Developmental Trauma Disorder: A New Diagnosis for the Effects of Toxic Stress in Childhood

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NCTSN Complex Trauma Treatment Network

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The University of Chicago Pritzker School of Medicine
## Trauma Symptoms in Pediatric Burn Patients Admitted to an Urban Burn Center

$n = 40$

70% reported clinical levels of Posttraumatic Stress Symptoms

<table>
<thead>
<tr>
<th>PTSS LEVELS</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No or few trauma symptoms</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Moderate/Consistent with Partial PTSD</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Severe/Consistent with Full PTSD</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

Stolbach, Fleisher, Gazibara, Gottlieb, Mintzer, & West, 2007
**Trauma History**

65% reported history of prior trauma exposure including 52.5% who had experienced two or more prior traumas. 
\[M = 1.55\] prior trauma exposures. Range = 0-6 prior trauma exposures.

<table>
<thead>
<tr>
<th>Potentially Traumatic Event</th>
<th>N</th>
<th>Percentage of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Death or serious injury of loved one</td>
<td>19</td>
<td>47.5</td>
</tr>
<tr>
<td>Witnessed neighborhood violence</td>
<td>16</td>
<td>32.5</td>
</tr>
<tr>
<td>Victim of neighborhood violence</td>
<td>7</td>
<td>17.5</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Natural disaster</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>Other bad accident</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Seen dead body</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Homelessness</td>
<td>1</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Stolbach et al., 2007
Prior trauma exposure was correlated with level of trauma symptoms experienced by children following burns (p < .05), while “objective” estimates of burn severity (e.g., TBSA) and child characteristics were not.

<table>
<thead>
<tr>
<th></th>
<th>Non-clinical levels of PTSS</th>
<th>Clinical levels of PTSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burn Only</td>
<td>N = 7</td>
<td>N = 7</td>
</tr>
<tr>
<td>Prior Trauma</td>
<td>N = 5</td>
<td>N = 21</td>
</tr>
</tbody>
</table>

75% of children with clinical PTSS had prior trauma history

86% (18/21) of children with histories of 2 or more prior traumas experience clinical levels of PTSS

Results suggest that prior trauma exposure increases the risk for PTSD and that all pediatric medical trauma patients should be screened for history of other trauma.

Stolbach et al., 2007
American Academy of Pediatrics
Statement on Early Childhood Adversity, Toxic Stress and the Role of the Pediatrician

Pediatricians are now armed with new information about the adverse effects of toxic stress on brain development, as well as a deeper understanding of the early life origins of many adult diseases. As trusted authorities in child health and development, pediatric providers must now complement the early identification of developmental concerns with a greater focus on those interventions and community investments that reduce external threats to healthy brain growth.

Garner, Shonkoff et al., 2011
American Academy of Pediatrics
Statement on Early Childhood Adversity, Toxic Stress and the Role of the Pediatrician

All health care professionals should adopt [an] ecobiodevelopmental framework as a means of understanding the social, behavioral, and economic determinants of lifelong disparities in physical and mental health. Psychosocial problems and the new morbidities should no longer be viewed as categorically different from the causes and consequences of other biologically based health impairments.

Garner, Shonkoff et al., 2011
This Just In.....

4/26/12

"Exposure to Violence During Childhood is Associated with Telomere Erosion from 5 to 10 Years of Age: A Longitudinal Study," Idan Shalev, Terrie Moffitt et al. Molecular Psychiatry, April 24th. doi:10.1038/mp.2012.32

The new report in the journal Molecular Psychiatry shows that a subset of those children with a history of two or more kinds of violent exposures have significantly more telomere loss than other children. Since shorter telomeres have been linked to poorer survival and chronic disease, this may not bode well for those kids.
The findings suggest a mechanism linking cumulative childhood stress to telomere maintenance and accelerated aging, even at a young age. It appears to be an important way that childhood stress may get "under the skin" at the fundamental level of our cells.

"An ounce of prevention is worth a pound of cure," said Moffitt, who is the Knut Schmidt Nielsen Professor of Psychology and Neuroscience. "Some of the billions of dollars spent on diseases of aging such as diabetes, heart disease and dementia might be better invested in protecting children from harm."
Adverse Childhood Experiences Study (ACES)*

Physical abuse by a parent

Emotional abuse by a parent

Sexual abuse by anyone

An alcohol and/or drug abuser in the household

An incarcerated household member

Someone who is chronically depressed, mentally ill, institutionalized, or suicidal

Domestic violence

Loss of a parent

Emotional neglect

Physical neglect

Felitti et al. 1998
Adverse Childhood Experiences Study (ACES)*

Felitti et al. 1998
The Co-Occurring Nature of Trauma

“Individuals with a trauma history rarely experience only a single traumatic event, but rather are likely to have experienced several episodes of traumatic exposure.”

Cloitre et al., 2009
(Retrospective studies, e.g., Kessler, 2000; Stewart et al., 2008; Coid et al., 2001; Dong et al., 2004)

Finkelhor et al. (2009)
Nationally Representative Sample (n=4549)
Nearly 40% had experienced two or more types of direct victimization in the past year.

