What Educators Need to Know about Trauma and Toxic Stress

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Minnesota Center for Chemical and Mental Health
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Overview

• The brain: trauma and toxic stress
• Red flags of toxic stress
• Key trauma-informed responses
• Q & A
A Metaphor
Toxic Stress

• Strong, frequent, or prolonged activation of the body’s stress management system.

• Caused by stressful events that are chronic, uncontrollable, and/or experienced without the child having access to support from adults

(Rubin & Leonard, 2014)
### Sources of Trauma and Toxic Stress

<table>
<thead>
<tr>
<th>Trauma Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neglect</td>
<td>Community violence</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>Bullying or school violence</td>
</tr>
<tr>
<td>Emotional/verbal abuse</td>
<td>Natural disaster</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>Medical trauma/serious illness</td>
</tr>
<tr>
<td>Poverty</td>
<td>War or terrorism</td>
</tr>
<tr>
<td>Parental conflict, divorce, or domestic violence</td>
<td>Loss, bereavement or parental illness</td>
</tr>
<tr>
<td>Separation from a caregiver</td>
<td>Witnessing a frightening event</td>
</tr>
<tr>
<td>Growing up with a parent with addiction or mental illness</td>
<td>Refugee trauma/forced migration</td>
</tr>
</tbody>
</table>

(National Child Traumatic Stress Network, 2005)
Physiological Impact of Trauma and Toxic Stress
How Does Toxic Stress Impact Brain Development?

- Traumatic stress in children creates a brain wired for fear
  - Overactive limbic system
  - Impaired frontal cortex

Source: http://brake-o-rama.com/wp-content/uploads/blog-driving-stick.05.jpg
Stress Response System

Hypothalamus-Pituitary-Adrenal (HPA) Axis

HYPOTHALAMUS

LOCUS COERULEUS
NOREPINEPHRINE SYSTEM

PITUITARY GLAND

ACTH

CORTISOL

ADRENAL GLAND

BRAIN STEM

SYMPATHETIC NERVOUS SYSTEM

**Fight or Flight...**

Release of stress hormones leads to:

<table>
<thead>
<tr>
<th>Tunnel vision</th>
<th>Heart pounding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood rushes to extremities</td>
<td>Inability to think/concentrate</td>
</tr>
<tr>
<td>Increased respiration</td>
<td>Trembling or shakiness</td>
</tr>
<tr>
<td>Increased perspiration</td>
<td>Dry mouth</td>
</tr>
<tr>
<td>Muscle tension</td>
<td>Lightheadedness</td>
</tr>
<tr>
<td>Loss of bladder/bowel control</td>
<td>Increased blood pressure</td>
</tr>
</tbody>
</table>

(Hodas, 2006)
...Or Freeze

• Surrender response
• Common to all young mammals
• More typical of very young children, for whom flight or flight is likely to be ineffective
• Results in dissociation, or “going away”

(Hodas, 2006)
A Normal Stress Response

A Healthy Nervous System

Optimal Stress

The u-shape curve of adrenaline and performance:
- Sluggish (Parasympathetic)
- Increased Activity (Sympathetic)
- In the Zone (Sympathetic + Epinephrine Boost)
- Jittery (Cortisol Stress)

Hyperaroused Stress Response

Symptoms of Un-Discharged Traumatic Stress

- Traumatic Event
- Stuck on "On"
- Stuck on "Off"

Depression, Flat affect
Lethargy, Deadness
Exhaustion, Chronic Fatigue
Disorientation
Disconnection, Dissociation
Complex syndromes, Pain
Low Blood Pressure
Poor digestion

Anxiety, Panic, Hyperactivity
Exaggerated Startle
Inability to relax, Restlessness
Hyper-vigilance, Digestive problems
Emotional flooding
Chronic pain, Sleeplessness
Hostility/rage

Source: https://paradigmmalibu.com/teen-somatic-experiencing/
A Narrow Window of Tolerance

Source: http://www.myshrink.com/counseling-theory.php?t_id=76
Toxic Stress and Memory

Hippocampus:
- Involved in memory
- Easily damaged
- Stress hormones especially harmful

Traumatic memories:
- Strongly encoded, easily triggered
- PTSD: intrusive memories, flashbacks, kaleidoscopic memory

(Hodas, 2006)
Brain Development

- Young brains are highly plastic.
- The neurons that fire together, wire together.
- The structure and function of the brain are use-dependent and highly sensitive to the quality of the environment.

(Perry et. al, 1995)
Young Brains Are Highly Plastic

Brain Develops Sequentially

This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

This PET scan of the brain of a Romanian Orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.

