Psychological Trauma: Theory, Research, Practice, and Policy

Beyond PTSD: Client Presentations of Developmental Trauma Disorder From a National Survey of Clinicians

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Objective: The emergence of updated *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. [*DSM–5*]; American Psychiatric Association, 2013) criteria for posttraumatic stress disorder (PTSD), which includes modified criteria for young children, raises questions regarding the need for developmentally appropriate standalone psychiatric diagnosis encompassing complex trauma presentations in children. The present study addresses these questions by examining how *DSM–5* PTSD and proposed developmental trauma disorder (DTD) diagnoses relate to functional impairment and trauma exposure using clinician-report surveys. *Method:* We surveyed psychotherapists across the United States, and asked them to report on the symptom characteristics, functional impairment, and trauma exposure of children, adolescents, and young adults under their care ($n = 210$; age range = 2–21). We fit symptom data to the draft criteria for (1) DTD, a proposed trauma diagnosis for children and (2) existing criteria for adult and child/preschool PTSD. *Results:* Results indicated that comorbidity between DTD and PTSD was high (52.4% and 59.9% for adult and child/preschool criteria, respectively). Comorbid DTD/PTSD and DTD-alone groups had more functional domains impacted and greater exposure to some types of trauma relative to the other groups. *Conclusions:* These findings speak to the relationship between trauma complexity and wide-ranging symptom presentations, provide support for research and clinical emphasis on a developmentally informed diagnosis, and may support existing treatment approaches.

Clinical Impact Statement
Findings from clinician surveys suggest the developmental trauma disorder and its co-occurrence with full posttraumatic stress disorder (PTSD) is associated with greater functional impairment and trauma exposure burden than PTSD alone. These findings suggest broadening the diagnostic picture

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may more accurately capture the complex relationship between trauma exposure and symptom presentation. Clinicians should be aware of evidence-based treatment approaches for complex trauma-related presentations in children and adolescents and assess for symptoms over and above *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; American Psychiatric Association, 2013) PTSD criteria.

Beginning with the seminal work of Herman (1992), multiple studies have demonstrated that early and prolonged trauma exposure is associated with complex psychiatric symptom presentations (Briere, Kaltman, & Green, 2008; Cloitre et al., 2009; D'Andrea, Ford, Stolbach, Spinazzola, & van der Kolk, 2012; Seng, D'Andrea, & Ford, 2014; van der Kolk et al., 2009; van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005). Diagnoses such as Complex PTSD in the International Classification of Diseases (ICD-11) have been developed to describe complex trauma outcomes, though this has been described primarily in adult samples (Hyland et al., 2017). The complementary diagnosis of developmental trauma disorder (DTD; Ford et al., 2013; Ford, Spinazzola, van der Kolk, & Grasso, 2018; van der Kolk et al., 2009) for use with children and adolescents represents an effort to frame symptoms in a manner consistent with developmental psychopathology studies and integrating attachment/relational capacity, emotion, and intellectual functioning. DTD was also advanced to address the reality of clinical observations of complex trauma. DTD symptom criteria include affective and physiological dysregulation (Criterion B), attentional and behavioral dysregulation (Criterion C), self and relational dysregulation (Criterion D), and at least some classic PTSD symptoms (Criterion E). DTD relies on the assumption that diagnosis is meant to be descriptive, to provide clinicians and researchers with a picture of what to expect in multiply trauma-exposed individuals. It remains unclear whether the current conceptualizations of DTD and PTSD describe the symptom presentations of trauma-exposed children, particularly among children whose exposure to trauma is prolonged and complex. In particular, in light of revisions to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. [*DSM–5*]; American Psychiatric Association, 2013) PTSD criteria that aligned this diagnosis more closely with complex PTSD does DTD still emerge as a distinct diagnostic entity and show unique associations with complex trauma exposure?

In 2009, a draft proposal (van der Kolk et al., 2009) for inclusion of DTD in the *DSM–5* was submitted to the *DSM–5* Trauma, PTSD, and Dissociative Disorder Subworkgroup. This proposal included symptom and trauma exposure data on 20,517 children and adolescents across inpatient, outpatient, foster, and juvenile justice settings. Since then, several published studies with smaller samples have examined DTD as a diagnostic construct. Utilizing the clinician-report scale employed in the present study, Stolbach et al. (2013) demonstrated that children with chronic maltreatment, exposure to violence, or caretaking disruptions were more likely than children without those histories to meet criteria for DTD. In another study using clinician, child welfare professional, and ed-

ucator ratings of vignettes, Ford et al. (2013) found that DTD (1) had comparable ratings of clinical utility to *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [*DSM–IV*]; American Psychiatric Association, 2000) PTSD and other related disorders, (2) could be discriminated from and was not fully accounted for by other diagnoses, and (3) was rated as having a comparable or poorer response to evidence-based treatments than PTSD. The current study extends this prior work by examining DTD in light of *DSM–5* PTSD criteria and evaluating whether DTD is associated with more functional consequences than PTSD.

