Objectives: To develop an understanding of:

➢ What childhood trauma is
➢ Its impact on the brain and body
➢ Its impact on student behavior and performance
➢ Signs and symptoms
➢ Effective strategies to support youth exposed to trauma
Can you help me, Mrs. Martin? This wasn't covered in any of my education courses.
The Human Brain Hasn’t Changed That Much…
Our brains are trained to fear and protect us from this…
Three Primary Responses to Danger

• Fight: Physical Arousal

  • Flight: Withdrawal and Escape

    » Freeze: Stilling and Constricting

    » Fawn: Over-compliance
But what if the “bear” lives with us….
Then we might see “bears” everywhere...
What IS Trauma? (the 3 E’s)

Individual trauma results from

- **an EVENT**, series of events, or set of circumstances
- that is **EXPERIENCED** by an individual as physically or emotionally harmful or threatening and
- that has lasting adverse **EFFECTS** on the individual's functioning and physical, social, emotional, or spiritual well-being.
Understanding Acute Childhood Experiences (ACEs)

**ABUSE**
- Physical
- Emotional
- Sexual

**NEGLECT**
- Physical
- Emotional

**HOUSEHOLD DYSFUNCTION**
- Mental Illness
- Incarcerated Relative
- Mother treated violently
- Substance Abuse
- Divorce

*Source: Centers for Disease Control and Prevention*
*Credit: Robert Wood Johnson Foundation*
A new way of looking at ACEs

The Pair of ACEs

Adverse Childhood Experiences

- Maternal Depression
- Physical & Emotional Neglect
- Emotional & Sexual Abuse
- Divorce
- Substance Abuse
- Mental Illness
- Domestic Violence
- Incarceration
- Homelessness

Adverse Community Environments

- Poverty
- Violence
- Discrimination
- Lack of Opportunity, Economic Mobility & Social Capital
- Community Disruption
- Poor Housing Quality & Affordability

What the ACEs Studies Tell Us…

CDC Kaiser California Study (1997):
• 12.5% reported 4 or more ACEs
• Two-Thirds experienced at least one traumatic childhood event
• Predominantly white, college educated, working full time, all private insurance

Philadelphia Study (2012):
• Over One-Third (37%) reported 4 or more ACES;
• More than 8 in 10 adults had experienced at least one traumatic childhood event
• 44% white, 43% African-American, mix of low and middle income, 41% had a HS degree or less, 23% some college
Dr. Nadine Burke-Harris Ted Talk

• https://youtu.be/95ovlJ3dsNk
# Physical & Behavioral Health Impact of ACEs

## Behavior
- Lack of physical activity
- Smoking
- Alcoholism
- Drug use
- Missed work

## Physical & Mental Health
- Severe obesity
- Diabetes
- Depression
- Suicide attempts
- STDs
- Heart disease
- Cancer
- Stroke
- COPD
- Broken bones
# ACES Dramatically Increase Risk of 7 of 10 Leading Causes of Death

<table>
<thead>
<tr>
<th>Leading Causes of Death (2013)</th>
<th>Odds Ratio Associated with 4+ ACE score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Heart disease</td>
<td>2.1</td>
</tr>
<tr>
<td>2. Cancer</td>
<td>2.3</td>
</tr>
<tr>
<td>3. Chronic lower respiratory diseases</td>
<td>3</td>
</tr>
<tr>
<td>4. Accidents</td>
<td></td>
</tr>
<tr>
<td>5. Stroke</td>
<td>2.4</td>
</tr>
<tr>
<td>6. Alzheimer’s</td>
<td>11.2</td>
</tr>
<tr>
<td>7. Diabetes</td>
<td>1.5</td>
</tr>
<tr>
<td>8. Influenza and Pneumonia</td>
<td></td>
</tr>
<tr>
<td>9. Kidney Disease</td>
<td>30.1</td>
</tr>
<tr>
<td>10. Suicide</td>
<td></td>
</tr>
</tbody>
</table>
## Additional Health Outcomes in Youth