NCTSN Core Data Set (2012)
Children Served in the National Child Traumatic Stress Network (n=11,138)
Fewer than 24% had experienced only one type of trauma or ACE.
Over 40% had experienced 4 or more.
Trauma Exposure in Children Served in the National Child Traumatic Stress Network
Single vs. Multiple Trauma Types

Percentage of Children & Adolescents

Single: 23.2%
Multiple: 76.9%

NCTSN Core Data Set
September 2010
Percentage of Children in the NCTSN Core Data Set Experiencing Cumulative Traumas

- 1 trauma type: 23.2%
- 2 trauma types: 18%
- 3 trauma types: 14.6%
- 4+ trauma types: 44.2%

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Total # Types of Traumatic Stressors Experienced
Mean = 2.59        70.9% Experienced 2 or More

Stolbach et al., 2009
## Traumatic Stressors

<table>
<thead>
<tr>
<th>Traumatic Stressor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual Abuse</td>
<td>55%</td>
</tr>
<tr>
<td>Witnessed Domestic Violence</td>
<td>39%</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>27%</td>
</tr>
<tr>
<td>Traumatic Loss</td>
<td>26%</td>
</tr>
<tr>
<td>Witnessed Physical or Sexual Abuse</td>
<td>26%</td>
</tr>
<tr>
<td>Witnessed Community Violence</td>
<td>19%</td>
</tr>
<tr>
<td>Motor Vehicle Accident</td>
<td>13%</td>
</tr>
<tr>
<td>Other Medical Trauma (other than burns)</td>
<td>12%</td>
</tr>
<tr>
<td>Victim of Extrafamilial Violent Crime</td>
<td>7%</td>
</tr>
<tr>
<td>Burns</td>
<td>7%</td>
</tr>
<tr>
<td>Fire</td>
<td>7%</td>
</tr>
<tr>
<td>Witnessed Homicide</td>
<td>5%</td>
</tr>
</tbody>
</table>

Other trauma types include dog attack, school violence, abduction, torture, witnessing serious injury, hurricane

Stolbach et al., 2009
Trauma Exposure

90% experienced at least one form of interpersonal trauma.

63% experienced at least one form of family violence.

58% experienced at least one form of ongoing traumatic stress.

Stolbach et al., 2009
Other Adverse Experiences

Mean = 2.65  59% Experienced 2 or More

Stolbach et al., 2009

Total # Types of Adverse Experiences

NCTSN  The National Child Traumatic Stress Network
## Other Adverse Experiences

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired Caregiver</td>
<td>54%</td>
</tr>
<tr>
<td>Neglect</td>
<td>37%</td>
</tr>
<tr>
<td>Placement in Foster Care</td>
<td>30%</td>
</tr>
<tr>
<td>Death of Significant Other (not TL)</td>
<td>26%</td>
</tr>
<tr>
<td>Unresolved Trauma History in Caregiver</td>
<td>24%</td>
</tr>
<tr>
<td>Exposure to Drug Use or Criminal Activity in Home</td>
<td>23%</td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>22%</td>
</tr>
<tr>
<td>Exposure to Prostitution or other Developmentally Inappropriate Sexual Behavior in Home</td>
<td>18%</td>
</tr>
<tr>
<td>Substitute Care (not foster care)</td>
<td>17%</td>
</tr>
<tr>
<td>Incarcerated Family Member</td>
<td>16%</td>
</tr>
<tr>
<td>Homelessness</td>
<td>7%</td>
</tr>
</tbody>
</table>

Stolbach et al., 2009
La Rabida Chicago Child Trauma Center
Total Trauma and Adverse Experiences

Mean = 5.26
63% Experienced 4 or More

Stolbach et al, 2009
The Attachment Behavioral System

- Attachment: an evolved behavioral system that functions to promote the protection and safety of the attached person.

- Attachment system is activated strongly by internal and external stressors or threats.

- It is through healthy attachment (i.e., a behavioral system that effectively protects and comforts the infant or child) that a child develops the capacity for emotional and behavioral self-regulation, as well as a coherent self.
Attachment

- Internal Working Models: complementary representations of the self and the attachment figure.

- These models reflect the child’s appraisal of, and confidence in, the self as acceptable and worthy of care and protection, and the attachment figure’s desire, ability, and availability to provide protection and care. – Solomon & George, 1999
The Trauma Response

- Defining Dissociation
  - “...a complex psychophysiological process...that produces an alteration in the person’s consciousness. During this process, thoughts, feelings and experiences are not integrated into the individual’s awareness in the normal way.” – Putnam, 1985
  - “a mechanism by which some of the systems of experience and some of the somatic apparatuses are disintegrated from the rest of the personality”
    - Sullivan, 1929
The Trauma Response

- Peritraumatic Dissociation
  - “In the service of protecting the self from unbearable experiences, those who have the mental agility to do so are able to segregate various aspects of their experiences.”
  - Allen, 1993
The Trauma Response

- Development of Posttraumatic Symptoms
  - Although rendered unconscious...by the dissociative process, these mental elements are not thereby removed from the sum total of mental contents...[They have] the potential of being subsequently recalled to consciousness under special circumstances. Furthermore they have the capacity in their unconscious state to intrude on and affect consciousness in a variety of disguises that may take the form of ego-alien symptoms.”
  