DTD was ultimately rejected by the *DSM–5* working group because it would be too inclusive of other diagnoses and that it lacked a compelling evidence base (van der Kolk, 2014). At the same time, the working group opted to reorganize and update existing PTSD criteria (American Psychiatric Association, 2013) by including negative affect, negative sense of self, negative beliefs about the world, risky behavior, and dissociation in the criteria. The PTSD criteria now incorporate symptoms consistent with complex PTSD and DTD and has been described as functionally the same as complex PTSD (De Jongh et al., 2016). Given the large body of research differing symptom presentations across childhood and adolescence and the underdiagnosis of PTSD in younger samples (Scheeringa, 2011; Scheeringa, Myers, Putnam, & Zeanah, 2012), the *DSM–5* also created a "preschool" PTSD criteria set. These modifications include requiring only one avoidance or negative alteration in cognition/mood symptom and removing reckless behavior. Recent research has begun to examine the utility of expanding these preschool criteria to older children and adolescents, based on arguments that the application of adult criteria to these individuals may be developmentally inappropriate and result in underdiagnosis (Mikolajewski, Scheeringa, & Weems, 2017). Overall, current *DSM–5* criteria, which expand the scope of the PTSD construct, raise the question of whether there is still need for a standalone developmentally focused complex trauma diagnosis. Clinically, concerns have been raised that the exclusion of DTD from *DSM–5*, even with its revisions to PTSD criteria, may lead to decreased attention on the developmental implications of early traumatization and adversely impact treatment planning for complex cases (Bremness & Polzin, 2014; Rahim, 2014).

The present article aims to examine the prevalence and functional correlates of DTD and DTD-PTSD comorbidity. Based on prior research, we examine whether (1) DTD shows evidence of discriminability (nonoverlap) from *DSM–5* PTSD, (2) DTD is associated with child maltreatment and separation from caregivers (van der Kolk et al., 2009), and (3) DTD presentations are asso-

ciated with more functional impairment than PTSD alone. We examine DTD in relation to both the standard and preschool-criteria *DSM–5* PTSD, to cover the full scope of existing PTSD criteria in comparison to DTD.

Method

Participants

Participants were psychotherapists in outpatient psychiatry clinics in North America, who were recruited through psychotherapy listservs and invitations sent by e-mail to clinics through psychotherapy organizations (e.g., National Child Traumatic Stress Network [NCTSN], Anxiety Disorders Association of America, International Society for Traumatic Stress Studies, and American Psychological Association).

Measures

Demographics. Clinicians reported on the clients' age, race/ethnicity, and gender.

Trauma history. Clinicians were asked to report on 15 types of potentially traumatic events. A total score representing a sum of all positively endorsed types of exposure (range = 1–15) was computed, providing a cumulative trauma count. To examining specific maltreatment categories, we also computed sum scores for: family interpersonal violence (IPV; e.g., sexual and physical maltreatment, or domestic violence), nonfamily IPV (e.g., physical or sexual abuse, and community or school violence), non-IPV trauma (e.g., car accidents and natural disasters), separation/loss, acts of commission (e.g., physical, sexual, and emotional abuse), acts of omission (emotional and physical neglect), contact trauma (physical and sexual abuse) and noncontact trauma (emotional abuse or neglect).