<table>
<thead>
<tr>
<th>Early Childhood</th>
<th>Young Children</th>
<th>Older Children/Teens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental delays</td>
<td>Asthma</td>
<td>Obesity</td>
</tr>
<tr>
<td>Growth delays</td>
<td>Pneumonia</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>Viral infections</td>
<td>Headaches</td>
</tr>
<tr>
<td>Sleep disruption</td>
<td>Atopic diseases</td>
<td>Abdominal pain</td>
</tr>
<tr>
<td></td>
<td>Learning difficulties</td>
<td>Teen pregnancy</td>
</tr>
<tr>
<td></td>
<td>Behavioral problems</td>
<td>Hyperthyroidism</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pubertal changes</td>
</tr>
</tbody>
</table>
Maslow’s Hierarchy of Needs

- **Physiological needs:** food, water, warmth, rest
- **Safety needs:** security, safety
- **Belongingness and love needs:** intimate relationships, friends
- **Esteem needs:** prestige and feeling of accomplishment
- **Self-actualization:** achieving one’s full potential, including creative activities

- **Basic needs**
- **Psychological needs**
- **Self-fulfillment needs**
Trauma’s Impact on School Outcomes

- Youth who experience 2+ episodes of traumatic events are:
  - 2.6x more likely to fail a grade
  - 2x more likely to be suspended
  - 5x more likely to have attendance problems
  - 6x more likely to have behavioral problems
Trauma Informed Care & The Brain
Understanding the Brain
Understanding the Brain
Revert us to less functional versions of ourselves...
Impact of Toxic Stress on Brain Development

- [https://youtu.be/WZIf_4Eg7_Y](https://youtu.be/WZIf_4Eg7_Y) (1 minute video)

**Healthy Brain**
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 brainstem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.

**An Abused Brain**
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.

**HOW STRESS CHANGES A CHILD’S BRAIN**

**3-YEAR-OLD CHILDREN**

- Normal
- Extreme neglect
## What Toxic Stress Does to the Developing Brain & Body

<table>
<thead>
<tr>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Size of amygdala (increased interpretation of stimuli as fearful)</td>
<td>✓ Hippocampal volume (learning and memory)</td>
</tr>
<tr>
<td>✓ Sympathetic NS (fight/flight/freeze)</td>
<td>✓ Corpus callosum volume (smaller, fewer connections, less integration)</td>
</tr>
<tr>
<td>✓ Startle response</td>
<td>✓ Cortex/ Brain volume (smaller brain)</td>
</tr>
<tr>
<td>✓ Cortisol levels (stress hormones)</td>
<td>✓ Short-term memory</td>
</tr>
<tr>
<td>✓ Inflammation</td>
<td>✓ Verbal recall</td>
</tr>
<tr>
<td>✓ Blood pressure, resting heart rate, respiration</td>
<td>✓ Parasympathetic NS (calming system)</td>
</tr>
<tr>
<td>✓ Weight gain</td>
<td>✓ Ability to form social attachments</td>
</tr>
<tr>
<td>✓ Trembling/shaking</td>
<td>✓ Ability to regulate mood and affect</td>
</tr>
<tr>
<td>✓ Kindling of HPA axis (takes less stress to trigger a stress response)</td>
<td></td>
</tr>
<tr>
<td>Age 0–5</td>
<td>Age 6–11</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| • Fear of being separated from parent  
• Crying, whimpering, screaming  
• Immobility and/or aimless motion  
• Trembling, excessive clinging, frightened facial expressions  
• Regressed behaviors (thumb-sucking, bed-wetting, fear of darkness, etc…)  
• Self-soothing (rocking, head-banging) | • Extreme withdrawal  
• Disruptive behavior  
• Inability to pay attention  
• Regressed behaviors  
• Nightmares/ sleep problems  
• Irrational fears  
• Irritability  
• School refusal  
• Anger outbursts  
• Fighting  
• Somatic complaints  
• Poor academic engagement (school work suffers)  
• Depression, anxiety, feelings of guilt, emotional numbing | • Flashbacks  
• Nightmares/ sleep problems  
• Emotional numbing  
• Avoidance of reminders  
• Depression  
• Substance abuse  
• Problems with peers  
• Anti-social behavior  
• Withdrawal/ isolation  
• Physical complaints  
• Suicidal ideation  
• School problems  
• Confusion  
• Guilt  
• Revenge fantasies |