  - Nemiah, 1993
Some Basic Assumptions About Psychological Traumatization

Traumatic experiences are those which overwhelm an individual’s capacity to integrate experience in the normal way. (e.g., Putnam, 1985)

Following exposure to trauma, if integration does not occur, traumatic experience(s) are split off and an individual alternates between functioning as if the trauma is still occurring and functioning as if the trauma never occurred. (e.g., Nijenhuis et al., 2004)

Although traumatic memories and associations remain inaccessible to consciousness much of the time, they have the power to shape an individual’s daily functioning and behavior. (e.g., Allen, 1993)
Posttraumatic Stress Disorder

A. Event
B. Reexperiencing
C. Avoidance/Numbing/Amnesia
D. Hyperarousal
Posttraumatic Stress Disorder

DSM-IV Criteria for PTSD

A. Exposure to traumatic event in which both of the following were present:

A.1. Experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or other

A.2. The person’s response involved intense fear, helplessness, or horror
Proposed DSM-5 PTSD Criterion A

The person was exposed to the following event(s): death or threatened death, actual or threatened serious injury, or actual or threatened sexual violation, in one or more of the following ways:

Experiencing the event(s) him/herself
Witnessing the event(s) as they occurred to others
Learning that the event(s) occurred to a close relative or close friend
Experiencing repeated or extreme exposure to aversive details of the event(s) (e.g., first responders collecting body parts; police officers repeatedly exposed to details of child abuse)
Posttraumatic Stress Disorder

DSM-IV Criteria for PTSD

B. Reexperiencing - 1 or more of the following:
   - Intrusive distressing recollections
   - Recurrent distressing dreams
   - Feeling as if traumatic event were recurring
   - Intense distress at reminders
   - Physiological reactivity to reminders
Posttraumatic Stress Disorder

DSM-IV Criteria for PTSD

C. Avoidance – 3 or more of the following:
   - Of thoughts, feelings or conversations about the event
   - Of reminders of the event
   - Inability to recall an important aspect of the event
   - Diminished interest in activities
   - Feeling of detachment from others
   - Restricted range of affect
   - Sense of a foreshortened future
Posttraumatic Stress Disorder

DSM-IV Criteria for PTSD

D. Hyperarousal – 2 or more of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts
- Difficulty concentrating
- Hypervigilance
- Exaggerated startle response
Met Full Criteria for PTSD

Pynoos et al., 2008
Limitations of PTSD Diagnosis for Children

- Conceptualized from an adult perspective
- Identified as diagnosis via Vietnam vets and adult rape victims
- Focuses on single event traumas
- Fails to recognize chronic/multiple/ongoing traumas
- Is not developmentally sensitive and does not reflect the impact of trauma on brain development
- Many traumatized children do not meet full diagnostic criteria
- Does not direct clinical attention to attachment history and attachment-related injuries
What is Complex Trauma?

Exposure to multiple forms of violence and other potentially traumatic stressors in the context of attachment behavioral systems that are unable to provide protection, care, and comfort

Focus on cumulative trauma and the developmental context in which exposure occurs rather than on discrete episodes

Proposed Developmental Trauma Disorder Criterion A:

A. Exposure. The child or adolescent has experienced or witnessed multiple or prolonged adverse events over a period of at least one year beginning in childhood or early adolescence, including:

A. 1. Direct experience or witnessing of repeated and severe episodes of interpersonal violence; and

A. 2. Significant disruptions of protective caregiving as the result of repeated changes in primary caregiver; repeated separation from the primary caregiver; or exposure to severe and persistent emotional abuse
Beyond Posttraumatic Stress Disorder

Complex Trauma, Toxic Stress, Type II Trauma, Betrayal Trauma, Developmentally Adverse Interpersonal Trauma and Maltreatment, ACEs, Extreme Stress Not Otherwise Specified....

has profound effects on development, functioning, personality, and the capacity to live, love, and be loved.

These effects are not accounted for in our current diagnostic classification system, nor are they addressed in standard simple PTSD treatment approaches.
Beyond Posttraumatic Stress Disorder

Developmental Trauma Disorder (van der Kolk, 2005) proposes that following exposure to multiple, chronic adverse interpersonal stressors, including neglect, emotional abuse, violence, children develop symptoms of dysregulation across multiple areas:

- Affective (emotional)
- Somatic (physiological, motoric, medical)
- Behavioral (re-enactment, cutting)
- Cognitive (dissociation, confusion)
- Relational (clinging, oppositional, distrustful)
- Self-attribute (self blame, hate)
Key Developmental Capacities Affected by Complex Trauma

Ability to modulate, tolerate, or recover from extreme affect states
Regulation of bodily functions
Capacity to know emotions or bodily states
Capacity to describe emotions or bodily states
Capacity to perceive threat, including reading of safety and danger cues
Capacity for self-protection
Capacity for self-soothing
Ability to initiate or sustain goal-directed behavior
Coherent self, Identity
Capacity to regulate empathic arousal
Infants and young children exposed to cumulative, chronic traumatic events show disturbances and deficits in emotional, social, and cognitive competencies that are not encompassed by the existing criteria for diagnosing PTSD. One major reason for this situation is that the existing diagnostic criteria for PTSD do not incorporate developmentally appropriate constructs of infancy and early childhood. A second problem is that the current definition of PTSD is predicated on the occurrence of a single traumatic event, whereas pervasive and recurrent traumatization is often the norm for children living in high-risk families and communities. For millions of young children, repeated exposure to traumatic events takes the form of co-occurring physical abuse, domestic violence, community violence, and accidents such as falls, burns, dog bites and near-drownings that occur as the byproduct of severe neglect. Developmental competencies are derailed in [numerous] domains.