Symptoms. The Child Complex Trauma Symptom Checklist (SCL; Ford et al., 2007) is an 87-item clinician-rated survey. Clinicians dichotomously rated the presence or absence of symptoms; clinicians could also endorse "not assessed" for any given symptom. The SCL includes all 17 *DSM–IV* PTSD symptoms and 57 symptoms pertaining to a range of emotional and behavioral problems; 51 of 57 of these latter items were used to fit DTD criteria following prior research ([Stolbach et al., 2013; van der Kolk et al., 2009]; see the Data Reduction section to follow). This procedure yielded a total score and subscale scores corresponding to the three DTD-specific dysregulation-focused symptom clusters (van der Kolk et al., 2009). As we were interested in both child and adult criteria-based *DSM–5* presentations of PTSD, we used the existing SCL item set to fit these criteria, allowing for more than one item to assess a given symptom (see the Data Reduction section). Scale internal consistency reliability was high for both the DTD (total: α = .94; subscales: α = .85–88 [see Table 1]) and *DSM–5* PTSD scales (α = .90 for basic/adult criteria and α = .87 for child/preschool criteria). To minimize the likelihood that the high levels of internal consistency were due to items that were "redundant with one another . . . [and] create[d] an overly narrow scale that . . . will not assess the construct optimally" (Clark & Watson, 1995, p. 314), the PTSD scales' items were selected to match each of the *DSM–5* PTSD symptoms and the DTD scales' items were selected to match each of the hypothesized components

Table 1

Descriptive Statistics for Trauma Symptom, Functional Impairment, and Trauma Exposure Scales

Scale	Item	M (SD)	Scale α	Meet % (n)
DTD	51	25.18 (11.49)	.94	69.3 (140)
Affect and physiological dysregulation	18	10.41 (4.15)	.88	96.6 (200)
Attention and behavioral dysregulation	16	7.09 (4.48)	.91	73.4 (152)
Self- and relational dysregulation	17	7.80 (4.05)	.85	82.6 (171)
DSM-5 PTSD	28	15.12 (6.33)	.90	65.1 (138)
Preschool PTSD	22	12.36 (5.02)	.87	79.2 (164)
Intrusion	6	3.23 (1.87)	.77	85.3 (174)
Avoidance	2	1.40 (.73)	.63	85.7 (168)
Hyperarousal	7	4.06 (1.71)	.69	93.7 (193)
Affect/cognition	11	5.98 (3.22)	.83	82.6 (171)
Dissociation	2	.61 (.74)	.54	45.0 (90)
Functional impairment	6	.94 (.22)		
Cumulative trauma	15	3.58 (2.18)		

Note. Dissociation was not required for *Diagnostic and Statistical Manual of Mental Disorders* (5th ed. [*DSM*-5]; American Psychiatric Association, 2013) PTSD caseness and is presented for descriptive purposes alone. DTD = developmental trauma disorder; PTSD = posttraumatic stress disorder.

of each DTD symptom. At the time of the present study, the SCL was in the process of field trials.

Functional impairment. In addition to symptoms, clinicians also rated the presence of functional impairment in six relevant domains on a dichotomous basis: school, peer relations, family, health, developmentally appropriate vocation, and legal involvement. These scales were combined to form a total score (range = 0–6). Functional impairment ratings were adapted from corresponding items from the NCTSN Core Dataset (CDS; Layne et al., 2014), a large (N > 14,000) federally funded repository of standardized baseline and posttreatment symptom and functional data of children and adolescents seen in over 50 clinical treatment centers in the United States. Prior work has indicated that CDS functional impairment ratings generally increase with more pervasive (e.g., multiple types) maltreatment (Spinazzola et al., 2014).

Procedure

Participating therapists reported on their child and adolescent clients by completing questionnaires either online or on paper at their clinic. Advertisements specified that any clinicians providing psychotherapy to child clients could participate. After providing informed consent, clinicians were asked to select as many as five child clients whom they had treated and who were representative of their caseload. Participants provided demographics, trauma history (which could include no past trauma exposure), and symptom ratings for each client, with no HIPAA identifiers included in order to ensure client privacy. Therapist-raters were blind to study hypotheses. All study procedures were approved by the Justice Resource Institute and The New School Human Subjects Review Boards and all clinicians provided informed consent prior to participation. Participation was voluntary and clinicians were not compensated for their time.

Data Reduction

Data were collected on 563 clients. Because of the present article's emphasis on child and adolescent development and post-traumatic symptoms, we limited analyses to those with (1) complete data, (2) whose age was under 21, and (3) who had exposure to at least one form of trauma or maltreatment that the clinician was certain had occurred, resulting in a data set of 210. Cases were excluded from analyses as follows: incomplete/missing trauma history or symptom data ($n = 186$; 33%), no trauma reported by the therapist on the trauma history measure ($n = 133$; 23.6%), missing child age data ($n = 54$; 14.3%), and/or participant age >21 years ($n = 7$ cases; 1.9%). Included and excluded cases did not differ on age, $t(467) = 0.51$, $p = .61$, overall gender distribution, $\chi^2[1] = 1.46$, $p = .24$, or forced-dichotomy race/ethnicity (White/non-White. $\chi^2[1] = 0.00$, $p = .94$).

