Clinical Significance of a Proposed Developmental Trauma Disorder Diagnosis: Results of an International Survey of Clinicians

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ABSTRACT

Objective: Maltreatment, family violence, and disruption in primary caregiver attachment in childhood may constitute a developmental form of trauma that places children at risk for multiple psychiatric and medical diagnoses that often are refractory to well-established evidence-based mental health treatments. No integrative diagnosis exists to guide assessment and treatment for these children and adolescents. This study therefore assessed clinicians' ratings of the clinical utility of a proposed developmental trauma disorder diagnostic framework.

Method: An Internet survey was conducted with an international convenience sample of 472 self-selected medical, mental health, counseling, child welfare, and education professionals. Respondents made quantitative ratings of the clinical significance of developmental trauma disorder, developmental trauma exposure, and symptom items and also posttraumatic stress disorder (PTSD) and other Axis I internalizing and externalizing disorder symptom items for 4 clinical vignettes. Ratings of the discriminability of each developmental trauma disorder item from PTSD, other anxiety disorders, affective disorders, and externalizing behavior disorders, and of each developmental trauma disorder item's amenability to existing evidence-based treatments for those disorders, also were obtained.

Results: Respondents viewed developmental trauma disorder criteria as (1) comparable in clinical utility to criteria for PTSD and other psychiatric disorders; (2) discriminable from and not fully accounted for by other disorders; and (3) refractory to existing evidence-based psychotherapeutic treatments.

Conclusions: The exposure and symptom criteria proposed for a developmental trauma disorder diagnosis warrant clinical dissemination and scientific field testing to determine their actual clinical utility in treating traumatized children with complex psychiatric presentations.

J Clin Psychiatry 2013;74(8):841–849

Submitted: *July 19, 2012; accepted January 17, 2013 (doi:10.4088/JCP.12m08030).*
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The diagnosis of posttraumatic stress disorder (PTSD) was first introduced in the American Psychiatric Association's *Diagnostic and Statistic Manual of Mental Disorders, Third Edition,* in 1980[1] to describe the constellation of problems with intrusive reexperiencing of traumatic memories, avoidance and emotional numbing, and hyperarousal exhibited by combat veterans and women exposed to domestic violence or rape.[2] Since this formal recognition of a unique constellation of symptoms experienced by trauma survivors in the diagnosis of PTSD, dramatic scientific progress and clinical innovation has occurred in the traumatic stress field.[3,4]

Even before the PTSD diagnosis was formalized, clinicians had identified subgroups of childhood interpersonal trauma survivors with symptoms of dysregulation[5]—including problems in managing extreme emotion states, disruptive behavior, somatoform symptoms, conflict in or withdrawal from relationships, and identity impairments—that are more complex than those of PTSD.[6] Substantial evidence indicates that traumatized children are at risk for developing all of these types of biopsychosocial dysregulation in addition to, and in the absence of, PTSD.[7] Moreover, there is evidence that the dysregulation experienced by polyvictimized children and adolescents not only leads to polydiagnosis and polytreatment but also cannot be accounted for fully by PTSD or other psychiatric disorders.[8–10] Dysregulation symptoms have been shown to comprise a transdiagnostic syndrome specific to maltreated children.[11–13] These findings have spurred the development[14] and empirical validation of[15–17] treatments designed to treat children with complex forms of posttraumatic dysregulation. A formal diagnosis could greatly spur this progress, as is evident in the growth of the PTSD field since its formal codification.

Scientific and clinical studies suggest that a syndrome described as developmental trauma disorder[18] may fulfill these criteria.[5,7] Developmental trauma disorder defines symptoms of affective, somatic, cognitive, behavioral, interpersonal, and self-identity dysregulation that constitute a "silent epidemic of neurodevelopmental injuries"[19] caused by victimization[20] typically beginning early in childhood.[21] The fiscal cost of childhood victimization in the United States—identified by the Centers for Disease Control[22] as the most significant current public health issue—was $103.8 billion in 2007.[23] Children exposed to multiple forms of victimization—polyvictims—are particularly at risk: they constituted one-third of children in a nationally representative sample[24] and 75% of children surveyed nationally in traumatic stress treatment programs.[25] The multiple forms of psychobiological dysregulation experienced by many polyvictims extend beyond PTSD[8,26–34] and persist into adulthood.[35,36] They also often fail to benefit from evidence-based treatments,[37–43] receiving multiple diagnoses as children,[8,44] adolescents,[45] and adults,[46] and complex treatment regimens[47,48] that may lead to adverse reactions.[49–51] However, polyvictimized children

Clinical Points

- Children in or in need of psychiatric treatment for multiple comorbid diagnoses should be assessed for a history of traumatic victimization and disrupted caregiver attachments.
- The sequelae of childhood traumatic victimization and disrupted caregiver attachments are a set of symptoms that clinicians identify as clinically significant and not fully accounted for by existing psychiatric diagnoses or effectively treated by existing evidence-based treatments.
- Developmental trauma disorder may provide a parsimonious, single efficient diagnosis to guide the treatment of traumatized children who present with multiple psychiatric diagnoses.

have been shown to benefit when provided with treatments that address the adverse impact of victimization on self-regulation.[15,52–58] Similarly, adults with histories of childhood victimization have been found to benefit from treatments designed to enhance their ability to regulate emotions and impulsivity.[16,17,59–61]