Lieberman, Ghosh Ippen, & Van Horn, 2008
Cumulative Risk Increases Lifetime DSM Diagnoses in 5 Different Diagnostic Categories (Mood, Anxiety, Conduct, Substance Abuse, Impulsive)

OhioCanDo4Kids.Org

Putnam et al., 2008
Contribution of Childhood Adversity to Diagnostic Complexity as manifest by the number of Lifetime DSM Diagnostic Categories for individuals with CRS = 0 and CRS ≥ 4

(DSM Categories = Mood, Anxiety, Conduct, Substance Abuse, Impulsive Disorders)

OhioCanDo4Kids.Org

Putnam et al., 2008
Children’s Posttraumatic Reactions: Risk for Misdiagnosis and Mislabeled

Children presenting with complex trauma-related symptoms are at risk of being misdiagnosed with a variety of disorders and functional difficulties particularly when a comprehensive assessment for complex trauma issues is not conducted:

- ADHD
- Depressive Disorders
- Oppositional Defiant Disorder
- Conduct Disorder
- Reactive Attachment Disorder
- Psychotic Disorders
- Specific Phobias
- Learning/ academic difficulties
- Juvenile Delinquency
Research has shown that traumatic childhood experiences not only are extremely common, but also have a profound impact on many different areas of functioning. For example, children exposed to alcoholic parents or domestic violence rarely have secure childhoods; their symptomatology tends to be pervasive and multifaceted and is likely to include depression, various medical illnesses, and a variety of impulsive and self-destructive behaviors. Approaching each of these problems piecemeal, rather than as expressions of a vast system of internal disorganization, runs the risk of losing sight of the forest in favor of one tree.

van der Kolk, 2005
“Of course being in a family where you get beaten up by the people who are supposed to take care of you would be different from getting burned or being in a fire or something. Why do they have only one diagnosis?”

Eva Griffin-Stolbach (age 8), personal communication, January 2009
PROPOSAL TO INCLUDE A DEVELOPMENTAL TRAUMA DISORDER DIAGNOSIS FOR CHILDREN AND ADOLESCENTS IN DSM-V

Bessel A. van der Kolk, MD        Robert S. Pynoos, MD
Dante Cicchetti, PhD        Marylene Cloitre, PhD
Wendy D’Andrea, PhD         Julian D. Ford, PhD        Alicia F. Lieberman, PhD
Frank W. Putnam, MD         Glenn Saxe, MD        Joseph Spinazzola, PhD
Bradley C. Stolbach, PhD     Martin Teicher, MD, PhD

February 1, 2009
CONSENSUS PROPOSED CRITERIA FOR DEVELOPMENTAL TRAUMA DISORDER

A. Exposure. The child or adolescent has experienced or witnessed multiple or prolonged adverse events over a period of at least one year beginning in childhood or early adolescence, including:

A. 1. Direct experience or witnessing of repeated and severe episodes of interpersonal violence; and

A. 2. Significant disruptions of protective caregiving as the result of repeated changes in primary caregiver; repeated separation from the primary caregiver; or exposure to severe and persistent emotional abuse.
B. Affective and Physiological Dysregulation. The child exhibits impaired normative developmental competencies related to arousal regulation, including at least two of the following:

B. 1. Inability to modulate, tolerate, or recover from extreme affect states (e.g., fear, anger, shame), including prolonged and extreme tantrums, or immobilization

B. 2. Disturbances in regulation in bodily functions (e.g. persistent disturbances in sleeping, eating, and elimination; over-reactivity or under-reactivity to touch and sounds; disorganization during routine transitions)

B. 3. Diminished awareness/dissociation of sensations, emotions and bodily states

B. 4. Impaired capacity to describe emotions or bodily states
C. Attentional and Behavioral Dysregulation: The child exhibits impaired normative developmental competencies related to sustained attention, learning, or coping with stress, including at least three of the following:

C. 1. Preoccupation with threat, or impaired capacity to perceive threat, including misreading of safety and danger cues

C. 2. Impaired capacity for self-protection, including extreme risk-taking or thrill-seeking

C. 3. Maladaptive attempts at self-soothing (e.g., rocking and other rhythmical movements, compulsive masturbation)

C. 4. Habitual (intentional or automatic) or reactive self-harm

C. 5. Inability to initiate or sustain goal-directed behavior
D. Self and Relational Dysregulation. The child exhibits impaired normative developmental competencies in their sense of personal identity and involvement in relationships, including at least three of the following:

D. 1. Intense preoccupation with safety of the caregiver or other loved ones (including precocious caregiving) or difficulty tolerating reunion with them after separation

D. 2. Persistent negative sense of self, including self-loathing, helplessness, worthlessness, ineffectiveness, or defectiveness

D. 3. Extreme and persistent distrust, defiance or lack of reciprocal behavior in close relationships with adults or peers

D. 4. Reactive physical or verbal aggression toward peers, caregivers, or other adults

D. 5. Inappropriate (excessive or promiscuous) attempts to get intimate contact (including but not limited to sexual or physical intimacy) or excessive reliance on peers or adults for safety and reassurance

