality measures, the Personality Assessment Inventory (PAI; Morey, 2004) may be particularly appropriate in forensic assessments given that it has a version normed on a correctional sample (PAI-CS; Edens & Ruiz, 2005). The PAI contains 344 questions in self-report format and provides a Traumatic Stress subscale, which assesses potential functional impairment related to trauma exposure. Although the PAI is not a diagnostic tool, a score of $T > 90$ on the Traumatic Stress subscale suggests that PTSD is likely. The utility of this subscale for detecting PTSD as defined by DSM-5 was confirmed by Blevins et al. (2015) in a study of trauma-exposed college students, in which the Traumatic Stress scale was the PAI scale most highly correlated with total PTSD symptom scores on the PTSD Checklist for DSM-5 ($r = .74$), whereas PAI subscales assessing psychopathologies dissimilar to PTSD (e.g., mania, antisocial features) evidenced low correlations with the PCL-5 total score.

Another well-established personality measure that can be used in forensic assessment is the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer 1989), a 567-item self-report tool that captures a wide range of symptoms. The MMPI-2 was not designed to assess PTSD, although MMPI-2 scales have been developed to capture symptoms consistent with posttraumatic stress, albeit much of this work has focused on earlier versions of the DSM diagnosis. For example, the Keane PTSD Scale (Lyons & Keane, 1992) correlates well with other measures of posttraumatic stress symptoms as defined by earlier versions of the DSM but, in keeping with the fact that the MMPI does not inquire as to whether symptom onset is associated with an index traumatic event, this scale is not closely

aligned with trauma history (Watson, Juba, Anderson, & Manifold, 1990).

An alternative instrument, the MMPI-2-Restructured Form (MMPI-2- RF; Ben-Porath & Tellegen, 2008), was developed to map conceptually and empirically on to more recent conceptualizations of personality and psychopathology (https://www.upress.umn.edu/test-division/MMPI-2-RF/mmpi-2-rf-overview). It includes a subset of 338 items from the original MMPI-2 item pool, and provides revised T scores for ease of interpretation (Sellbom, 2019). Again, most of the research investigating the correspondence between the MMPI-2-RF and posttraumatic stress continues to use measures of PTSD indexed to earlier diagnostic criteria, including studies published since the release of the DSM-5 (e.g., Choi, 2017; Koffel et al., 2016; see Sellbom, 2019 for a review). In a notable exception, Koffel, Polusny, Arbisi, and Erbes (2012) created scales to assess symptoms consistent with the DSM-5 PTSD criteria using items from the MMPI-2-RF. Although full coverage of all the DSM-5 criteria was not possible given the absence of relevant items on the MMPI-2-RF, reliable scales with good discriminant validity were created comprising Negative Expectations, Anger, and Aggressive Behavior.

An even newer instrument, the MMPI-3 (Ben-Porath & Tellegen, 2020) was released just this year and includes new norms, a Spanish translation, and 72 new items that are used to construct additional scales. Although none of these scales was intended to assess PTSD specifically, scales expected to be associated with PTSD on the basis of theory and prior research with the MMPI-2-RF include the newly expanded scale of anxiety-related experiences (ARX), as well as scales related to demoralization (RDd), and dysfunctional negative emotions (RC7; Whitman, Tylicki, Mascioli, Pickle, & Ben-Porath, 2020). In a recent study of the psychometric properties of the MMPI-3, Whitman et al. (2020) reported that, in a sample of 207 adults referred for neuropsychological outpatient treatment in the US, none of the MMPI-3 scales evidenced large associations with the DSM-5 diagnosis of PTSD. ARX was the only scale that emerged with a correlation high enough to be placed in the category of medium strength ($r = .24$) according to Cohen's (1988) guidelines for assessing power of point-biserial correlations, and yielded a relative risk ratio (RRR) of 4.77, 95% CI [1.22, 18.91] at a cutoff score of $T = 65$.

The PAI and MMPI also have versions for adolescents that have been widely utilized in forensic contexts, the PAI-A (Morey, 2007), the MMPI-A (Butcher et al., 1992), and the MMPI-A-RF (Archer, Handel, Ben-Porath, & Tellegen, 2016). Although attempts have been made to develop a trauma exposure subscale from items on MMPI-A (Trauma Scale for Juvenile Offenders; Murray, Glaser, & Calhoun, 2013), research has shown that, whereas trauma-exposed youth show detectable elevations on certain MMPI-A clinical scales (i.e., those assessing Paranoia, Psychasthenia, Schizophrenia, and Social Introversion), the MMPI-A alone is not a sensitive instrument for detecting a history of trauma exposure (Edner et al., 2020).

In sum, whereas none is a diagnostic instrument for PTSD, and none establish the presence of trauma exposure, the MMPI-2, MMPI-2-RF, the MMPI-3 and the PAI may provide information regarding symptom presentations that are consistent with PTSD or CPTSD (Brown, 2009; Ford, 2011; Weathers et al., 2014). Therefore, for both adults and youth, a recommended comprehensive strategy for the forensic assessment of PTSD, CPTSD, and DTD is to administer a battery of measures that includes a life events scale, a PTSD diagnostic instrument, the TSI-2 or TSCC, and an age-appropriate version of either the PAI or MMPI.