However, before undertaking the massive changes in mental health systems required by instituting a new diagnosis, it is essential to show that the costs and effort are justified by the incremental clinical utility of a proposed diagnosis.[62] Draft criteria for adding a disorder to *DSM-5* have been formulated,[63] requiring that new diagnoses must be prevalent, confer significant morbidity, and lack efficient diagnoses or effective treatment. They also identify tests of face validity (eg, by surveying clinicians) as key to demonstrating clinical utility. If clinicians consistently evaluate the criteria of a proposed diagnosis or practice as highly useful for conveying unique information about patients that can facilitate treatment planning and monitoring, then it would seem that the diagnosis or practice will actually be used in practice. Although clinician ratings alone cannot validate a diagnosis or its criteria, they can provide guidance in selecting criteria that are most likely to be both informative and actually adopted in practice.[64–66]

Therefore, the present study was designed to evaluate developmental trauma disorder with regard to 2 other fundamental criteria for diagnoses[62]: clinical utility ("a helpful guide to clinical practice"[62[p561]]) and discriminability from other psychiatric disorders. These criteria require that practicing clinicians judge a diagnosis to be value-added by enabling them to parsimoniously and accurately characterize clinically significant problems more accurately than existing diagnoses. On the basis of clinical research literature summarized above, we expected that the types of trauma (ie, childhood victimization involving disruption of primary caregiver bonds) and dysregulation of emotion, bodily processes, cognition, behavior, relationships, and identity postulated for developmental trauma disorder would be consistently judged by clinicians to be useful for clinical formulations and treatment planning, distinctive in relation to existing psychiatric disorders and their criteria, and refractory to the available evidence-based pharmacotherapy and psychotherapy treatment models.

METHOD

Procedure

Clinicians providing mental health, counseling, social work, or pediatric services to children or families were invited to participate in an anonymous Internet survey using a snowball sampling approach. Initially, invitations were sent to organizations and agencies in the public systems sampled in the Patterns of Youth Mental Health Care in Public Service Systems study[67] and in a large national consortium of traumatic stress treatment providers for children in the United States (the National Child Traumatic Stress Network) and an international professional organization representing traumatic stress clinicians and researchers (the International Society for Traumatic Stress Studies). The survey was posted on an encrypted SurveyMonkey site using a protocol approved by the Institutional Review Board of the University of Connecticut Health Center.

Sample

Respondents included 472 child-serving professionals: 34% psychologists, 29% social workers, 27% counselors, 13% marriage and family therapists, 7% psychiatrists, 6% educators, 6% child protective services workers, 4% case managers, and 4% pediatricians or pediatric nurses. They represented a range of professional experience, with 27% reporting more than 20 years, 27% reporting 10–19 years, and 41% reporting less than 10 years.

A number of respondents (23%) were from countries other than the United States: Australia, Canada, Israel, the Netherlands, and Sweden. Respondents were predominantly female (78%) and white (80%), and included 6% self-identified as Hispanic. The median age was 45 years old.

Responses for each section of the survey were included in analyses only for respondents who included all items in that section. Respondents who completed each section were generally comparable to others except in being more likely to be psychologists than from other disciplines for vignette 1 ($\chi^2_1 = 5.92$), discriminability ($\chi^2_1 = 5.45$), and independence ($\chi^2_1 = 7.07$) ratings and in being more likely to be counselors than from other disciplines for the treatment response ratings ($\chi^2_1 = 6.60$); all P values $< .05$.

Measures

The clinician survey consisted of primarily forced-choice questions designed to require 45–60 minutes to complete. After a 1-page introduction, institutional review board–approved passive consent notification, and brief survey of demographics, an explanation of the first 2 ratings—clinical utility (usefulness for case formulation, treatment planning, and professional communication for this child) and significance (extent to which improvement in this symptom is of significance when the therapeutic gain/outcomes for this child are assessed)—was provided with specific anchors on 9-point rating scales. Each of the next 4 sections began with a detailed 1-page case vignette (see Table 1 for a summary), followed by a list of 39–42 features (6 types of developmental trauma

Table 1. Summary Description of the 4 Case Vignettes

Vignette 1: 15-year-old obese aggressive Latina
Childhood sexual, physical, and emotional abuse; parental domestic violence
≤ 20 out-of-home placements since age 8
Diagnoses: posttraumatic stress disorder, reactive attachment disorder, associative disorder, intermittent explosive disorder, bipolar disorder
Described as vengeful, impulsive, reckless, having extreme mood swings, having an explosive temper, self-harming
Describes self as "garbage, worthless, reject"
Strengths: determined, studious, articulate
Vignette 2: 13-year-old adopted white girl
Biological mother diagnosed with substance use disorder; adoptive mother ill/died; childhood sexual and physical abuse by babysitters/temporary caregivers
13 crisis hospitalizations for suicide/self-harm
Diagnoses: bipolar disorder; intermittent explosive disorder; reactive attachment disorder; attention-deficit disorder, hyperactive subtype; oppositional defiant disorder; substance use disorder
Described as isolative, controlling, explosive, sexualized, intrusive, vindictive, narcissistic
Describes self as "disgusting, wish I was dead"
Strengths: engaging, self-reliant, reading
Vignette 3: 11-year-old adopted African American boy
Childhood physical abuse and possible sexual abuse, parental domestic violence, biological mother diagnosed with substance use disorder and had termination of parental rights when son was age 2—but mother now seeks renewed contact
Diagnoses: reactive attachment disorder, social anxiety disorder, major depressive disorder/ dysthymic disorder, conduct disorder, substance use disorder
Described as manipulative, unpredictable, having separation anxiety, callous, isolative, defiant
Describes self as "confused, guilty, hopeless"
Strengths: intelligent, popular, affectionate
Vignette 4: 7-year-old Asian American boy of Cambodian descent
Witnessed parents being assaulted, brother's murder, grandfather's dissociative violence
Diagnoses: pervasive developmental disorder, schizophrenia, child disintegrative disorder, stereotypic movement disorder, attention-deficit disorder, developmental coordination disorder
Symptoms: stereotypic self-harm/soothing, command/threat hallucinations, unpredictable rage, relates to objects not people, wanders off
Described as odd, in his own world, spaced out, distractible, uncoordinated, a loner
Describes self as "quiet, happy by myself, I see lots of pictures in my mind"
Strengths: follows rules and routines, good at math, computers, and video games