D. 6. Impaired capacity to regulate empathic arousal as evidenced by lack of empathy for, or intolerance of, expressions of distress of others, or excessive responsiveness to the distress of others
E. Posttraumatic Spectrum Symptoms. The child exhibits at least one symptom in at least two of the three PTSD symptom clusters B, C, & D.
F. Duration of disturbance (symptoms in DTD Criteria B, C, D, and E) at least 6 months.
G. Functional Impairment. The disturbance causes clinically significant distress or impairment in at least two of the following areas of functioning:
   • Scholastic: under-performance, non-attendance, disciplinary problems, drop-out, failure to complete degree/credential(s), conflict with school personnel, learning disabilities or intellectual impairment that cannot be accounted for by neurological or other factors.
   • Familial: conflict, avoidance/passivity, running away, detachment and surrogate replacements, attempts to physically or emotionally hurt family members, non-fulfillment of responsibilities within the family.
   • Peer Group: isolation, deviant affiliations, persistent physical or emotional conflict, avoidance/passivity, involvement in violence or unsafe acts, age-inappropriate affiliations or style of interaction.
   • Legal: arrests/recidivism, detention, convictions, incarceration, violation of probation or other court orders, increasingly severe offenses, crimes against other persons, disregard or contempt for the law or for conventional moral standards.
   • Health: physical illness or problems that cannot be fully accounted for physical injury or degeneration, involving the digestive, neurological (including conversion symptoms and analgesia), sexual, immune, cardiopulmonary, proprioceptive, or sensory systems, or severe headaches (including migraine) or chronic pain or fatigue.
Complex Trauma Histories, PTSD, and Developmental Trauma Disorder Symptoms in Traumatized Urban Children

Bradley C. Stolbach, Ph.D.
Renee Z. Dominguez, Ph.D.
Vikki Rompala, L.C.S.W.
Tanja Gazibara, B.A.
Robert Finke, Ph.D.
Previous Findings

Stolbach, Dominguez, Rompala, & Gazibara, 2008

In this trauma-exposed and highly traumatized sample, PTSD does not differentiate children with Complex Trauma Histories from other children.

Children with Complex Trauma Histories appear to have more difficulty than other children in the areas of
- Behavioral Dysregulation (CBCL Externalizing, CSBI, CDC)
- Dissociation
- General Numbing of Responsiveness (Dysthymia)

Cloitre, Stolbach, Herman, van der Kolk, Pynoos, Wang, & Petkova, 2009

Childhood cumulative trauma predicted symptom complexity in the child sample and was a stronger predictor than adulthood cumulative trauma in the adult sample.
Goals of Current Study

Use existing data to examine the newly proposed Developmental Trauma Disorder Consensus Criteria.

Identify symptoms that differentiate children with histories of proposed DTD Criterion A exposure from other children.

Stolbach et al., 2009
Limitations of Data

Study was designed and approved, and data collection began after publication of DTD concept, but well before the proposed Developmental Trauma Disorder Consensus Criteria were put forward.

DTD could not be assessed prospectively. Measures were not designed to capture DTD symptoms. For the purpose of the current study, items were identified that correspond with some of the proposed criteria. Some of the proposed symptoms had as few as one corresponding item and some measures/items were only available for a subset of the sample.

Stolbach et al., 2009
Demographics

214 trauma-exposed children referred to CCTC after experiencing 1 or more PTSD Criterion A stressor(s)

Age Range = 3-17  Mean Age = 9 yrs., 9 mos.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>96</td>
<td>(44.9%)</td>
</tr>
<tr>
<td>Female</td>
<td>118</td>
<td>(55.1%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/African American</td>
<td>170</td>
<td>(79.4%)</td>
</tr>
<tr>
<td>White/European American</td>
<td>21</td>
<td>(10.9%)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>18</td>
<td>(8.4%)</td>
</tr>
<tr>
<td>“Biracial”/“Multiracial”</td>
<td>9</td>
<td>(4.2%)</td>
</tr>
</tbody>
</table>

Stolbach et al., 2009
Correlations Between DTD Criterion A Exposure and Measures

Self Report

DICA Past Major Depressive Episode (r = .245, p < .05)

DICA Dysthymia symptoms (r = .436, p < .001)

DICA Conduct Disorder (r = .200, p < .05)

CDI, PTSD Measures, RCMAS not correlated or negatively correlated with DTD Criterion A exposure

Stolbach et al., 2009
Correlations Between DTD Criterion A Exposure and Measures

Caregiver Report

Child Dissociative Checklist Total ($r = .185, p < .01$)

Child Sexual Behavior Inventory ($r = .248, p < .05$)

Child Behavior Checklist Externalizing ($r = .182, p < .01$)

CBCL Internalizing and Total CBCL not correlated

UCLA Reaction Index not correlated

Stolbach et al., 2009
B. Affective and Physiological Dysregulation. The child exhibits impaired normative developmental competencies related to arousal regulation, including at least two of the following:

B. 1. Inability to modulate, tolerate, or recover from extreme affect states (e.g., fear, anger, shame), including prolonged and extreme tantrums, or immobilization

B. 2. Disturbances in regulation in bodily functions (e.g. persistent disturbances in sleeping, eating, and elimination; over-reactivity or under-reactivity to touch and sounds; disorganization during routine transitions)