Probable DTD caseness was established by applying proposed criteria to the item sets (van der Kolk et al., 2009; van der Kolk, Ford, & Spinazzola, 2019). Criterion A required endorsement of exposure to any interpersonal violence and (1) separation from, or emotional abuse or neglect by, a primary caretaker (2). DTD symptom clusters were defined as present as follows: three or more Criterion B symptoms (affective and physiological dysregulation), two or more Criterion C symptoms (attention and behavioral dysregulation), and two or more Criterion D symptoms (self and relational dysregulation). Cases were then assigned to the probable DTD cell if Criteria A through D were met and at least partial PTSD symptoms (as indicated by one or more symptoms in at least two of three *DSM–IV* symptom clusters) were present.

Five PTSD symptoms were derived by identifying items on the SCL that matched those symptoms. Preschool/child *DSM–5* PTSD was defined as present if one or more intrusive, avoidance or negative cognition/mood and hyperarousal symptoms were present, and it excluded reckless behavior, amnesia, and negative cognitions. If participants did not meet for probable PTSD or DTD, they were classified as "no PTSD or DTD."

Data Analyses

Chi-square analyses were utilized to test for differences in the distributions of cases across clinical presentation, using both child and adult PTSD criteria and allowing for DTD-PTSD comorbidity. Bootstrap correlations (1,000 samples) yielding 95% confidence intervals were used to examine relationships among symptoms, exposure, and functional impairment variables. For analyses of variance (ANOVAs) testing the impact of caseness on functional impairment and trauma exposure, exposure criteria for PTSD and DTD presentations were omitted to prevent confounding results. We applied a Bonferroni correction procedure for all post hoc tests. We also examined functional impairment outcomes continuously in regression analyses with DTD and PTSD symptom totals as predictors. Power analyses indicated that for tests of main effects for diagnostic group, a sample size of 180 would be required to detect a moderately sized effect ($\alpha = .05$, power = 0.80).

We did not analyze the data as nested for both pragmatic and theoretical reasons. First, the clinician reports were anonymous, so although they completed site-level data, it was unclear which clinicians completed the survey multiple times. We were also unable to analyze at the level of site, because it was unclear

whether, for example, two sites listed as "private practice" were the same. Finally, we recruited a range of different clinics/clinicians in our study, some of whom specialized in trauma-focused work (where trauma-related symptoms may cluster together) and some did not; for this reason, approaches such as nesting patients within therapist and site may not be informative. For example, if site and therapist were significant variables, it would be difficult to interpret whether this represents reporting bias or simply the client characteristics most common in a given clinic. However, to address possible reporting bias, we randomly selected a random sample of 50% of participants and replicated the analyses within that subsample.

Results

Descriptive Data and Bivariate Correlations

Children were on average 10.80 years of age ($SD = 4.20$; range = 2–21). The majority of the children were female (59.8%), 47.5% were White ($n = 84$), 33.9% Black/African American ($n = 60$), 13.4% of mixed descent ($n = 24$), and 5.1% ($n = 9$) other. The mean number of endorsed trauma types was 3.58 ($SD = 2.18$). The most common traumatic experiences were neglect (48.1%), physical abuse/maltreatment (42.9%), and emotional abuse/psychological maltreatment (40.5%). See Figure 1 for a breakdown of other exposure types.

On average, approximately half of the possible *DSM–5* PTSD-adult ($M = 15.12$; $SD = 6.33$) and DTD symptoms ($M = 25.18$; $SD = 11.49$) were endorsed as present. The symptom scales were moderately to strongly intercorrelated, symptom total scores (DTD and PTSD) were moderately positively correlated with functional impairment, and symptom total scores were also weakly positively correlated with the cumulative trauma variable (data are presented in the online supplemental material).

> **Question 1: Diagnostic overlap of DTD and PTSD:** A chi-square test on the probable *DSM–5* PTSD-adult and or DTD caseness was significant, $\chi^2(1) = 40.77$, $p < .001$; the most common diagnostic picture was DTD + PTSD-adult ($n = 111$), followed by neither diagnosis ($n = 37$) and DTD alone ($n = 37$), and least frequently, PTSD-adult alone ($n = 27$; see Figure 2, Panel A).