and 23 proposed developmental trauma disorder symptoms, followed by 10–13 symptoms of *DSM-IV* disorders characterizing each composite child) that were separately rated for clinical utility and clinical significance. Sample items for the developmental trauma features and developmental trauma disorder symptoms included experienced or witnessed violent assault, actual or threatened sexual violation, repeated separation from primary caregiver(s), inability to recover from dysphoric states, and persistent inability to experience positive affect.

The second section of the survey did not refer to a clinical vignette but asked 116 questions based on 4 ratings of the extent to which each of the 29 developmental trauma disorder features was discriminable (not at all to completely "distinct") from the symptoms of (1) PTSD, (2) other anxiety disorders, (3) depression or bipolar disorder, and (4) attention-deficit, oppositional-defiant, or conduct disorders. In addition, another 115 items elicited ratings of the (1) extent of overlap with any other psychiatric disorder and (2) perceived effectiveness of existing evidence-based pharmacotherapies or psychotherapies for each of those 4 sets of children's psychiatric disorders in remediating each of the 23 developmental trauma disorder symptoms.

Items were constructed by following the template used in prior expert consensus surveys[66,68] and drawing on guidelines for establishing clinical utility[62,69,70] with 9-point Likert scale ratings. The items were based on a childhood complex PTSD formulation developed by a group of content-matter experts from the National Child Traumatic Stress Network and provisionally titled "developmental trauma disorder."[18] Survey items corresponded to developmental trauma disorder criteria: A (6 items, each representing a type of interpersonal victimization; ie, physical assault victim or witness; sexual trauma; separation from or absence of a primary caregiver; emotional abuse by a primary caregiver; neglect by a primary caregiver), B (9 items, each representing a symptom of emotion or somatic dysregulation), C (7 items, each representing a symptom of cognitive or behavioral dysregulation, including self-harm and self-soothing), and D (7 items, each representing a symptom of relational-dysregulation or self-dysregulation, including expectancy of betrayal and abandonment and belief that self is permanently damaged). Each vignette was also rated on an additional 11–14 symptom items taken from *DSM-IV* criteria for likely alternative or comorbid disorders (which were purposefully varied to be appropriate to each case vignette).

The vignettes were written by the first author and independently judged by 6 experienced clinicians (with 100% agreement) to represent (1) PTSD with dissociative and reactive attachment features; (2) anxiety and affective disorders; (3) conduct/ oppositional-defiant disorder, attention-deficit/ hyperactivity disorder (ADHD), and substance abuse disorders; and (4) autism-spectrum and psychotic disorders. Vignettes (available by request from J.D.F.) are summarized in Table 1.

The next set of questions elicited ratings regarding the discriminability of the 29 developmental trauma disorder items from (1) PTSD and from each of 3 classes of psychiatric disorders; (2) other anxiety disorders; (3) affective (depression and bipolar) disorders; and (4) ADHD, oppositional-defiant, and conduct disorders. Each developmental trauma disorder symptom was then rated for the strength of agreement (from 1 = complete disagreement to 9 = complete agreement) with the statement, the symptoms "provide information about a child that is not fully provided in any existing diagnosis." Finally, each developmental trauma disorder symptoms response to evidence-based treatments for PTSD, anxiety disorders, mood disorders, and externalizing disorders was rated on 9-point Likert scales.

Table 2. Clinician Ratings of Clinical Utility for Features of Existing Disorders and Developmental Trauma Disorder[a]

	Vignette 1 (n = 437)		Vignette 2 (n = 279)		Vignette 3 (n = 236)		Vignette 4 (n = 214)	
	Mean (SD), Range	95% CI	Mean (SD), Range	95% CI	Mean (SD), Range	95% CI	Mean (SD), Range	95% CI
Existing *DSM-IV/DSM-5* disorder symptoms	6.35 (1.76)–7.89 (1.66)	6.19–8.04	5.35 (2.38)–6.87 (2.02)	5.08–7.10	5.13 (3.01)–7.89 (1.50)	4.76–8.07	6.42 (2.46)–8.00 (1.26)	6.10–8.16
Developmental trauma disorder criterion A events	8.04 (1.23)–8.39 (1.19)	7.93–8.49	5.43 (3.00)–7.82 (3.05)	5.12–8.03	6.31 (2.55)–7.84 (1.67)	6.00–8.04	3.61 (3.02)–7.97 (1.71)	3.22–8.19
Developmental trauma disorder dysregulation symptom								
Affective/somatic	6.14 (2.18)–6.92 (1.66)	5.94–7.06	6.23 (2.27)–7.31 (1.61)	5.97–7.49	4.13 (2.71)–6.49 (1.96)	3.80–6.73	4.02 (2.79)–7.57 (1.61)	3.65–7.78
Cognitive/behavioral	6.2 (1.88)–7.23 (1.57)	6.02–7.37	5.92 (2.12)–7.73 (1.48)	5.68–8.03	4.95 (2.46)–6.45 (2.04)	4.65–6.70	4.26 (2.89)–7.35 (1.74)	3.88–7.58
Relational/self	5.55 (2.04)–7.28 (1.72)	5.36–7.44	4.32 (2.36)–6.94 (2.02)	4.05–7.17	4.15 (2.59)–7.02 (2.09)	3.83–7.28	3.39 (2.70)–5.68 (2.67)	3.04–6.03

[a]Range from lowest to highest mean for that symptom/item domain.