Source: http://wellcommons.com/groups/aces/2011/jul/22/this-is-a-brain-on-trauma-this-is-the-li/
Brain Is Use-Dependent

Left: Normal 3-year old brain; Right: Romanian orphan

Source: http://www.slideshare.net/ChildrensTrustofSC/childhood-traumas-impact-on-the-developing-brain
Adverse Childhood Experiences in Minnesota: Prevalence

Source: Minnesota Department of Health (2011)
ACEs in Minnesota: Distribution

Source: Minnesota Department of Health (2011)
ACEs in Minnesota: Impact

Source: Minnesota Department of Health (2011)
ACE Study Conclusions

• “Extreme, traumatic or repetitive childhood stressors are common, tend to be kept secret, and go unrecognized by the world.”

• “The fight-or-flight response among children exposed to these types of stressors is both uncontrollable and invisible.”

(Anda et. al, 2006)
What Does Toxic Stress Look Like in the Classroom?

A traumatized child trying to learn is like someone trying to play chess in a hurricane.

(Wolpow, Johnson, Hertel, and Kincaid, 2009)
Red Flags of Toxic Stress

- Two typical response sets:
  - Externalization (fight or flight)
  - Internalization (freeze)

- Somatic symptoms:
  - Headaches
  - Stomachaches
    -- Fatigue and sleeplessness
    -- Overall pain and malaise

(Massachusetts Advocates for Children, 2005)
Difficulties With...

Higher order thinking skills: abstract reasoning, problem solving, application of new learning

Learning and Memory: Encoding and retrieval of information, working memory

Executive Functioning: Planning, prioritization, sequencing, organization, attention, task initiation
Difficulties With…

Emotion Regulation: Defiance, reactivity, aggression, impulsivity, withdrawal or passivity

Relationships: May appear to lack empathy, struggle with social cues, make negative attributions, may be “adult wary,” lonely
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Classroom Example (adapted from Bell et al., 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>Repeatedly complaining about headaches, stomachaches, pain</td>
</tr>
<tr>
<td>Hypervigilance</td>
<td>Constantly looking around the room, checking behind oneself, may appear jumpy or startle easily</td>
</tr>
<tr>
<td>Sleep disorders</td>
<td>Coming late to class, falling asleep in class, irritability, appearing exhausted, head on desk throughout the day, complaining of nightmares</td>
</tr>
<tr>
<td>Regression</td>
<td>Thumb sucking, baby voice, separation anxiety, wetting or soiling</td>
</tr>
<tr>
<td>Reenactment</td>
<td>Aggression in play, themes of trauma in play, age-inappropriate sexual play</td>
</tr>
<tr>
<td>Social isolation</td>
<td>Sits alone, does not talk to others, avoids interaction, approach/avoidance</td>
</tr>
<tr>
<td>Emotional reactivity</td>
<td>Mood swings, easily angered, irrational reactions, yelling, becoming upset quickly, difficulty calming, tearfulness</td>
</tr>
<tr>
<td>Fear</td>
<td>Phobias, appearing uncertain, strong reactions to certain stimuli, deteriorating behavior with changes in schedule or substitute teachers</td>
</tr>
<tr>
<td>High stress</td>
<td>Easily overwhelmed by new projects, late work, lack of effort, transitions are difficult, frequently uncertain or nervous</td>
</tr>
<tr>
<td>Inability to focus</td>
<td>Fidgeting, glancing around room, not completing work</td>
</tr>
<tr>
<td>Dissociation</td>
<td>Appears to blank out, poor memory, appears distant/unreachable</td>
</tr>
<tr>
<td>Flashbacks (may not be visible)</td>
<td>May appear as poor memory, high anxiety, difficulty concentrating, blanking out, difficulty following directions</td>
</tr>
<tr>
<td>Negative Belief</td>
<td>Belief in oneself as weak, difficulty making a future decision of future</td>
</tr>
</tbody>
</table>
“Sometimes I think the children who are the hardest to love, need it the most.”

(Lucas, 2007)
3 Pillars of Trauma-Informed Teaching

1. **Safety**: Adults provide consistency, reliability, predictability, honesty, transparency.

2. **Connections**: Adults build caring relationships based on trust, compassion, and empathy.

3. **Help managing emotions**: Adults co-regulate rather than becoming coercive.

(Bath, 2008)
Keys to a Trauma-Informed Response

- Self-care is an ethical obligation
- Disruptive behavior is not willful
- Avoid power struggles
- Punishment is often ineffective
- Prevent dysregulation
- Positive relationships with caring adults are crucial
Self Care is an Ethical Obligation
How Does Secondary Toxic Stress Affect School Staff?

• “It is not uncommon for school professionals, who have a classroom with one or more students struggling with the effects of trauma, to experience symptoms very much like those their students are exhibiting.”