Challenges to the Forensic Assessment of PTSD and CPTSD

Limitations of the Available Assessment Instruments

A significant challenge to the assessment of PTSD in forensic settings is that few of the available instruments include validation and psychometric research that has conducted with justice-involved samples. Although this limitation does not preclude the use of the screening and diagnostic PTSD tools by forensic assessors, it does indicate that the instruments should be used with caution and that additional research and validation is needed. Furthermore, diagnostic interviews and self-report measures ask individuals to rate their symptoms in relation to a single index event; however, empirical evidence has not been brought to bear to confirm that people who have experienced multiple events are able to reliably identify the specific event that is associated with a specific symptom; thus, false imputation may occur, even if inadvertently (Knoll & Resnick, 2006). Moreover, because many adults and youth who come into contact with the justice system have experienced multiple and repeated traumatic events, an excessive response can ensue when tools require going back through each of the symptom criteria again for each Criterion A event experienced.

Lack of Attention to Trauma Exposure in Measures of Posttraumatic Stress Symptoms

Although it may seem obvious that the criteria for the PTSD diagnosis require exposure to a traumatic event, there are two reasons why the obvious warrants reiteration. First, a number of commonly used measures, such as the PCL-5 (Weathers et al., 2013), TSI-2 (Briere, 2011), and TSCC (Briere, 1996), ask for ratings of symptoms without inquiring whether their onset followed upon the experience of a Criterion A traumatic event. Nevertheless, symptoms consistent with those of posttraumatic stress alone are not sufficient to establish the diagnosis. A second reason that establishing the presence of Criterion A is crucial is that symptoms of PTSD overlap with those of many other disorders, as we review in more detail in the section on

differential diagnosis, most notably anxiety (e.g., symptoms of hypervigilance in the Criterion E cluster) and depression (e.g., symptoms of dysphoric affect and anhedonia in the Criterion D cluster). Therefore, establishing that the onset of such symptoms was in relation to a Criterion A event is a key to both establishing the presence of PTSD and to differential diagnosis.

Malingering

Malingering is defined as the purposeful production of false psychological or physical symptoms or highly exaggerated symptoms because of an external motivation (APA , 2013) such as monetary gain, being excluded from criminal responsibility, or gaining others' sympathy (Brown, 2009; Hall & Hall, 2006). Although the rates of malingering for PTSD have been debated (see Young, 2017b for an authoritative overview), the detection of fictitious PTSD has been considered an important issue in forensic psychology. Given that some researchers consider the fabrication of PTSD to be relatively easy to accomplish, due to the subjectivity of the symptoms and the fact that they are well-known to the general public (Hall & Hall, 2006; Knoll & Resnick, 2006), best practices are needed for conducting assessments that identify malingering and accurately assess for PTSD.

In addition to ensuring that a traumatic event has occurred that meets Criterion A, detection of malingering also requires determining whether reported symptoms actually relate to that event. One type of malingering is false imputation, when one's symptoms are attributed to a specific traumatic event although they are actually related to a different precipitant. For example, an evaluee may associate bone fide PTSD symptoms to an unrelated event for purposes of receiving compensation (Knoll & Resnick, 2006). On the other hand, those being evaluated may report symptoms that appear similar to posttraumatic stress but are associated with events that do not meet Criterion A. This may occur due to the common overuse of the term "trauma" to describe a wide range of adversities or stressful experiences. Accordingly, assessors will need to distinguish between normal reactions to distressing, but not traumatic, events versus disordered reactions that result in functional impairment as per the criteria for the PTSD diagnosis (Weathers et al., 2014). Of note, the specificity of the Criterion A definition in DSM-5, which lists the precise events and their characteristics that qualify for the criterion, may be less subject to this form of ambiguity than are the more general guidelines provided in ICD, thus making the DSM-5 potentially less vulnerable to misattribution errors or malingering.

After verifying an event that meets Criterion A is present, assessors must take into account the timing of symptoms in response to the event. Careful assessment can utilize records review (e.g., police reports, mental health progress notes), a detailed history of stressful and potentially traumatic life events and reactions, and corroboration of the information

through collateral data (e.g., from family members) with special attention to contradictions in the data (Hall & Hall, 2006; Knoll & Resnick, 2006). Assessing whether an evaluee's reported symptoms began after the alleged traumatic experience can be complicated when the evaluee has experienced multiple traumatic events or has an extended history of childhood trauma, however. Interestingly, research suggests that those who malinger may report an overly positive picture of their life before the alleged traumatic event and an overly negative and pessimistic view of their life in its aftermath (Brown, 2009; Knoll & Resnick, 2006). In addition, assessors are guided to attend carefully to whether evaluees meet DSM-5's Criterion G—functional impairment—given that this is a marker of the "true" PTSD diagnosis which may be overlooked by malingerers and which thus provides a particularly sensitive index for preventing "misuse of the diagnosis in forensic contexts" (Weathers et al., 2014).

Furthermore, it is important to consider that malingering likely exists on a continuum instead of comprising a taxon (Lilienfeld, Thames, &Watts, 2013), which can make the detection of malingering more difficult in the case of PTSD. For example, research suggests three types of malingering involving PTSD, including pure malingering in which symptoms are reported that do not exist, partial embellishment in which existing symptoms are overreported or remitted symptoms are reported as still present, and, as mentioned earlier, false imputation. The most common type of malingering detected involves the overreporting of existing PTSS (Hall & Hall, 2006; Knoll & Resnick, 2006). Thus, when evaluating the severity of symptoms, assessors must take into account the impact of factors that increase vulnerability for PTSD (e.g., previous traumatic events, pre-existing mental health disorders) and comorbid diagnoses related to reported symptoms (Knoll & Resnick, 2006), to accurately assess for exaggeration. Further complicating this issue, assessors need to consider that an evaluee may purposefully exaggerate bona fide PTSS in an attempt to ensure their distress is recognized or taken seriously (Brown, 2009). Thus, this type of exaggeration needs to be carefully assessed to determine if it is indicative of a "cry for help" rather than mendacity (Young, 2019). Of note, changes to DSM-5 that eliminated the potential for a partial PTSD diagnosis could make successful malingering more difficult given that one must now endorse the requisite number of symptoms from all four symptom clusters.