Statistical Analyses

Consistent with the approach of prior consensus surveys,[66,71] ratings were aggregated based on mean scores and 95% confidence intervals (CIs). The distribution of ratings for clinical utility and significance was organized in 3 categories: first line (95% CI ≥ 6.5), indicating a consistent high level of perceived utility or significance; second line (95% CI, 3.5–6.5), indicating moderate perceived utility or significance; and third line (95% CI < 3.5), indicating unacceptable clinical utility or significance. Discriminability ratings were dichotomized, with items that were considered discriminable from PTSD if 95% CI ≥ 4 (expecting some overlap with PTSD) and from other anxiety or affective or externalizing behavior disorders if 95% CI ≥ 5. A more conservative requirement (95% CI ≥ 6) was used to identify items that were considered not accounted for by other diagnoses. Developmental trauma disorder items were classified as refractory to treatment if they were rated as, at most, partially remediable by available evidence-based treatments (95% CI ≤ 6).

RESULTS

Clinical Utility Ratings

Table 2 displays the range of clinical utility ratings for existing psychiatric disorders, developmental trauma disorder event items, and each domain of developmental trauma disorder symptoms. The highest-rated specific items for vignette 1 (a 15-year-old Latina diagnosed with PTSD, reactive attachment disorder, dissociative disorder, intermittent explosive disorder, and bipolar disorder) were suicidality (95% CI, 8.2–8.4), all developmental trauma disorder event items (95% CI, 7.9–8.5), and PTSD symptoms (intrusive reexperiencing, hypervigilance, anger, negative affect; 95% CI, 7.0–8.0). Two dissociative symptoms, fugue and depersonalization/derealization, were highly rated (95% CI, 7.0–7.4), as were developmental trauma disorder criterion B items (affect dysregulation; 95% CI, 7.0–7.1), criterion C items (risky behavior, reactive aggression, self-harm; 95% CI, 7.3–7.4), and criterion D items (self permanently damaged, expectancy of betrayal and victimization, impaired interpersonal boundaries; 95% CI, 7.0–7.4).

In vignette 2 (a 13-year-old white girl diagnosed with bipolar disorder, reactive attachment disorder, intermittent explosive disorder, attention-deficit/hyperactivity disorder, oppositional defiant disorder, and substance use disorder), clinical utility ratings were highest for developmental trauma disorder criterion B (dysregulated anger; 95% CI, 7.4–7.7) and criterion C (self-harm, risky behavior, aggression, self-soothing; 95% CI, 7.1–8.0). Developmental trauma disorder sexual trauma (95% CI, 6.8–7.4), criterion B (sleep and eating problems; 95% CI, 7.0–7.4), and criterion D (impaired interpersonal boundaries, expectancy of betrayal and victimization, self permanently damaged; 95% CI, 6.7–7.1) items had moderate clinical utility, as did 3 *DSM-IV* symptoms of mania (95% CI, 6.7–7.1), dysphoria (95% CI, 6.9–7.3), and substance abuse (95% CI, 6.9–7.4).

Vignette 3 (an 11-year-old African American boy diagnosed with reactive attachment disorder, social anxiety disorder, major depressive disorder/dysthymic disorder, conduct disorder, and substance use disorder) clinical utility ratings were highest for separation anxiety and dysphoria (95% CI, 7.0–8.1). Developmental trauma disorder criterion A (separation from primary caregivers and criterion D (expectancy of irresolvable loss) had moderately strong clinical utility (95% CI, 6.9–7.4), as did developmental trauma disorder criterion B (emotional disengagement and anger items) (95% CI, 6.7–7.3). School avoidance, rule violations, indifference to caregivers, and developmental trauma disorder criterion C symptoms (aggression, risky behavior, self-soothing) also had moderate clinical utility (95% CI, 6.5–7.0).

Vignette 4 (a 7-year-old Asian-American boy diagnosed with autism spectrum, psychotic, and related disorders) clinical utility ratings were low for developmental trauma disorder features, except for exposure to violence (95% CI, 7.0–7.5) and self-soothing, impaired expression of emotions, problems with anger, and self-harm (95% CI, 6.5–7.2). Clinical utility ratings were highest for autism spectrum symptoms (95% CI, 7.3–8.3), PTSD flashback and concentration problems (95% CI, 7.0–7.5), and psychotic symptoms (95% CI, 6.7–7.3).