B. 3. Diminished awareness/dissociation of sensations, emotions and bodily states

B. 4. Impaired capacity to describe emotions or bodily states
<table>
<thead>
<tr>
<th>DTD Cluster B Symptoms by Criterion A Exposure</th>
<th>DTD A+</th>
<th>DTD A-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems managing/tolerating angry affect</td>
<td>84.3%</td>
<td>46.5%***</td>
</tr>
<tr>
<td>Problems managing/tolerating anxious affect</td>
<td>65.4%</td>
<td>42.4%**</td>
</tr>
<tr>
<td>Difficulty knowing and describing internal states</td>
<td>68.6%</td>
<td>31.7%***</td>
</tr>
<tr>
<td>Avoidance or dissociation of negative/painful affect</td>
<td>76.5%</td>
<td>55.0%**</td>
</tr>
<tr>
<td>Emotional unresponsiveness</td>
<td>39.2%</td>
<td>19.8%**</td>
</tr>
<tr>
<td>Difficulty labeling and expressing feelings and internal experience</td>
<td>72.5%</td>
<td>34.7%***</td>
</tr>
<tr>
<td>Difficulty communicating wishes and desires</td>
<td>60.8%</td>
<td>19.0%***</td>
</tr>
</tbody>
</table>

Stolbach et al., 2009
C. Attentional and Behavioral Dysregulation: The child exhibits impaired normative developmental competencies related to sustained attention, learning, or coping with stress, including at least three of the following:

C. 1. Preoccupation with threat, or impaired capacity to perceive threat, including misreading of safety and danger cues

C. 2. Impaired capacity for self-protection, including extreme risk-taking or thrill-seeking

C. 3. Maladaptive attempts at self-soothing (e.g., rocking and other rhythmical movements, compulsive masturbation)

C. 4. Habitual (intentional or automatic) or reactive self-harm

C. 5. Inability to initiate or sustain goal-directed behavior
## DTD Cluster C Symptoms by Criterion A Exposure

<table>
<thead>
<tr>
<th>Category</th>
<th>DTD A +</th>
<th>DTD A -</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over or under-estimation of risk</td>
<td>34.0%</td>
<td>9.3%***</td>
</tr>
<tr>
<td>Total Score for CSBI</td>
<td>54.3%</td>
<td>29.0%*</td>
</tr>
<tr>
<td>Inability to self-soothe</td>
<td>54.9%</td>
<td>21.8%***</td>
</tr>
<tr>
<td>Self-injurious behavior</td>
<td>39.2%</td>
<td>15.0%**</td>
</tr>
<tr>
<td>Problems with capacity to plan and anticipate</td>
<td>39.2%</td>
<td>18.0%**</td>
</tr>
<tr>
<td>Problems with age-appropriate capacity to focus on and complete tasks</td>
<td>51.0%</td>
<td>23.0%***</td>
</tr>
</tbody>
</table>

Stolbach et al., 2009
D. Self and Relational Dysregulation. The child exhibits impaired normative developmental competencies in their sense of personal identity and involvement in relationships, including at least three of the following:

D. 1. Intense preoccupation with safety of the caregiver or other loved ones (including precocious caregiving) or difficulty tolerating reunion with them after separation

D. 2. Persistent negative sense of self, including self-loathing, helplessness, worthlessness, ineffectiveness, or defectiveness

D. 3. Extreme and persistent distrust, defiance or lack of reciprocal behavior in close relationships with adults or peers

D. 4. Reactive physical or verbal aggression toward peers, caregivers, or other adults

D. 5. Inappropriate (excessive or promiscuous) attempts to get intimate contact (including but not limited to sexual or physical intimacy) or excessive reliance on peers or adults for safety and reassurance

D. 6. Impaired capacity to regulate empathic arousal as evidenced by lack of empathy for, or intolerance of, expressions of distress of others, or excessive responsiveness to the distress of others
# DTD Cluster D Symptoms by Criterion A Exposure

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>DTD A+</th>
<th>DTD A-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings of being damaged or defective</td>
<td>52.9%</td>
<td>24.8%***</td>
</tr>
<tr>
<td>Low feelings of self-esteem, self-confidence or self-worth</td>
<td>74.5%</td>
<td>39.6%***</td>
</tr>
<tr>
<td>Distrust of others</td>
<td>62.7%</td>
<td>40.6%***</td>
</tr>
<tr>
<td>Physically attacks people</td>
<td>15.4%</td>
<td>4.6%*</td>
</tr>
<tr>
<td>Volatile interpersonal relationships</td>
<td>47.1%</td>
<td>15.0%***</td>
</tr>
<tr>
<td>Interpersonal boundary issues</td>
<td>47.1%</td>
<td>13.0%***</td>
</tr>
<tr>
<td>Difficulty attuning to other people’s emotional states</td>
<td>33.3%</td>
<td>8.9%***</td>
</tr>
<tr>
<td>Difficulty with perspective taking</td>
<td>47.1%</td>
<td>13.0%***</td>
</tr>
</tbody>
</table>

Stolbach et al., 2009
% Meeting DTD Symptom Criteria by Criterion A Exposure

- Episodic Traumatic Stress Only
- Exposure does not include DTD Criterion A1 or A2
- DTD Criterion A1
- DTD Criterion A2
- DTD Criterion A1 & A2***