To aid in the detection of malingering, researchers have developed a number of specific assessment tools (see Young, 2017b for a detailed review). For example, the Miller Forensic Assessment of Symptoms Test (M-FAST; Miller, 2001) is a 25-item structured interview that assesses potential malingering of psychopathology. Although early empirical work indicated that the M-FAST had adequate sensitivity for detecting feigned PTSD, more recent scholarship raises concerns about the instrument's effectiveness in this regard (Howe, 2012; Wolf et al.,

2020). In turn, the Structured Interview for Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992) has proven effective in detecting feigned PTSD (Knoll & Resnick, 2006). Of particular relevance to the CPTSD diagnosis, because the measure was found to overidentify as malingers those with complex PTSD symptoms and dissociative symptoms, the developers created a Trauma Index to reduce false positives (Rogers, Payne, Correa, Gillard, & Ross, 2009), which has shown high sensitivity and specificity in detecting fabricated dissociative disorders (Brand, Tursich, Tzall, & Loewenstein, 2014), more so than the revised SIRS-2 (Rogers, Sewell, & Gillard, 2010). However, the emphasis on psychotic symptoms in the SIRS may limit its utility for detecting exaggerated PTSD. Alternatively, some of the commonly used trauma-specific measures offer indices of validity. For example, an elevation of the Atypical Response scale (ATR) on the TSI-2 (Briere, 2011) provides an index of potential malingering of posttraumatic stress symptoms (Brown, 2009; Young, 2017b). It is important to note that there also are different norms for the ATR for African Americans and Latinx individuals, which should be used to minimize the risk of false positives for malingering.

Omnibus psychopathology measures also provide general indices of malingering. For example, the PAI (Morey, 2004) has four validity scales, of which the Rogers Discriminant Function Index and the Negative Distortion Scale have the strongest empirical support (Brown, 2009; Young, 2017b). The MMPI-2 (Butcher et al., 1989) includes several validity scales designed to detect general patterns of inconsistent, exaggerated, or under-responding, including the Infrequency (F) scale, the Infrequency-Psychopathology (F(p)) scale, the F Back (Fb) scale, and the Dissimulation (Ds) scale. The Infrequency-Posttraumatic Stress Disorder scale (F_{ptsd}; Elhai et al., 2002) was developed specifically to detect malingering of posttraumatic stress, based upon a set of MMPI-2 items rarely endorsed by combat veterans with confirmed PTSD diagnoses as per DSM-IV criteria, and was designed to protect against falsely flagging the heightened responses of traumatized evaluees whose responses reflect genuine emotional distress (Klotz Flitter, Elhai, & Gold, 2003). The scale has performed well in detecting dissembling versus genuine posttraumatic stress symptoms in samples of adults (Elhai et al., 2002) with a F_{ptsd} score of $T > 90$ representing a likely indicator of malingering (Brown, 2009), although no exact cutoff criteria have been established. Research indicates that the psychometric qualities of the F_{ptsd} do not hold up well in the courtroom (Andrikopoulos & Greiffenstein, 2012; Young, 2017b), however; thus, forensic assessors may want to consider other available validity indices.

Similarly, the MMPI-2-RF offers several validity scales that have been proven to be sensitive and specific indices of general malingering (Wygant et al., 2009). For example, the Infrequent Responses (F-r) scale serves as an indicator of over-reporting of rare responses in the general population,

whereas the Infrequent Psychopathology Responses (Fp-r) assesses overreporting of symptoms of severe psychopathology in infrequently endorsed by general and psychiatric populations, and the Infrequent Somatic Responses (Fs) scale assesses exaggerated physical complaints rarely endorsed by general and medical populations (Sellbom, 2019). In turn, the Response Bias Scale (RBS) scale assesses exaggerated memory complaints whereas the Symptom Validity (FBS-r) scale assesses infrequently endorsed somatic and neurocognitive symptoms. Studies have indicated that the Fp-r scale is particularly accurate and effective in differentiating those with feigned and genuine posttraumatic stress symptoms (Goodwin, Sellbom, & Arbisi, 2013; Marion, Sellbom, & Bagby, 2011; Mason et al., 2013; see Young, 2017b).

In contrast to the various tools specific to the purpose of detecting malingered posttraumatic stress symptoms among adults, our review uncovered little relevant to youth, other than the Atypical Response scale (ATR) on the TSCC (Briere, 1996). Omnibus psychopathology measures such as the Millon Adolescent Clinical Inventory (Millon, 1993) and the Personality Inventory for Youth (Lachar & Gruber, 1995) include general validity indexes, and the MMPI-A and MMPI-A-RF include a small subset of validity scales designed to assess exaggerated symptoms in ways that parallel those of the adult versions. The MMPI-A includes three Infrequency scales (F, F1, F2) that are elevated when respondents agree with rarely endorsed items across the test, within the first half of the test, and within the second half, respectively. In turn, the MMPI-A-RF includes an Infrequent Responses (F-r) scale to assess over-reporting of severe symptoms of psychopathology. A supplemental Infrequency-Psychopathology (Fp-A) scale also has been validated for detecting "faking bad" on the MMPI-A (McGrath et al., 2000). However, our search of the literature did not uncover a PTSD-specific validity index for adolescents corresponding to the $F_{ptsd.}$ Moreover, adolescent norms do not appear to be available for other measures designed to detect general malingering, such as the M-FAST and SIRS-2.