Discriminability Ratings

Developmental trauma disorder items of separation, loss, neglect, and emotional abuse were rated as distinguishable from PTSD criterion A, but developmental trauma disorder

Table 3. Discriminability of Developmental Trauma Disorder Events and Symptoms From *DSM-IV* Disorders (n = 225)

Developmental Trauma Disorder Events and Symptom	PTSD		Anxiety Disorders		Depression		Externalizing Disorders	
	Mean (SD)	95% CI	Mean (SD)	95% CI	Mean (SD)	95% CI	Mean (SD)	95% CI
Criterion A: exposure								
Violent assault	2.77 (2.78)	2.42–3.11	NA		NA		NA	
Sexual violation	2.91 (2.80)	2.56–3.26	NA		NA		NA	
Repeated caregiver separation	5.41 (2.99)	5.04–5.78*	NA		NA		NA	
Absence of reliable caregiver	5.42 (3.05)	5.05–5.80*	NA		NA		NA	
Emotional abuse by caregiver(s)	4.57 (3.01)	4.20–4.94*	NA		NA		NA	
Emotional/physical neglect	4.80 (3.05)	4.42–5.18*	NA		NA		NA	
Criterion B: affective and physiological dysregulation								
Anger outbursts and irritability	3.71 (2.58)	3.38–4.04	4.75 (2.30)	4.45–5.04	4.09 (2.28)	3.80–4.39	3.43 (2.39)	3.13–3.74
Inability to recover/dysphoria	4.31 (2.67)	3.98–4.65	5.05 (2.40)	4.74–5.35	3.67 (2.67)	3.32–4.01	3.91 (2.46)	3.59–4.22
Inability to feel positive affect	4.53 (2.61)	4.20–4.86*	5.20 (2.29)	4.91–5.50	3.20 (2.67)	2.86–3.55	4.58 (2.35)	4.27–4.88
Impaired expressive emotion	4.69 (2.76)	4.33–5.04*	5.44 (2.38)	5.13–5.74*	4.58 (2.41)	4.26–4.88	4.92 (2.37)	4.61–5.22
Avoidance of emotion expression	4.27 (2.58)	3.94–4.61	5.49 (2.38)	5.18–5.80*	4.63 (2.47)	4.31–4.95	5.63 (2.42)	5.31–5.94*
Eating or urination/defecation	4.75 (2.77)	4.39–5.11*	4.86 (2.41)	4.55–5.17	4.32 (2.59)	3.98–4.66	5.11 (2.52)	4.79–5.44
Somatoform pain	4.32 (2.73)	3.97–4.67	4.41 (2.45)	4.09–4.72	4.32 (2.39)	4.01–4.63	5.19 (2.49)	4.87–5.51
Aversion to touch	4.02 (2.73)	3.67–4.37	5.17 (2.48)	4.85–5.49	5.82 (2.47)	5.50–6.14*	6.10 (2.33)	5.80–6.41*
Criterion C: attentional and behavioral dysregulation								
Preoccupation with threats	3.28 (2.73)	2.93–3.63	4.41 (2.49)	4.09–4.73	5.64 (2.52)	5.31–5.96*	5.63 (2.49)	5.31–5.96*
Reactive aggression	3.58 (2.67)	3.24–3.92	5.27 (2.63)	4.93–5.61	6.02 (2.47)	5.70–6.34*	5.24 (2.50)	4.92–5.57
Avoidance due to perceived threat	3.06 (2.68)	2.72–3.40	4.24 (2.65)	3.89–4.58	5.52 (2.57)	5.19–5.86*	5.79 (2.48)	5.47–6.11*
Risk taking or reckless behavior	4.91 (2.71)	4.56–5.25*	6.47 (2.47)	6.15–6.79*	5.90 (2.55)	5.57–6.23*	3.76 (2.83)	3.39–4.13
Nonsuicidal self-harm	4.65 (2.80)	4.29–5.01*	5.46 (2.55)	5.13–5.79*	4.17 (2.49)	3.84–4.49	4.21 (2.52)	3.88–4.54
Maladaptive self-soothing	4.30 (2.72)	3.95–4.65	4.57 (2.46)	4.24–4.89	4.42 (2.44)	4.10–4.74	4.41 (2.51)	4.08–4.74
Criterion D: self and relational dysregulation								
Belief that self was damaged	3.71 (2.90)	3.33–4.08	6.10 (2.55)	5.76–6.43*	5.70 (2.60)	5.36–6.04*	6.16 (2.61)	5.82–6.51*
Belief self permanently damaged	3.89 (2.87)	3.52–4.25	5.67 (2.61)	5.33–6.01*	4.69 (2.63)	4.35–5.03	5.51 (2.56)	5.12–5.84*
Expectancy of betrayal	4.17 (2.77)	3.82–4.53	5.58 (2.57)	5.25–5.91*	5.44 (2.54)	5.11–5.77*	5.63 (2.56)	5.30–5.97*
Expectancy of victimization	3.78 (2.81)	3.43–4.14	5.30 (2.54)	4.98–5.63	5.36 (2.53)	5.03–5.69*	5.90 (2.53)	5.57–6.23*
Indiscriminate physical contact	5.37 (2.73)	5.01–5.72*	6.35 (2.46)	6.03–6.67*	6.38 (2.42)	6.06–6.69*	5.08 (2.54)	4.74–5.41
Overidentification with others' distress	5.17 (2.62)	4.84–5.51*	5.55 (2.51)	5.23–5.88*	5.38 (2.48)	5.06–5.70*	6.02 (2.41)	5.71–6.34*
Expectancy of irresolvable loss	5.04 (3.04)	4.65–5.43*	5.71 (2.73)	5.35–6.06*	5.29 (2.63)	4.95–5.64	6.17 (2.55)	5.84–6.51*

*Lower bound of 95% CI ≥ 4.00 for PTSD or ≥ 5.00 for all other disorders.
Abbreviations: NA = not applicable, PTSD = posttraumatic stress disorder.

items of violence and victimization were not (Table 3). Developmental trauma disorder symptoms rated as distinguishable from PTSD included several criterion B items: impaired positive and negative affect, affect tolerance and expression, emotion regulation, and bodily functions and pain). Other developmental trauma disorder symptoms distinguishable from PTSD were criterion C risky behavior, self-harm, and self-soothing and criterion D impaired physical and emotional boundaries and expectancy of irresolvable loss.