A different pattern emerged when using the child/preschool PTSD criteria, $\chi^2(1) = 15.75$, $p < .001$; most common was DTD + PTSD-child ($n = 124$), followed by PTSD-child alone ($n = 40$) and DTD alone ($n = 19$), and finally, neither diagnosis ($n = 24$; see Figure 2, Panel B).

To check the impact of either reporting biases by clinician or missing trauma history data, we analyzed the prevalence and comorbidity data (1) using all participants under age 21 in the sample ($n = 392$), including those whose exposure was rated as "likely" rather than "certain" and (2) with a random selection of cases, drawing from only those with complete data. The pattern of findings with all participants with either likely or certain exposure was as mentioned in the preceding text: The most frequent occurrence was comorbid PTSD-adult and DTD ($n = 165$), followed by DTD alone ($n = 121$), no diagnosis ($n = 91$), and PTSD alone ($n = 13$). The random sample of cases ($n = 89$) generated a similar
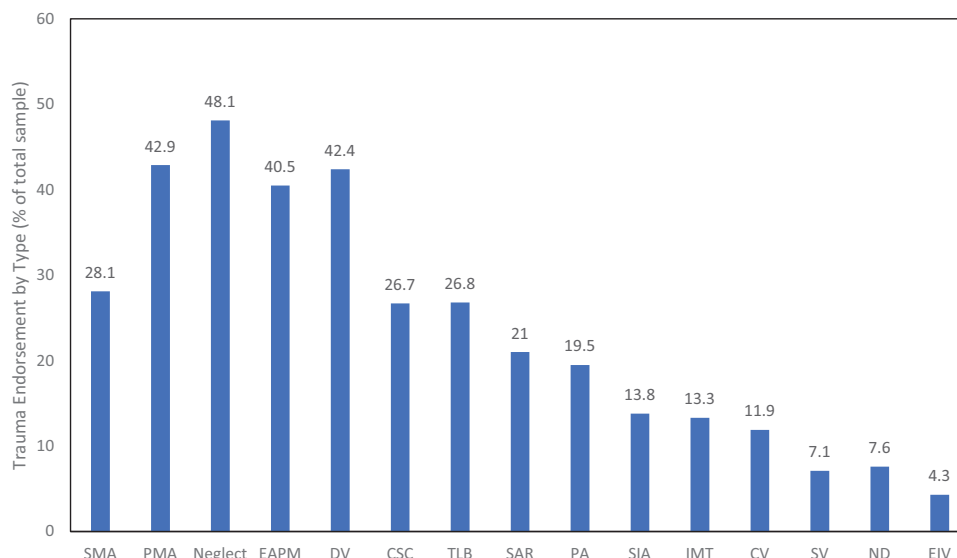
Figure 1. Trauma exposure endorsement by type. SMA = sexual maltreatment/abuse; PMA = physical maltreatment/abuse; EAPM = emotional abuse/psychological maltreatment; DV = domestic violence; CSC = repeated change/separation from caregiver or multiple placements; TLB = traumatic loss or bereavement; SAR = sexual assault/rape; PA = physical assault; SIA = serious accident/injury; IMT = illness/medical trauma; CV = community violence (not reported elsewhere); SV = school violence (not reported elsewhere); ND = natural disaster; EIV = extreme interpersonal violence (not reported elsewhere). See the online article for the color version of this figure.

proportion of cases with independent and comorbid PTSD and DTD as in the larger sample, where the smallest cell was composed of only a PTSD diagnosis ($n = 5$), the largest cell was composed of comorbid PTSD and DTD ($n = 34$), and the number of youth with DTD or no diagnosis was roughly equally split (DTD only, 26; no diagnosis, 24).

Question 2: Trauma exposure profiles associated with DTD and PTSD: ANOVAs were used to test for group-wise differences in trauma exposure and functional impairment using adult PTSD criteria. As some diagnostic cells were relatively small (see Figure 2), we cautiously interpreted their relation to trauma variables. All ANOVAs except for non-IPV trauma yielded significant main effects. For cumulative trauma, family IPV, and omission traumas, post hoc tests showed significantly greater exposure in the DTD + PTSD-adult and DTD alone groups, compared to the no diagnosis group. Nonfamily IPV exposure differed only between DTD + PTSD-adult and no diagnosis groups. For commission traumas, every diagnostic group had greater exposure than the no diagnosis group (see Table 2).