Notably, given the limitations of any specific index of exaggerated or malingered symptoms, assessors should not rely on any one score but should triangulate data gathered from all sources in order to detect inconsistencies and to examine evidence in support of alternative hypotheses, such as genuine extreme distress. In this regard, other recommendations for limiting and detecting malingering have been suggested, as articulated by Knoll and Resnick (2006) and Hall and Hall (2006). First, the use of symptom checklists for detecting PTSD should be limited given that they may facilitate malingering by making obvious to the evaluee the symptoms of PTSD that should be endorsed. Use of an interview, in contrast, allows assessors to investigate the presence of malingering by gaining a clear understanding of the evaluee's reported symptoms and how they relate to the reported traumatic event. Use of

an interview also allows assessors to ask about rare or improbable symptoms or inconsistences in reported symptoms (e.g., reporting social detachment but remaining socially engaged with others), which could indicate malingering. Additionally, interview methods emphasize the use of open-ended questions and the avoidance of leading questions, which also makes successful malingering more difficult. Further, interviews provide assessors the opportunity to observe characteristics that may be associated with malingering, such as the evaluee avoiding discussion of previous disability cases or attempting to control an interview to avoid scrutiny. Additionally, other behaviors that may be present among those who malinger include providing an overly-detailed, coherent account of a traumatic experience; becoming defensive when questioned; or expressing overly pessimistic views about their future, which researchers have found is more common among malingerers than those whose PTSD symptoms are genuine (Brown, 2009), although catastrophizing should not be equated with malingering (Young, 2019). Finally, researchers have identified other characteristics that relate to malingering in forensic contexts, such as previous engagement in illegal behavior, antisocial attitudes, or a history of difficulty adjusting in social or work settings prior to the alleged traumatic event (Brown, 2009; Hall & Hall, 2006; Knoll & Resnick, 2006). In sum, assessment of malingering of PTSD in forensic contexts is a complicated task, but one that needs to be considered in any comprehensive evaluation.

The Challenges of Differential Diagnosis

Anxiety Disorders Although PTSD is no longer classified as an anxiety-spectrum disorder in DSM-5, many symptoms are similar across the two classes of disorders, most especially those PTSD symptoms characterized by anxious arousal (i.e., hypervigilance, exaggerated startle response; Byllesby, Durham, Forbes, Armour, & Elhai, 2016). Consequently, the comorbidity between PTSD and anxiety disorders is high and differential diagnosis can be challenging. The chief distinguishing factors between PTSD and anxiety related disorders include that the onset of anxiety is not required to be precipitated by a specific traumatic event, and that the diagnosis of PTSD requires other symptoms (e.g., re-experiencing, anger) that are not typically present in anxiety-related disorders (Friedman, 2013a). Interestingly, research has found that symptoms in the dysphoric arousal cluster (i.e., poor sleep, concentration problems, irritability) are elevated among those with PTSD but only weakly related to symptoms of anxiety (Armour et al., 2012; Byllesby et al., 2016); thus, these symptoms might warrant attention during differential diagnosis even though they are identified as signs of both PTSD and Generalized Anxiety Disorder in DSM-5.

Depressive Disorders It is important to note that PTSD is not the only outcome associated with traumatic experiences;

depression is a common posttraumatic reaction as well, a phenomenon particularly noted in justice-involved samples (Putnam, 2006a, 2006b). In fact, research has shown that almost half of those diagnosed with PTSD are also diagnosed with major depression, which may in part be a product of overlapping symptoms but also may be due to a shared vulnerability to the two disorders (Flory & Yehuda, 2015). The PTSD criteria with the greatest overlap with depressive disorders are the NACM symptoms of negative perceptions about the self or the world, inappropriate guilt, a persistent negative emotional state, diminished interested in activities, and difficulty experiencing positive emotions. PTSD symptoms of hyperarousal related to difficulty sleeping and concentrating also overlap with symptoms of depression. Furthermore, the criteria for DSM-5's Disruptive Mood Dysregulation Disorder for children and adolescents overlap with the PTSD hyperarousal symptoms of irritability, anger, and anger outbursts. Given these many points of overlap, it is important for assessors of PTSD to confirm that any such symptoms either began or *worsened* after a traumatic event. This criterion is particularly important given that a depressive presentation similar to the NACM criteria may have been present before the traumatic event occurred but evidence is needed that these symptoms worsened after the traumatic event to meet criteria for the PTSD diagnosis. Thus, careful consideration of the timing of symptoms is warranted, in addition to the presence of other PTSD symptoms that do not overlap with the criteria for depressive disorders, such as avoidance and re-experiencing.