(Wolpow et al., 2009)
## Impact of Secondary Stress

<table>
<thead>
<tr>
<th>Domain</th>
<th>Impact (adapted from Wolpow et al., 2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Loss of sleep, change in appetite, impaired immune system, somatic symptoms such as low energy, backache, headache, fatigue, upset stomach</td>
</tr>
<tr>
<td>Emotional</td>
<td>Anxiety, guilt, irritability, sadness, numbness, emotional shutdown, depletion, hopelessness, emotional rollercoaster, apathy</td>
</tr>
<tr>
<td>Behavioral</td>
<td>Changes in routine, absent-mindedness, nightmares, elevated startle response, impatience, moodiness, self-destructive coping (food, money, alcohol/drugs, risk-taking), tardiness/absenteeism</td>
</tr>
<tr>
<td>Cognitive</td>
<td>Diminished concentration, loss of focus or perspective, confusion, perfectionism, difficulty making decisions, self-doubt, hypervigilance, triggered connections to own trauma, decreased perceived competence</td>
</tr>
<tr>
<td>Relational</td>
<td>Mistrust, withdrawal, intolerance, negative parenting behaviors (shame, over-protectiveness, lack of patience), conflicts with others, loneliness, difficulty with intimacy, minimizing or blaming</td>
</tr>
<tr>
<td>Worldview/Spiritual</td>
<td>Workplace frustration, sense of unfairness, anger at society, loss of purpose, feelings of bitterness, feeling unsupported, loss of creativity, hopelessness</td>
</tr>
</tbody>
</table>
Professional Quality of Life Scale

- Professional Quality of Life scale (ProQOL)
- Helps us understand impact (positive and negative) of working in a helping profession, given our own personal experience
- Public domain
Disruptive Behavior is Not Willful

Children are doing the best they can

• **Not:** what’s wrong with this child, what happened to this child?

• **Not:** this child is giving me a hard time this child is having a hard time

• **Not:** this child just wants attention this child needs my care and patience
Behavior is Communication

There is likely something else going on

We must:
• Find the cause of the behavior
• Discover the barriers and remove them
• Think about how we frame behavior
Avoid Power Struggles

• Kids are hurting—that’s why they lash out.
• Adults can inadvertently mirror children’s angry and impulsive behavior through threats and commands
Connection, Not Coercion

- Pause
- Give choices
- Offer a way out
- Agree to work together
- Take a break
Punishment is Often Ineffective

- Children need to learn how to self-regulate, and for that they need to co-regulate first
- Self-regulation is undermined by the stress response
- Kids are learning to behave, just as they are learning reading or math
- Punishment short-circuits this learning
Punishment Doesn’t Teach

Recovering with dissociation (but without new learning)

(Gearrity, 2015)
Goal: Co-Regulation

Come Back:
managing
emotional distress
with company,
so new learning is possible

OPTIMAL
intensity

arousal

new learning

trigger

balance

(Gearrity, 2015)
Framing Matters

**Interpretation**
- **Old:** lack of motivation, purposeful defiance
- **New:** involuntary trauma response

**Goal**
- **Old:** compliance
- **New:** learning, self regulation, learning trust

**Mechanism**
- **Old:** punishment & reward
- **New:** Addressing barriers, co-regulation, and relationship
Punishment Can Make it Worse

“The great danger is adults stigmatizing children, who are often seen as bad kids who need to be punished. Punitive and shaming interventions (unlike respectful adult redirection and maintenance of accountability), typically exacerbate behaviors and alienate children from helpers and from help.”

(Hodas, 2006)

Punishment & Consequences:

– Reinforce negative self-concept
– Deepen shame and humiliation
  – Escalate the stress response
  – Damage the relationship

(Hodas, 2006; Gearrity, 2015)
The Importance of Relationships
Relationships are extremely important for traumatized children:

• **Need safety:** consistency, availability, honesty, reliability
• **Need connections:** relationships with caring adults who can help them see that not all adults are dangerous or unpredictable
• **Need adults who can co-regulate** (quiet companionship, attunement, empathy, active listening, labeling emotions)
• **Need patience and compassion**

(Bath, 2008; Massachusetts Advocates for Children, 2005)
Positive Relationships

- Allow for learning and for healing
- Need to hear expressions of caring and support
  - Felt safety
  - Praise in public, criticize in private
  - Build them up
- We need a strong back, soft front
Prevent Dysregulation

• Keep consistent schedules and predictable patterns for the day
• Preview changes and events
• Reduce number of transitions
• Create calm, predictable transitions
• Maintain flexibility around homework and other stressors
Long Run: Set Up for Success

• Integrate mindfulness practice
• Design comfort space
• Provide opportunities for physical exercise or taking a break
• Create rituals
• Build classroom community
• Teach emotional literacy
In Summary

• “We need to nurture the hell out of these children.” — Rick Hanson

• Cardinal question: “Given the totality of my relationship with this child, is it likely he or she will see me as being on their side?”
  — The answer has to be yes.

  (Hodas, 2006, p. 64)
Final Takeaways
Key References


https://s3-us-west-2.amazonaws.com/cxl/backup/prod/cxl/gklugiewicz/media/507188fa-30b7-8fd4-aa5f-ca6bb629a442.pdf

http://www.cyc-net.org/cyc-online/cyconline-mar2010-bath.html

Key References


Key References, Continued