Stolbach et al., 2009
<table>
<thead>
<tr>
<th>Trauma Exposure</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abduction</td>
<td>99%</td>
</tr>
<tr>
<td>Exposure to Armed Combat</td>
<td>92%</td>
</tr>
<tr>
<td>Physical Assault</td>
<td>90%</td>
</tr>
<tr>
<td>Witnessed Killing</td>
<td>88%</td>
</tr>
<tr>
<td>Community Violence</td>
<td>56%</td>
</tr>
<tr>
<td>Rape by Rebels</td>
<td>26%</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>26%</td>
</tr>
<tr>
<td>Sexual Assault in Community</td>
<td>24%</td>
</tr>
</tbody>
</table>

Klasen et al., 2011
### PTSD, MDD & DTD in Former Child Soldiers in Uganda

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>33%</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>36%</td>
</tr>
<tr>
<td>Developmental Trauma Disorder</td>
<td>78%</td>
</tr>
<tr>
<td>PTSD Only</td>
<td>1%</td>
</tr>
<tr>
<td>MDD Only</td>
<td>3%</td>
</tr>
<tr>
<td>DTD Only</td>
<td>32%</td>
</tr>
<tr>
<td>Two Diagnoses</td>
<td>30%</td>
</tr>
<tr>
<td>All Three</td>
<td>17%</td>
</tr>
<tr>
<td>None</td>
<td>17%</td>
</tr>
</tbody>
</table>

Klasen et al., 2011
Complex Trauma Exposure and Symptoms in Child Welfare:

Evidence for Developmental Trauma Disorder

Cassandra Kisiel, Ph.D.
Tracy Fehrenbach, Ph.D.
Gary McClelland, Ph.D.
Kristine Burkman, B.A.
Gene Griffin, JD, Ph.D

Mental Health Services and Policy Program
Northwestern University Feinberg School of Medicine
Trauma Groups by DTD Symptom Criteria - Overall

Kisiel et al., 2009
## Corrected Rates of Placement Change by Trauma Profile: Two Years Following Assessment

<table>
<thead>
<tr>
<th>Trauma Groups</th>
<th>Incident Rate Ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No A1 or A2</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>A1 Only</td>
<td>1.027</td>
<td>p = .369</td>
</tr>
<tr>
<td>A2 Only</td>
<td>1.128</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>A1 &amp; A2</td>
<td>1.203</td>
<td>p &lt; .001</td>
</tr>
</tbody>
</table>

Kisiel et al., 2009
Developmental Trauma Disorder: Results from the National Child Traumatic Stress Network

Sarah A. Ostrowski, PhD
Western Kentucky University

Ernestine Briggs-King, PhD, John A. Fairbank, PhD
National Center for Child Traumatic Stress
Duke University School of Medicine

Robert Pynoos, MD, Alan Steinberg, PhD
National Center for Child Traumatic Stress
UCLA

Bradley Stolbach, PhD
La Rabida Children’s Hospital
Cluster B: Affective and Physiological Dysregulation

Ostrowski et al., 2009

Percent

Depression
Somatization
Sleep disorder
Dissociation

***p<.001

DTD+
non-DTD
Cluster C. Attentional and Behavioral Dysregulation.

Ostrowski et al., 2009
Cluster D. Self and Relational Dysregulation

Ostrowski et al., 2009
Summary

- Children who experienced ongoing interpersonal violence in combination with disruptions in protective caregiving were characterized by high levels of symptoms and developmental impairment
  - Consistent with the proposed DTD criteria
  - Results remained statistically significant even when controlling for PTSD symptom severity

Ostrowski et al., 2009
# Trauma Histories of Incarcerated Girls

<table>
<thead>
<tr>
<th>Trauma Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Witnessed Community Violence</td>
<td>70%</td>
</tr>
<tr>
<td>Motor Vehicle Accident</td>
<td>70%</td>
</tr>
<tr>
<td>Witnessed Domestic Violence</td>
<td>70%</td>
</tr>
<tr>
<td>Traumatic Loss</td>
<td>70%</td>
</tr>
<tr>
<td>Sexual Abuse/Assault</td>
<td>60%</td>
</tr>
<tr>
<td>Witnessed Physical Abuse</td>
<td>60%</td>
</tr>
<tr>
<td>Witnessed Physical or Sexual Abuse</td>
<td>60%</td>
</tr>
<tr>
<td>Dog Attack</td>
<td>60%</td>
</tr>
<tr>
<td>Witnessed School Violence</td>
<td>60%</td>
</tr>
<tr>
<td>Victim of Extrafamilial Violent Crime</td>
<td>50%</td>
</tr>
<tr>
<td>Witnessed Homicides (all at least 2)</td>
<td>40%</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>40%</td>
</tr>
<tr>
<td>Burns</td>
<td>30%</td>
</tr>
<tr>
<td>Fire</td>
<td>20%</td>
</tr>
</tbody>
</table>

Other trauma types include natural disaster, abduction, torture
100% experienced at least one form of family violence.

80% experienced at least one form of ongoing traumatic stress.

80% experienced at least one form of traumatic stress prior to age 6, including 30% who reported exposure to violence from birth.