Prolonged Grief Disorder Although currently in the section of the DSM-5 devoted to conditions for further study, prolonged grief disorder is currently planned for inclusion in the DSM-6, and differentiating PTSD from grief often emerges as an important consideration in forensic contexts when a trauma-related death is involved. Criteria for this disorder involve profound reactions to a significant loss, such as yearning for the deceased, as well as at least five of the following symptoms at least daily or to a disabling degree: feeling stunned, emotionally numb, or that life is meaningless; having mistrust; difficulty accepting the loss; identity confusion; bitterness over the loss; avoidance of the reality of the loss; or difficulty moving on with life. Similar to depressive disorders, these symptoms overlap with the PTSD NACM cluster but must be present in combination with the other PTSD clusters in order to meet criteria for the diagnosis. Additionally, although PTSD and Prolonged Grief Disorder both may emerge in the aftermath of a death, the death associated with Prolonged Grief Disorder does not necessarily have to be traumatic, whereas to meet Criterion A for PTSD the death must have been violent or unexpected.

Attention Deficit/Hyperactivity Disorder Especially among children and adolescents, there are challenges to reliably differentiating symptoms of PTSD from those of Attention Deficit/Hyperactivity Disorder (ADHD), and unfortunately the diagnostic systems do not address how to make this important differential. For example, PTSD symptoms involving difficulty concentrating or being distracted by intrusive thoughts may be mistaken for ADHD symptoms of inattentiveness just as PTSD symptoms of irritability, heightened reactivity to trauma cues, reckless behavior, or difficulty sleeping could each be attributed to ADHD-related hyperactivity (Cohen, 2010; Weinstein, Staffelbach, & Biaggio, 2000). Given that many symptoms of ADHD seem to overlap with, or could be mistaken for, those of PTSD, it is not surprising that research has found high rates of ADHD diagnosed in samples of traumatized children (Biederman et al., 2014; Weinstein et al., 2000). In fact, the misapplication of the ADHD diagnosis to traumatized youth was a major motivator for the DTD diagnosis, which was intended to put a trauma-focused frame around the disruptions in behavioral and emotional regulatory processes that arise in the context of early exposure to violence and impaired caregiving.

As with the other diagnoses we have discussed, a major culprit in the misdiagnosis of PTSD symptoms as ADHD is the failure to inquire routinely about traumatic experiences that precipitated symptom onset and to distinguish the developmental course of PTSD from that of a general behavioral pattern. Moreover, a key criterion to keep in mind for the diagnosis of ADHD is that symptom onset must be evident prior to the age of 12. However, the absence of childhood diagnosis of ADHD in an adult's or youth's history is not necessarily a rule-out, particularly for those from underresourced communities who might not have had access to the necessary diagnostic referral; therefore, a careful developmental history is needed. Moreover, youth of color who have difficulty sustaining attention in the classroom may be particularly vulnerable to misattributions of oppositionality or conduct disorder, whether those difficulties stem from ADHD (Fadus et al., 2020) or posttraumatic stress (Kerig, 2017), and consequently may be met with harsh disciplinary tactics, suspensions, or expulsions that funnel them into the "school to prison pipeline" (Barnes & Motz, 2018; Hemez, Brent, & Mowen, 2020; Simkins, Hirsch, Horvat, & Moss, 2004). Finally, as with all other diagnoses, the differential relies on the fact that the PTSD diagnosis requires symptoms to be present in all clusters. Thus, although the PTSD symptoms of hyperarousal may overlap with ADHD criteria, other symptoms such as avoidance, NACM, and re-experiencing are specific to PTSD.

Conduct Disorder, Oppositionality, and Antisocial Personality Other disorders that could be misdiagnosed when PTSD is present include disruptive behavior disorders among youth, such as conduct disorder and oppositional defiant disorder (ODD), and antisocial personality disorder

among adults, particularly in justice contexts where the likelihood of such disorders might be presumed. PTSD symptoms potentially overlap with those of disruptive behavior and antisocial disorders in various ways. First, PTSD symptoms of hyperarousal may present as irritability, anger, and even aggression (Pappagallo, Silva, & Rojas, 2004), just as posttraumatic reckless behaviors and irritability may be mistaken for signs of antisociality (Kerig & Becker, 2010). Additionally, PTSD symptoms of avoidance could be misinterpreted as signs of oppositionality and rule defiance when efforts to avoid trauma reminders are expressed through noncooperation or negativity (Pappagallo et al., 2004; Kerig, 2017). Furthermore, PTSD symptoms related to NACM or emotional numbing could lead to negative interpersonal interactions or misbehavior, which might be mistaken for childhood conduct problems or adult antisociality. Also important but challenging to distinguish is posttraumatic numbing arising from trauma exposure and the presence of dispositional callous-unemotional traits, which are associated with psychopathy among adults and the Limited Prosocial Emotions specifier in the childhood diagnosis of conduct disorder (Bennett & Kerig, 2014; Kerig, Bennett, Thompson, & Becker, 2012; Kerig et al., 2016). Notably, a significant body of longitudinal research has linked trauma exposure with later justice involvement, which leaves open the possibility that trauma exposure and PTSD might act as precursors to the development of antisocial and disruptive behavior disorders (see Kerig & Becker, 2015). However, it is imperative to distinguish between trauma-precipitated acting out and the persistent patterns of negative behavior that are associated with conduct disorder among youth, and antisocial personality disorder and psychopathy among adults.