When conducting the same analysis with the child PTSD groupings, a different pattern emerged (see Table 3). Cumulative trauma was greater in the DTD + Child PTSD and DTD alone groups compared to the no diagnosis group, and greater in the DTD + Child PTSD group compared with the child PTSD alone group. Children with both DTD and child PTSD had more familial interpersonal trauma than those with no diagnosis. Those participants meeting for DTD + Child PTSD, child PTSD, and PTSD alone had more types of commission trauma compared to those

with no diagnosis. Children with DTD + Child PTSD had more types of omission trauma than those with neither child PTSD nor DTD. There were no significant pairwise differences between groups for nonfamily IPV and non-IPV.

Question 3: Association of PTSD and DTD with functional impairment: Clients with DTD + PTSD or DTD alone had higher functional impairment counts than those with no diagnosis. Those meeting for both PTSD-adult and DTD also had more types of functional impairment than those with PTSD alone, but not DTD alone (see Table 2). When examining DTD and preschool/child PTSD, the DTD + PTSD-child and DTD only groups did not differ; only the DTD + PTSD-child group differed significantly (with more domains of impairment) from the PTSD-child only and no PTSD-child/DTD groups (See Table 3).

Regressions examining the association of DTD and PTSD-adult symptoms to functional impairment totals indicated that DTD total symptom count predicted a greater proportion of variance in this outcome, $F(1, 155) = 142.92$, B = 0.79, $R^2 = 0.48$, $p < .001$, than PTSD-adult, $F(1, 155) = 62.42$, B = 0.12, $R^2 = 0.29$, $p < .001$, or PTSD-child symptom counts, $F(1, 155) = 53.64$, B = 0.14, $R^2 = 0.26$, $p < .001$.

Discussion

Changes to the diagnostic criteria for PTSD in the *DSM–5* (American Psychiatric Association, 2013) have raised questions regarding whether a developmentally appropriate complex trauma diagnosis (such as DTD; van der Kolk et al., 2009) is still needed.
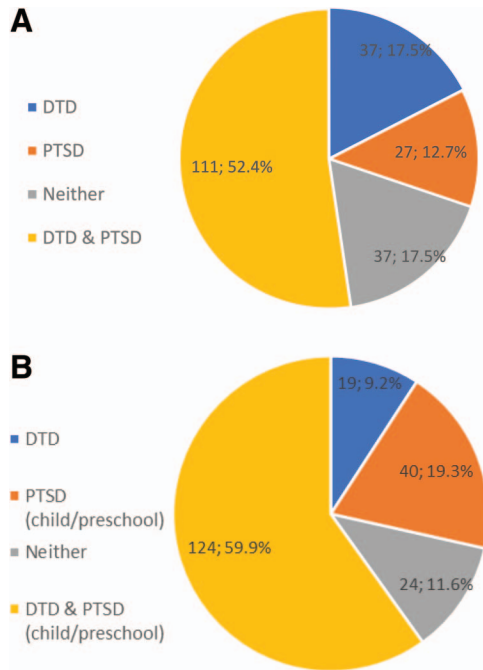
Figure 2. (A) Proportional caseness for probable DTD and *DSM-5* PTSD using adult criteria (B) Proportional caseness for probable DTD and *DSM-5* PTSD using preschool/child criteria. See the online article for the color version of this figure.

To address this question, the present study examined symptoms, functional impairment, and traumatic exposures in children via clinician report as a function of probable trauma-related diagnosis. Results of the present study indicate that, although symptoms consistent with comorbid DTD + PTSD-adult were most prevalent based on clinician reporting (52.4%), cases with DTD alone (17.5%) were about as frequent as PTSD-adult alone (12.7%). Comorbid DTD + PTSD were approximately as prevalent (59.9%) as comorbid DTD + PTSD-adult, and PTSD alone was more common (19.3%) than DTD-alone (9.2%), when the preschool criteria set was used for PTSD caseness. Our results suggest that complex variants of traumatic stress disorders such as DTD are not

simply a more severe form of PTSD (Wolf et al., 2015), nor a subtype of PTSD that adds disturbances of self-organization (Karatzias et al., 2017). Instead, DTD may be best conceptualized as a distinct syndrome that often, but not always, has PTSD and other psychiatric and behavioral disorders as comorbidities (Ford et al., 2018; van der Kolk, Ford, & Spinazzola, 2019). DTD, as hypothesized (van der Kolk et al., 2009), also appears to be associated with cumulative and complex trauma exposure (e.g., family interpersonal violence, neglect) and complex clinical presentations (e.g., associated with the highest symptom and functional impairment total scores). Those findings, along with evidence of the presence of a distinct DTD only subgroup, attest to the potential distinctiveness of DTD as a syndrome distinct from PTSD and provide initial support for the construct and discriminant validity of the SCL.