Mean # Types of Trauma Experienced = 8.5

Range # Types of Trauma Experienced = 3 - 15
## Other Adverse Experiences

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impaired Caregiver</td>
<td>70%</td>
</tr>
<tr>
<td>Incarcerated Significant Other</td>
<td>70%</td>
</tr>
<tr>
<td>Exposure to Drug Use or Criminal Activity in Home</td>
<td>70%</td>
</tr>
<tr>
<td>Neglect</td>
<td>60%</td>
</tr>
<tr>
<td>Death of Significant Other (not TL)</td>
<td>60%</td>
</tr>
<tr>
<td>Exposure to Prostitution or other Developmentally</td>
<td></td>
</tr>
<tr>
<td>Inappropriate Sexual Behavior in Home</td>
<td>50%</td>
</tr>
<tr>
<td>Placement in Foster Care</td>
<td>40%</td>
</tr>
<tr>
<td>Homelessness</td>
<td>30%</td>
</tr>
<tr>
<td>Substitute Care (not foster care)</td>
<td>20%</td>
</tr>
</tbody>
</table>

Mean # Types of Adverse Experiences = 4.8

Range # Types of Adverse Experiences = 2 – 8
Mean Combined Total Types of Traumatic Stressors + Other Adverse Childhood Experiences = 13.3
<table>
<thead>
<tr>
<th>Event</th>
<th>YES</th>
<th>AGE(s)</th>
<th>#OCCUR</th>
<th>CHRONIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual victimization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetrator: _______ _________</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Witness sexual victimization</td>
<td>YES</td>
<td>13, 14, 16, 17, 36</td>
<td>More than 10 X</td>
<td>YES</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>YES</td>
<td>13, 14, 15, 16, 17</td>
<td>More than 10 X</td>
<td>YES</td>
</tr>
<tr>
<td>Perpetrator: other gang members</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Witness physical abuse</td>
<td>YES</td>
<td>12, 13, 14, 15, 16, 17</td>
<td>More than 10 X</td>
<td>YES</td>
</tr>
<tr>
<td>Direct victim of extrafamilial violent crime</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to domestic violence</td>
<td>YES</td>
<td>10 up to 17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traumatic loss</td>
<td>YES</td>
<td>17, 18</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Witnessing community violence</td>
<td>YES</td>
<td>12 till 41</td>
<td>Over 20X</td>
<td></td>
</tr>
<tr>
<td>Witnessing school violence</td>
<td>YES</td>
<td>13, 14, 15, 16, 17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burn</td>
<td>YES</td>
<td>16</td>
<td>1</td>
<td>NO</td>
</tr>
<tr>
<td>Fire</td>
<td>YES</td>
<td>10</td>
<td>1</td>
<td>NO</td>
</tr>
<tr>
<td>Motor vehicle accident</td>
<td>YES</td>
<td>14, 16</td>
<td>2</td>
<td>NO</td>
</tr>
<tr>
<td>Dog attack</td>
<td>YES</td>
<td>13</td>
<td>1</td>
<td>NO</td>
</tr>
<tr>
<td>Other medical trauma</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abduction</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Torture</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Witnessing homicide</td>
<td>YES</td>
<td>13</td>
<td>1</td>
<td>NO</td>
</tr>
<tr>
<td>Natural disaster</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>YES</td>
<td>AGE(s)</td>
<td>#OCCUR</td>
<td>CHRONIC</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td>--------</td>
<td>------------</td>
<td>---------</td>
</tr>
<tr>
<td>History of impaired caregiver (e.g., depression, mental illness, drug or alcohol abuse)</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to prostitution or other developmentally inappropriate behavior or material</td>
<td>Y</td>
<td>13</td>
<td>More than 10X</td>
<td>YES</td>
</tr>
<tr>
<td>Exposure to other criminal behavior in the home (e.g., drug use)</td>
<td>Y</td>
<td>13</td>
<td>More than 10X</td>
<td>NO</td>
</tr>
<tr>
<td>Neglect (physical, medical, or educational)</td>
<td>Y</td>
<td>15</td>
<td>2</td>
<td>NO</td>
</tr>
<tr>
<td>History of foster placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age(s):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># of Placements:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substitute care (no DCFS involvement but live with other than bio parent)</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age(s):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homelessness</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incarcerated significant other</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death of significant other (other than primary caregiver)</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unresolved trauma history in current caregiver</td>
<td>NO</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Trauma Exposure in CeaseFire Chicago Violence Interrupters and Outreach Workers

n = 8

Mean total traumatic stressors and other ACES = 10.1

Range = 8 - 15

Mean age of first trauma = 9

87.5% experienced at least one form of family violence.

100% experienced at least 4 forms of ongoing traumatic stress.

75% experienced at least one medical trauma (burn, MVA, dog attack)
American Academy of Pediatrics
Statement on Early Childhood Adversity,
 Toxic Stress and the Role of the Pediatrician

All health care professionals should adopt [an] ecobiodevelopmental framework as a means of understanding the social, behavioral, and economic determinants of lifelong disparities in physical and mental health. Psychosocial problems and the new morbidities should no longer be viewed as categorically different from the causes and consequences of other biologically based health impairments.

Garner, Shonkoff et al., 2011
Key Messages for Trauma Recovery

1. It is not happening now.
   The trauma is over. It is in the past. You are here in the present.

2. You are safe.
   The adults here are responsible for your safety and you are worthy of care and protection.

3. You are not inherently dangerous/toxic.
   What is inside you (thoughts, feelings, dreams, impulses, etc.) cannot hurt you or others.

4. You are good.
   Whatever you have experienced and whatever you have had to do to survive, you are a good, strong person who can contribute to your community.

5. You have a future.


References & Suggested Readings