Other Trauma- and Stressor-Related Disorders Other disorders from the Trauma- and Stressor-Related Disorders domain in DSM-5 are important to consider in the differential diagnosis of PTSD. First, a diagnosis of Adjustment Disorder does not require a traumatic event as necessitated by PTSD Criterion A. Instead, a stressor that precipitates Adjustment Disorder can be of any severity or type (e.g., a divorce, losing a job). Additionally, an Adjustment Disorder diagnosis is appropriate when Criterion A for PTSD is met but not all the other symptoms of PTSD are present, or when PTSD symptoms are present but in response to a stressful event that does not meet Criterion A. Another diagnosis to consider when assessing PTSD is Acute Stress Disorder, which is appropriate when PTSD symptoms emerge 3 days to 1 month following a traumatic event, in contrast to the one-month duration required for PTSD. In short, considering other stressor-related disorders is warranted given that not all reactions to severe stressors result in PTSD.

CPTSD and Borderline Personality Disorder Many critiques of the CPTSD diagnosis have focused on the argument that the symptoms appear to overlap significantly with those of other disorders, most especially borderline personality disorder (BPD) (Resick, Bovin, et al., 2012). For example, the diagnosis of BPD in DSM-5 includes symptoms of impulsivity, affective instability, and intense inappropriate anger, which might also be perceived as signs of CPTSD-related difficulties in affect regulation, negative sense of self, and interpersonal relationships. Studies have confirmed that there is substantial comorbidity of the two disorders, and indeed trauma exposure often is implicated in the development psychopathology of borderline personality (for a review, see Kerig, Ludlow, & Wenar, 2012). Nevertheless, Cloitre, Garvert, Weiss, Carlson, and Bryant (2014) have offered suggestions regarding the ways in which the diagnostic criteria for the two disorders might be differentiated. First, although trauma exposure is often seen among those with BPD, a Criterion A event is not required for diagnosis as it is with CPTSD. Second, although PTSD symptoms may be present in BPD, again, they are not required as in CPTSD. Third, although key interpersonal features of BPD include intense relationships marked by a fear of abandonment and vacillation between idealization and devaluation, the key interpersonal manifestation of CPTSD is avoidance of relationships. Fourth, BPD is characterized by an unstable self-concept, whereas in CPTSD self-identity is stably and consistently negative. Fifth, signs of emotion dysregulation in BPD frequently take the form of suicide attempts, parasuicidal behaviors, and self-harming, which are not commonly seen in CPTSD, whereas emotion dysregulation in CPTSD is more likely to present as emotional sensitivity, reactive anger, and maladaptive coping. Latent class analyses have demonstrated that the two disorders can be reliably distinguished, with BPD distinguished from CPTSD by higher elevations on symptoms assessing frantic efforts to avoid abandonment, unstable sense of self, erratic and intense relationships, and impulsivity (Cloitre et al., 2014; Hyland, Karatzias, Shevlin, & Cloitre, 2019).

Preexisting PTSD and Other Psychopathologies Throughout this section on differential diagnosis, we have highlighted the importance of establishing that the onset of PTSD symptoms can be clearly attributed to a specific index traumatic event. This can be a complicated endeavor, however, when evaluees present with a long history of diverse trauma exposures which were experienced at different developmental periods and resulted in different outcomes—some with acute symptoms, some with cumulative effects, others with evidence only of later "sleeper effects", and yet others with resilience (Kerig, 2017). This problem is particularly relevant to the CPTSD diagnosis, which implicates multiple forms of trauma (e.g., exposure to violence and attachment disruptions) in the early years of life. Accordingly, forensic assessors must be prepared to face challenges in court to prove that, even if PTSD is the correct diagnosis, the symptoms arose from the

specific event at issue; a carefully documented developmental and medical history will be needed to serve this purpose. Moreover, establishing such a cause-and-effect association may be further complicated by the presence of symptoms of major psychopathologies (e.g., psychosis, personality disorder) prior to the specific event that triggered the present PTSD, making it difficult to establish a "worsening" of an evaluee's behavioral and mental health given preexisting functional impairments. The psychological test response patterns of such individuals also may raise "red flags" on measures designed to detect invalid, exaggerated, or feigned symptoms, and yet represent genuine PTSD that is comorbid with other serious psychopathologies. Despite the ways in which they might complicate the picture, however, the presence of preexisting psychologies should not preclude from consideration valid evidence that the presenting complaint is genuine PTSD originating from the index event.

Cultural, Racial, and Ethnic Considerations

A further complicating factor for the assessment of PTSD and CPTSD in forensic contexts is the highly disproportionate representation of ethnic and racial minorities in both the adult and juvenile justice systems, whereas, as noted, the samples on which most diagnostic measures have been validated are often lacking in diversity. Thus, assessors are left to their own devices when incorporating cultural, racial, and ethnic considerations into the assessment of PTSD. A number of considerations are relevant. For example, cultural groups may have disproportionate exposure to potentially traumatic events, which elevates their risk for PTSD (APA, 2013; Kohrt et al., 2013; Rocchio, 2020). For example, large-scale prevalence studies conducted in the US show that, after controlling for types of trauma exposure and other demographic characteristics, African Americans, Native Americans, and Latinx individuals report higher rates of PTSD relative to whites (APA, , 2013). Racial and ethnic minority groups also have experienced specific historical traumas such as slavery and genocide, which may affect the onset, severity, and presentation of PTSD and CPTSD; furthermore, many racial and ethnic minority groups have experienced racism and discrimination which, although not necessarily consistent with the definition of Criterion A, may accumulate over the lifetime and result in trauma-related symptoms (Bernard et al., 2020; Brown, 2009; Carter, 2007; Carter, Muchow, & Pieterse, 2018; Mendez, Mozley, & Kerig, 2020).