The present study provides a context for further exploring complex trauma diagnoses in youth. Indeed, children in the present clinical sample were reported by their therapist to have a large number of symptoms (e.g., on average half of the possible DTD and PTSD items) that would be otherwise captured by multiple other psychiatric diagnoses not currently linked to a given traumatic event. A substantial number of children met criteria for DTD in the absence of PTSD, even though some DTD symptoms are included in or closely parallel those in PTSD and vice versa. The majority of trauma-exposed youth in the study met criteria for probable PTSD and DTD. Overall, the inclusion of a single psychiatric diagnosis capturing complex presentations is in alignment with the increasing number of evidence-based treatments for children and adolescents that target developmental trauma (Ford & Courtois, 2013).

Several limitations should be noted. We utilized only one source of information, namely, clinician reports. While this is a relative weakness of the present study, prior work has found that clinician ratings of complex trauma symptoms and functional capacities generally converge with client ratings (e.g., Brand et al., 2009; Cronin, Brand, & Mattanah, 2014). The symptom scale utilized here was also in the process of field trials and limited psychometric data were available for it (e.g., convergent validity and test-test reliability). While the SCL had been used in one prior study to examine DTD (Stolbach et al., 2013), future studies should employ

Table 2

Estimated Trauma-Related Disorder Caseness in Relation to Functional Impairment and Trauma Exposure Characteristics, Using Adult Posttraumatic Stress Disorder (PTSD) Criteria

Trauma exposure characteristic	1. No diagnosis	2. PTSD	3. DTD	4. PTSD + DTD	Overall effect	ES (η_p^2)	Post hoc
Cumulative trauma	2.11 (1.22)	3.36 (1.98)	4.10 (1.90)	4.00 (2.56)	$F(3, 202) = 8.92, p < .001$	.12	3, 4 > 1
Family IPV	1.69 (1.67)	2.69 (1.69)	3.00 (1.92)	2.95 (1.90)	$F(3, 197) = 4.90, p = .003$	.07	3, 4 > 1
Non-family IPV	.24 (.59)	.65 (.80)	.77 (.92)	.72 (.92)	$F(3, 198) = 3.26, p = .022$	.05	4 > 1
Commission	.70 (.73)	1.42 (.98)	1.46 (.93)	1.51 (.93)	$F(3, 143) = 6.58, p < .001$	.12	2, 3, 4 > 1
Omission	.60 (.71)	1.08 (.85)	1.23 (.76)	1.21 (.76)	$F(3, 167) = 5.56, p = .001$	.09	3, 4 > 1
Non-IPV	.22 (.58)	.15 (.46)	.43 (.73)	.40 (.73)	$F(3, 199) = 1.65, p = .180$	.02	
Fx impairment	1.92 (1.44)	2.11 (1.48)	3.10 (1.55)	3.51 (.96)	$F(3, 152) = 16.05, p < .001$	.24	3, 4 > 1; 4 > 2

Note. For PTSD and developmental trauma disorder (DTD), *Diagnostic and Statistical Manual of Mental Disorder* (5th ed.; American Psychiatric Association, 2013) symptom criteria were met (excluding exposure). Cumulative trauma refers to the count of trauma categories endorsed on clinician-report measure (range = 1–15), as all included participants had at least one traumatic event. Family IPV = family interpersonal violence (range = 0–4); non-family IPV = non-family interpersonal violence (range = 0–5); commission = physical, sexual, or emotional abuse (range = 0–3); omission = physical or emotional neglect (range = 0–2); Fx impairment = functional impairment sum (range = 0–6); ES = Effect Size (partial eta squared).