Several developmental trauma disorder symptoms were rated as distinguishable from anxiety disorders: criterion B impaired/avoided emotional expression; criterion C reckless behavior, self-harm, and aggression; and all criterion D symptoms. All criterion C attention/behavioral dysregulation symptoms were rated as distinguishable from affective disorders, except self-harm and self-soothing, as were all criterion D symptoms, except self as permanently damaged. Aversion to touch was the only criterion B item rated as distinguishable from affective disorders.

Several developmental trauma disorder symptoms were rated as distinguishable from externalizing disorder symptoms, including all developmental trauma disorder criterion D symptoms, except impaired physical boundaries, as well as criterion B aversion to touch and avoidance of emotional expression, and criterion C avoidance of and preoccupation with threats. No criterion B affect items or criterion C behavior dysregulation symptoms were rated as distinguishable from externalizing disorder symptoms.

Overall, 26 of the 29 developmental trauma disorder event and symptom criteria were rated as distinguishable from at least 1 of the 4 classes of psychiatric disorders (PTSD, anxiety, affective, externalizing). Anger outbursts, inability to recover from negative affect states, and maladaptive self-soothing were the only developmental trauma disorder criteria that were not rated as discriminable from any of the other disorders.

Ability of Other Psychiatric Disorders to Account for Developmental Trauma Disorder Symptoms

Although developmental trauma disorder symptoms may be distinguishable from other disorders' symptoms, those disorders may be able to account for developmental trauma disorder symptoms as a result of their having similar if not exactly identical symptoms. Using this more conservative standard for evaluating the uniqueness of symptoms proposed for developmental trauma disorder, raters identified 7 developmental trauma disorder symptoms as probably not accounted for by any other psychiatric disorder (Table 4). Most prominently, these included developmental trauma disorder criterion D symptoms (beliefs about self as permanently

Table 4. Ability of Psychiatric Disorders to Account for Developmental Trauma Disorder Symptoms (n = 218)

Developmental Trauma Disorder Symptom	Criterion[a]	Mean (SD)	95% CI
Symptoms probably not accounted for by other diagnoses (95% CI > 6.0)			
Belief that self is permanently damaged	D	7.04 (2.47)	6.71–7.36
Expectancy of irresolvable attachment loss	D	6.96 (2.55)	6.62–7.30
Expectancy of betrayal	D	6.94 (2.46)	6.61–7.26
Belief that self was damaged by trauma	D	6.94 (2.54)	6.60–7.27
Expectancy of victimization	D	6.86 (2.50)	6.53–7.20
Overidentification with others' distress	D	6.59 (2.23)	6.29–6.89
Maladaptive self-soothing	C	6.39 (2.61)	6.04–6.73
Symptoms potentially not accounted for by other diagnoses (95% CI > 4.5)			
Reactive aggression due to perceived threats	C	6.22 (2.64)	5.87–6.57
Impaired attention due to perceived threats	C	6.18 (2.65)	5.83–6.53
Aversion to touch	B	6.17 (2.63)	5.82–6.52
Indiscriminate seeking of physical contact	D	6.12 (2.51)	5.78–6.45
Impairment in expressive emotion skills	B	6.06 (2.39)	5.74–6.37
Avoidance of emotion expression	B	5.97 (2.40)	5.66–6.29
Inability to recover from dysphoric states	B	5.91 (2.44)	5.59–6.23
Persistent inability to experience positive affect	B	5.67 (2.55)	5.33–6.00
Nonsuicidal self-harm	C	5.66 (2.67)	5.30–6.01
Avoidance due to perceived threats	C	5.57 (2.76)	5.21–5.94
Somatoform pain (medically unexplainable)	B	5.07 (2.66)	4.72–5.42
Extreme risk taking or reckless behavior	C	4.97 (2.69)	4.62–5.33

[a]Corresponding developmental trauma disorder criteria for the 3 criteria: criterion B (affective and physiological dysregulation), criterion C (attentional and behavioral dysregulation), and criterion D (self and relational dysregulation).

Table 5. Developmental Trauma Disorder Symptom Responsiveness to Existing Evidence-Based Treatments (n = 141)