As Marsella (2010) notes, cultural, ethnic, racial, and religious differences come into play in a variety of ways related to PTSD. There may be cultural differences in what people consider a traumatic event just as cultures may also attribute diverse meanings to traumatic events and PTSD symptoms. Similarly, the expression of PTSD symptoms and clusters may look different across cultures. In particular, research indicates that avoidance, numbing, and somatic symptoms may exhibit different patterns across cultures (APA, 2013). PTSD symptoms may also be expressed through culturally specific idioms and syndromes of distress. For instance, in Latin American, the panic-related syndrome ataque de nervios appears to be linked to trauma exposure and PTSD. Additional cultural considerations include the sociocultural context, and other factors, such as level of acculturation and acculturative stress, which may function as risk or protective factors for PTSD.

Forensic evaluators also should be thoughtful regarding additional power differentials that may affect the assessment process due to cultural, racial, or ethnic differences between the assessor and evaluee as well as the cultural appropriateness of the language, format, and norms of the assessment instruments (Brown, 2009; Rocchio, 2020). Systemic racism and implicit bias also must be considered in that disproportionately harsh sentencing and incarceration may entrench in the justice system individuals of color whose disruptive behavior stems from trauma exposure (Mallett, 2017). In sum, there are critical cultural, racial, and ethnic considerations that need to be incorporated in the forensic assessment of PTSD and CPTSD.

Implications for Future Research and Clinical Practice

As pointed out in Young and colleagues' (Young, 2016, 2017a, 2017b; Young et al., 2014) cogent and detailed critiques of the current PTSD diagnoses, there are many questions future research needs to address and many reasons to expect that the DSM-6 will bring changes accordingly. We will touch upon only a few key issues here:

Criterion A May Not Be a Unidimensional Construct

An ongoing question with which research on PTSD and CPTSD must be concerned is whether there are different symptoms—or even different diagnoses—that follow from the experience of specific kinds of traumatic stressors. Empirical research has associated a wide range of stressors with PTSS, and sometimes with the full-blown PTSD diagnosis, including single-incident life threatening experiences or sexual violence (Criterion A events); repeated and longstanding endurance of such stressors (chronic trauma); life trajectories marked by multiple, enduring traumatic events (cumulative trauma); violence experienced in the context of personal relationships (interpersonal vs. noninterpersonal trauma; the experience of multiple forms of interpersonal trauma (polyvictimization); prolonged exposure to inescapable human malevolence (complex trauma); growing up in

environmental contexts that are unsafe, inadequate, or non-nurturing (adverse childhood experiences, or ACEs); wrongdoing or betrayal by a trusted individual (moral injury or betrayal trauma); trauma specific to the violent or unexpected death of a loved one (traumatic grief); or other profoundly psychologically injurious experiences (e.g., rejection by a romantic partner, racism) (see Kerig, 2017). A developmental perspective also is needed, in that adversities that do not meet DSM-5 criteria for life threat among adults (e.g., separation from a caregiver) can in fact do so among young children (Bowlby, 1980; Spitz, 1946), in addition to the fact that adults, adolescents, and children all label a wide range of negative interpersonal experiences as "traumatic" and demonstrate PTSD in their aftermath (Taylor & Weems, 2009). Regarding ongoing debates about the boundaries between Criterion A traumas and ACEs, these could be informed by a developmental psychopathology literature so-far mostly overlooked among PTSD investigators, which differentiates between forms of adversity associated with threat (e.g., physical abuse) versus deprivation (e.g., neglect; McLaughlin, Sheridan, & Lambert, 2014), or, alternatively, between environmental harshness (e.g., community violence) versus unpredictability (e.g., homelessness; Ellis, Figueredo, Brumbach, & Schlomer, 2009). These different forms of adversity have been demonstrated to result in different psychological and biological consequences related to their distinct effects on the stress response system and the cognitive, affective, and interpersonal adaptational strategies that develop in their aftermath, which can include aggression, rule violations, and other antisocial behaviors (Del Giudice, Hinnant, Ellis, & El-Sheikh, 2012). Lumping these different kinds of experiences under either the rubric of ACEs or Criterion A may not serve us well. In sum, it seems worth considering the possibility that different kinds of traumatic experiences have different kinds of effects and that distinguishing among them may better serve to inform prediction, identification, and intervention in PTSD in general and in forensic contexts, in particular.

Potential Typologies of Posttrauma Response

Parallel to the idea that different traumatic experiences result in different outcomes, a growing body of research is promoting the idea that there may be different typologies of PTSD represented by elevations in specific symptom clusters (Kerig, 2019a, 2019b; Weems, 2019). This possibility is obscured by the current DSM-5 and ICD-11 requirement that symptoms in all clusters must meet threshold; consequently, given that partial PTSD no longer in the mix, PTSD cannot be considered as a diagnosis for those who demonstrate clinically significant symptoms in some, but not all, clusters, a phenomenon that has been observed often among traumatized children and adolescents (Cohen & Scheeringa, 2009). Particularly of interest in forensic contexts is the proposition that an externalizing