Table 3

Estimated Trauma-Related Disorder Caseness in Relation to Functional Impairment and Trauma Exposure Characteristics, Using Child/Preschool Posttraumatic Stress Disorder (PTSD)

Trauma exposure characteristic	1. No diagnosis	2. PTSD	3. DTD	4. PTSD + DTD	Overall effect	ES (η_p^2)	Post hoc
Cumulative trauma	2.00 (1.02)	3.02 (1.90)	3.89 (1.63)	3.89 (1.63)	$F(3, 203) = 7.85, p < .001$	.10	3, 4 > 1; 4 > 2
Family IPV	1.63 (1.24)	2.42 (1.55)	2.71 (2.14)	2.98 (1.87)	$F(3, 198) = 4.28, p = .003$	.06	4 > 1
Non-family IPV	.29 (.69)	.49 (.72)	.89 (.94)	.70 (.91)	$F(3, 199) = 2.51, p < .022$	.04	
Commission	.58 (.65)	1.30 (.95)	1.50 (.85)	1.49 (.95)	$F(3, 143) = 4.28, p < .001$	.12	2, 3, 4 > 1
Omission	.67 (.73)	.88 (.84)	1.21 (.80)	1.22 (.75)	$F(3, 167) = 3.93, p = .001$	.07	4 > 1
Non-IPV	.08 (.28)	.25 (.63)	.61 (.98)	.38 (.68)	$F(3, 200) = 2.51, p = .001$	.04	
Fx impairment	2.00 (1.33)	2.00 (1.54)	3.08 (1.78)	3.48 (.98)	$F(3, 153) = 15.64, p < .001$	.24	4 > 1,2

Note. For PTSD and developmental trauma disorder (DTD), *Diagnostic and Statistical Manual of Mental Disorder* (5th ed.; American Psychiatric Association, 2013) symptom criteria were met (excluding exposure). Cumulative trauma refers to the count of trauma categories endorsed on clinician-report measure (range = 1–15), as all included participants had at least one traumatic event. Family IPV = family interpersonal violence (range = 0–4); non-family IPV = non-family interpersonal violence (range = 0–5); commission = physical, sexual, or emotional abuse (range = 0–3); omission = physical or emotional neglect (range = 0–2); Fx impairment = functional impairment sum (range = 0–6); ES = Effect Size (partial eta squared).

multiple data sources (e.g., caretakers, chart review or clinical raters) to minimize potential reporting biases, corroborate trauma exposures, and further evaluate the psychometric properties of the SCL. Concerning reporting biases, it is possible that clinicians may have been reporting on their most severe cases, as these may most readily come to mind while completing the surveys. The potential for sampling biases could also not be evaluated fully as we did not have access to detailed information regarding the survey response rate due to the method of data collection. Obtained data may not reflect a fully representative sample of trauma-focused clinicians and/or general practitioners, and the clients they treat. Finally, we did not have information regarding years of clinician training, type of training, highest degree obtained, kind(s) of service being provided, or years of experience; these data could have provided further context for our analyses.

Overall, the present study found that DTD in combination with PTSD (child or adult versions) was associated with greater functional impairment than a sole PTSD diagnosis based on clinician report data. Follow-on regression analyses indicated that DTD predicted a greater proportion of variance in functional impairment scores, compared to any version of PTSD diagnosis. This result expands upon previous findings that broader symptoms, including emotion dysregulation and interpersonal problems, predict functional impairment to the same degree as PTSD (Cloitre, Miranda, Stovall-McClough, & Han, 2005). DTD, however, appears to provide a diagnostic category that would allow clinicians to account for functional impairment in children beyond the existing category of PTSD (D'Andrea et al., 2012) and potentially reduce comorbid nontrauma related diagnoses (Løkkegaard, Egebæk, & Elklit, 2017). How DTD imparts greater (e.g., multidomain) functional impairment is unclear; however, hypothesized mechanisms could include the specific nature of DTD Criterion A traumas, particularly primary attachment disruption (van der Kolk et al., 2009), and the requirement to meet for multiple types of symptoms over and above those captured by *DSM–5* PTSD.

Clinically, and consistent with a previous survey of child-serving clinicians (Ford et al., 2013), the present findings raise concern that existing PTSD item sets, even if adapted developmentally for children, do not adequately capture the range of symptom presentations seen in traumatized children (D'Andrea et

al., 2012). Assessing DTD symptoms can provide a fuller description of the potential sources of functional impairment when planning, conducting and evaluating the outcome of treatment for children with emotional, behavioral, interpersonal, and school/learning problems. These findings also provide a direction for future clinical research studies that investigate treatments designed to address DTD and PTSD symptoms. Such studies could determine if targeting DTD symptoms results in incremental clinical utility in terms of greater improvements in traumatized children's functioning across a range of settings.

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