Developmental Trauma Disorder Symptom	PTSD Evidence-Based Treatment		Other Anxiety Disorder Evidence-Based Treatment		Depressive Disorder Evidence-Based Treatment		Externalizing Disorder Evidence-Based Treatment	
	Mean (SD)	95% CI	Mean (SD)	95% CI	Mean (SD)	95% CI	Mean (SD)	95% CI
Criterion B: affective and physiological dysregulation								
Anger outbursts and irritability	5.93 (2.10)	5.60–6.27	5.22 (2.26)	4.85–5.59*	5.52 (2.04)	5.18–5.85*	5.51 (2.03)	5.18–5.85*
Inability to recover/dysphoric	5.44 (2.21)	5.08–5.80*	4.77 (2.13)	4.42–5.12*	5.86 (1.97)	5.54–6.19	5.13 (2.09)	4.79–5.47*
Inability to feel positive affect	5.24 (2.18)	4.88–4.60*	4.88 (2.17)	4.52–5.23*	6.17 (2.02)	5.84–6.50	5.13 (2.13)	4.78–5.48*
Impaired expressive emotion	5.12 (2.28)	4.75–5.50*	4.98 (2.18)	4.62–5.34*	5.60 (2.12)	5.25–5.95*	5.02 (2.18)	4.66–5.38*
Avoid emotion expression	5.39 (2.22)	5.03–5.75*	5.07 (2.22)	4.70–5.43*	5.55 (2.12)	5.20–5.90*	4.80 (2.21)	4.43–5.16*
Eating or urination/defecation	4.60 (2.54)	4.19–5.02*	4.80 (2.36)	5.51–5.20*	4.92 (2.34)	4.53–5.30*	4.53 (2.33)	4.14–4.91*
Somatoform pain	4.91 (2.38)	4.53–5.30*	4.91 (2.33)	4.53–5.29*	4.77 (2.30)	4.40–5.16*	4.11 (2.21)	3.75–4.48*
Aversion to touch	4.90 (2.53)	4.48–5.31*	4.85 (2.41)	4.45–5.24*	4.30 (2.38)	3.91–4.69*	3.99 (2.37)	3.60–4.39*
Criterion C: attentional and behavioral dysregulation								
Preoccupation with threats	5.88 (2.19)	5.52–6.24	5.40 (2.32)	5.02–5.78*	4.72 (2.44)	4.32–5.12*	4.52 (2.30)	4.14–4.91*
Reactive aggression	5.79 (2.30)	5.42–6.17	4.98 (2.31)	4.60–5.36*	4.53 (2.42)	4.13–4.93*	4.62 (2.34)	4.23–5.00*
Avoidance of perceived threats	5.99 (2.25)	5.62–6.36	5.74 (2.32)	5.36–6.12	4.83 (2.33)	4.44–5.21*	4.45 (2.33)	4.06–4.83*
Risk taking or recklessness	5.05 (2.31)	4.67–5.43*	4.49 (2.32)	4.10–4.87*	4.87 (2.27)	4.49–5.24*	5.45 (2.32)	5.07–5.84*
Nonsuicidal self-harm	5.48 (2.28)	5.10–5.85*	4.91 (2.27)	4.53–5.28*	5.90 (2.11)	5.56–6.25	5.48 (2.19)	5.11–5.84*
Maladaptive self-soothing	5.45 (2.33)	5.07–5.83*	5.38 (2.17)	5.02–5.73*	5.49 (2.15)	5.14–5.85*	4.97 (2.32)	4.59–5.35*
Criterion D: self and relational dysregulation								
Belief that self was damaged	5.61 (2.62)	5.18–6.04	4.14 (2.57)	3.72–4.57*	4.46 (2.49)	4.05–4.87*	3.93 (2.41)	3.53–4.33*
Belief self permanent damaged	5.56 (2.58)	5.14–5.98*	4.53 (2.51)	4.12–4.95*	4.97 (2.48)	4.56–5.38*	4.25 (2.43)	3.84–4.65*
Expectancy of betrayal	4.99 (2.41)	4.59–5.38*	4.45 (2.51)	4.03–4.86*	4.62 (2.37)	4.23–5.01*	4.18 (2.42)	3.78–4.58*
Expectancy of victimization	5.25 (2.30)	4.87–5.62*	4.66 (2.40)	4.26–5.05*	4.71 (2.30)	4.33–5.09*	4.11 (2.36)	3.72–4.50*
Indiscriminate physical contact	4.60 (2.57)	4.18–5.02*	4.06 (2.55)	3.64–4.48*	4.14 (2.52)	3.72–4.56*	4.61 (2.46)	4.20–5.02*
Overidentification with others' distress	4.43 (2.39)	4.04–4.82*	4.49 (2.40)	4.09–4.88*	4.45 (2.39)	4.05–4.85*	4.16 (2.32)	3.78–4.55*
Expectancy of irresolvable loss	4.56 (2.71)	4.12–5.01*	4.16 (2.65)	3.72–4.60*	4.58 (2.59)	4.15–5.00*	3.90 (2.48)	3.49–4.31*

*Upper bound of 95% CI < 6.00.
Abbreviation: PTSD = posttraumatic stress disorder.

damaged and irresolvable loss, betrayal, and victimization in relationships), as well as the criterion C maladaptive self-soothing symptom.

Another 12 developmental trauma disorder symptoms were rated as potentially not accounted for by any other psychiatric disorder: 6 criterion B affective and somatic dysregulation symptoms, 5 criterion C attentional and behavioral dysregulation symptoms, and 1 criterion D relational dysregulation symptom (Table 5). Thus, only 4 of the 23 developmental trauma disorder symptoms (17%) were rated as potentially (1 symptom; 95% CI lower bound between 4.1 and 4.5) or likely (3 symptoms; 95% CI lower bound between 3.5 and 4.0) accounted for by any other psychiatric disorder.