subtype of PTSD may exist. Previous research has distinguished between internalizing and externalizing personality types among those diagnosed with PTSD, based on profiles derived from measures of temperament (e.g., Miller & Resick, 2007), interpersonal traits (e.g., Thomas et al., 2014), and personality, including the MMPI-2 (Castillo et al., 2014; Forbes, Elhai, Miller, & Creamer, 2010). A more recent proposition is that there may be discrete subtypes of PTSD itself, with distinct presentations and PTSD symptom elevations (Kerig, 2019a, 2019b). One such proposed subtype is comprised of individuals who endorse the newly-added Cluster E symptoms of anger and reckless/self-destructive behavior (e.g., Armour et al., 2015; Wang et al., 2017). Notably, these are the PTSD symptoms that are most predictive of posttraumatic disruptive behavior, hostility and rule-violations in community samples (Cao et al., 2017; Castillo et al., 2014; Pietrzak et al., 2015) as well as the severity of offending and recidivism in justice-involved samples (Modrowski & Kerig, 2019). Although the behavioral manifestations of antisocial personality/conduct disorder and the externalizing subtype of PTSD may seem isomorphic on the surface, the underlying pathogenic processes and the corresponding interventions needed are likely to markedly differ (Ford, Kerig, Desai, & Feierman, 2016; Kerig & Becker, 2010).

Furthermore, in keeping with the longstanding proposition that PTSD is inherently a disorder of emotion dysregulation (Horowitz, 2011; Kerig, 2020), another proposed typology with potential relevance to forensic contexts is the distinction between PTSD presentations characterized by predominant symptoms representing the undermodulation of emotions (e.g., re-experiencing and arousal) versus those characterized by overmodulation (e.g., avoidance and dissociative symptoms; Frewen & Lanius, 2006). Research evidence from both adult and adolescent samples suggests that overmodulation and undermodulation PTSS subtypes can be reliably distinguished, and that they are associated with distinct constellations of emotional and behavioral problems (Hopper, Frewen, van der Kolk, & Lanius, 2007; Lanius et al., 2010; Modrowski, Chaplo, Kerig, & Mozley, 2019; Mozley, Lin, & Kerig, 2018). Notably, many of the studies investigating these subtypes have utilized continuous ratings of the frequency or severity of each of the symptoms in the relevant PTSD clusters, in contrast to merely judging the binary presence/absence of a symptom cluster based on endorsement of the minimum required number of symptoms, as per the current diagnostic systems (e.g., only one symptom of intrusions is required to meet the DSM-5 criteria for that cluster, but four potential symptoms are listed in the diagnosis, and there may be meaningful differences between those who endorse all symptoms, particularly when they do so with high frequency and intensity, versus those who endorse only the minimum). In future research, the examination of more nuanced patterns of traumatic stress response might be furthered by the development of diagnostic systems based on

dimensional approaches employing continuous ratings of symptoms, in contrast to the discrete categorical approaches to nosology and binary ratings of presence/absence of symptoms that currently prevail (Broman-Fulks et al., 2006; Kotov et al., 2017).

Needed Measurement Development, Refinement, Validation, and Diversification

Throughout this review, we have pointed to shortcomings in many of the available assessment tools for the diagnosis of PTSD, most of which have undergone limited validation on samples lacking in diversity. Many of these measures are new to the scene, having been constructed in response to rapidly changing diagnostic criteria, whereas the process required for scale validation is a lengthy and resource-intensive one. It is remarkable to think that discussions toward the DSM-6 are already underway and yet newer diagnostic criteria may be coming in the foreseeable future but hopefully the challenge will be met promptly by measure developers and translational clinician-researchers.

DSM-5 Criteria Versus ICD-11 Criteria Versus the Results of Empirical Research

The construction of any diagnostic system is a lengthy, complicated, and sometime fraught process in which consensus must be reached among diverse stakeholders with divergent views. In the short term, the strikingly different paths taken by the developers of DSM-5 and ICD-11 may create dilemmas for practitioners, particularly those tasked with speaking authoritatively about what is "true" regarding PTSD in high-stakes contexts such as courtrooms. However, in the longer term, the fact that we now have two such distinct versions of the diagnosis promises to be a catalyst for PTSD research and ultimately may help to exchange orthodoxy with science-mindedness as we turn to a new generation of research to inform us as to the strengths and limitations of the ways in which DSM-5 versus ICD-11 capture the phenomenology of PTSD. In this paper, we have raised a number of potential questions for future research to address, including investigating the implications of the different definitions of trauma exposure in DSM-5 versus ICD-11, and tracking the outcomes for individuals diagnosed under DSM-5 who would have met criteria for CPTSD had they been diagnosed using ICD-11 criteria.

Conclusion

The call for justice systems to engage in trauma-informed practices has been sounded at the national level (Listenbee & Torre, 2012) and the response by local jurisdictions has

highlighted the need to include assessments of trauma exposure and posttraumatic stress reactions in a wide range of court-related and forensic contexts (Howard & Tener, 2008). Accordingly, skills in trauma assessment have become an essential professional competency for those conducting psychological evaluations in both the adult criminal and juvenile justice systems (Kerig et al., 2015; NCTSN Justice Coordinating Committee, 2016). These skills include recognizing the distinctions between trauma exposure and posttraumatic stress reactions; comprehending the diagnostic criteria for PTSD and CPTSD as defined (or excluded) by DSM-5 versus ICD-11, respectively; facility with validated measures for PTSD, CPTSD, and associated symptoms and knowledge of their strengths and limitations; ability to carry out differential diagnoses of PTSD, CPTSD, and potentially overlapping disorders; appreciation of the need to take into account cultural, ethnic, and racial diversity in the idioms and expressions of posttraumatic stress reactions; and the skill to detect malingering with sufficient sensitivity and specificity to accurately distinguish between mendacity motivated by personal gain and a genuine posttraumatic "cry for help" (Young, 2019).

Compliance with Ethical Standards

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