Developmental Trauma Disorder Symptom Refractoriness/Responsiveness to Existing Evidence-Based Treatments

With the following exceptions, raters consistently viewed developmental trauma disorder symptoms as not well ameliorated by evidence-based treatments for PTSD or other internalizing or externalizing disorders (Table 5). Evidence-based treatments for PTSD were rated as effective for anger problems, sleep disturbance, preoccupation with threats, aggression and avoidance in reaction to perceived threats, and beliefs that the self was damaged by trauma. Evidence-based treatments for other anxiety disorders were rated as effective in treating only the developmental trauma disorder symptoms of sleep disturbance and avoidance of perceived threats. Evidence-based treatments for depressive disorders were rated as effective in enhancing affect regulation, positive affect, and sleep and reducing nonsuicidal self-harm. Evidence-based treatments for externalizing disorders were rated as generally ineffective for developmental trauma disorder symptoms. Collectively, existing evidence-based treatments were rated as generally effective for only 39% (9 of 23) of the developmental trauma disorder symptoms. The mean ratings for evidence-based treatment effectiveness ranged from a low of 3.90 (for externalizing disorder evidence-based treatments and expectancy of irresolvable loss) to 6.17 (for affective disorder evidence-based treatments and positive affect), indicating an overall view that evidence-based treatments are, at most, partially effective with developmental trauma disorder symptoms.

DISCUSSION

Ratings by child-serving clinicians indicated that developmental trauma disorder criteria may have clinical utility and, despite some overlap, may be discriminable from existing psychiatric diagnoses and their criteria. Clinicians also consistently rated developmental trauma disorder symptoms as, at best, only partially remediated by evidence-based child psychiatry treatments. These findings support the face validity of the developmental trauma disorder criteria as a basis for a psychiatric diagnosis.[5,18] Although many of the proposed developmental trauma disorder symptoms were rated as overlapping with symptoms of existing child psychiatric disorders, *every* proposed developmental trauma disorder symptom was viewed by the clinical raters as at least somewhat distinct from and not accounted for by some or all of the descriptively similar internalizing (eg, PTSD, anxiety disorders, depression) and externalizing psychiatric disorders.

The degree of each developmental trauma disorder item's clinical utility, discriminability, and independence varied with the specific clinical features of different cases and different *DSM-IV* psychiatric disorders. This observation suggests that a range of developmental trauma disorder symptoms is necessary to encompass the clinical features of dysregulated polyvictimized children. Additionally, respondents consistently rated exposure to interpersonal victimization and disrupted attachment bonds with primary caregivers as very high in clinical utility and discriminability. This finding suggests that the combination of polyvictimization and attachment disruption assessed in developmental trauma disorder is integral to the proposed syndrome or diagnosis.

Clinicians also rated developmental trauma disorder symptoms as, at best, only partially remediable by the array of evidence-based interventions for PTSD and other psychiatric disorders. This outcome suggests that adaptations or novel treatments based on a developmental trauma disorder framework[72] may be needed. An integrative diagnosis might not only increase diagnostic accuracy and efficiency but moreover enable clinicians to replace (or reduce) the plethora of treatments necessitated by multiple comorbid diagnoses with targeted treatments focused on posttraumatic psychobiological dysregulation.[7]

However, several limitations of the study make its findings preliminary and in need of further research. Clinician ratings were based on hypothetical composite cases that may not be representative of actual patients rather than on diagnostic or treatment outcome data from studies of specific patient cohorts. The convenience sample of clinicians may not be representative of all child-serving clinicians and professionals. International respondents may not have been familiar with *DSM* symptom definitions. Knowledge of psychological trauma and evidence-based treatments for PTSD (and other child psychiatric disorders) was not assessed, potentially adding artifact to findings of overlap between developmental trauma disorder and PTSD symptoms and of limited perceived efficacy of evidence-based treatments for developmental trauma disorder symptoms. Monoinformant comparisons and missing data for many of the ratings also may have led to undetected response biases.

Further research, therefore, is needed beyond surveying clinicians, including studies to determine (1) whether victimization-related symptoms are unique to childhood interpersonal trauma or whether they also apply to some types of extreme victimization experienced in adulthood (eg, torture, genocide) or to pervasive noninterpersonal traumatic stressors, such as chronic life-threatening illness or loss of family, home, and community in the wake of disasters; (2) whether disturbances in development of attachment security that are nonviolent, such as severe neglect or the death or permanent loss of a primary caregiver, result in similar symptoms; (3) whether and how these symptoms originate in sensitive developmental periods[73] and evolve as alterations in normal developmental trajectories during childhood and throughout the subsequent lifespan; and (4) whether developmental trauma disorder symptoms are linked to biological vulnerability/resilience processes and markers.

With regard to clinical utility, it also will be important to determine how developmental trauma disorder symptoms are actually used by clinicians and how they empirically perform when scientifically and clinically assessed in children, including their structure and interrelationships, temporal stability or patterns of change, convergent and discriminant validity and comorbidity related to existing psychiatric diagnoses, predictive utility for both developmental and

treatment outcomes, and efficiency and acceptability for use in real-world clinical practice. A first step toward those ends has begun with a national field trial study testing the psychometrics and clinical utility of a developmental trauma disorder structured interview developed based on this survey's findings. Many additional clinical and scientific studies will be needed to determine how best to characterize severely victimized children's trauma histories and trauma-related symptoms and impairments.

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Potential conflicts of interest: None reported.
Funding/support: The study was funded by a grant from the Cummings Foundation (Drs Ford and van der Kolk, principal investigators).
Acknowledgments: The authors gratefully acknowledge the contributions of Bradley Stolbach, PhD, Department of Pediatrics, University of Chicago, Illinois; Wendy D'Andrea, PhD, Department of Psychology, New School for Social Research, New York, New York; and the National Child Traumatic Stress Network Developmental Trauma Disorder Work Group, co-led by Robert Pynoos, MD, Department of Psychiatry, University of California, Los Angeles, to the conceptual and clinical framework for this study. None of the acknowledged individuals have any conflicts of interest to report.

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