Resembles Attachment disorders, Autism/ PDD  

Resembles Attachment Disorders, ADHD, ODD, Autism/PDD, Depression, Bipolar, Psychosis  

Resembles ADHD, ODD, Autism/PDD, Depression, Bipolar, Borderline, Psychosis
Learning Bain Vs Survival Brain

- [https://youtu.be/KoqaUANGvpA](https://youtu.be/KoqaUANGvpA)

**Upstairs Brain**
Allow us to think before we act
Decision-making
Control over emotions & body
Focus/concentration
Empathy
Self awareness

**Downstairs Brain**
Allow us to act before we think
Fight/Flight response
Emotional reactions
Bodily functions

Source: Siegel & Bryson “The Whole Brain Child”
Trauma Impacted Youth Can Have Difficulty With:

- Managing “big” emotions
- Chronic irritability/anxiety that interferes with problem solving
- Empathy
- Expressing concerns/needs in words
- Taking into account the wider context of a situation
- Appreciating how one’s behavior impacts others
- Working in groups/connecting with others
At the Heart of Trauma Informed Care

- Instead of asking (or thinking!) “what’s wrong with you?”
- Ask:
  - “What happened?”
  - “How can I help?”

- Understand that behavior is the expression of an emotional state (fear, anxiety, distrust)

- Understand that those students most impacted by trauma - most in need of nurturing and patience - will likely be the most challenging.
Using a Trauma Informed Approach: The 3 R’s

• Understanding that Behavior is a sign of EMOTIONAL STATE
• And the 3 different brain states…

• First – **Regulate** – help to establish a calm, safe emotional state
• Second – **Relate** – build relationship, let the child know he/she is being heard, their feelings matter, stay regulated

• LAST (most often at a later time) – **Reason** –
  • what was going on, what were the triggers, what coping strategies can we try next time
  • Appropriate consequences, restorative practices
There is HOPE...
From Adversity to Resilience

- The Key is **YOU** - a safe, consistent, supportive adult relationship.
Broughal Middle School Journey: Pre-TIS Model

✓ Strong partnership with Lehigh University (mentors, tutors, counseling)
✓ A United Way Community School with 2 FTE community school staff
✓ On-site health services
✓ Tons of after school programs, family engagement events

And yet….

➢ Lowest performing middle school in the region
➢ Negative growth indicator (PVAAS)
➢ Poor staff morale
➢ High rates of ODRs/Suspensions
What does a Trauma Informed School Like?

- [https://youtu.be/oolchi_hcYg](https://youtu.be/oolchi_hcYg)
  - Trauma informed schools in Bethlehem Area School District

- [https://youtu.be/MyPUY38blZQ](https://youtu.be/MyPUY38blZQ)
  - Check in/check out mentoring model
Broughal Middle School as a Trauma Informed School

• Since having all staff trained in trauma informed practices (2 years):
  ➢ The number of students failing a grade dropped from 12% to 7%
  ➢ Average GPA for students increased from 2.17 to 2.51 (half grade increase)
  ➢ Office discipline referrals have dropped by 39%
  ➢ Out of school suspensions dropped by 16.7%
  ✓ Significantly improved staff morale

• “Our kids are actually learning now! Our students feel that teachers care about and understand them now, and our staff really enjoy our students now. It’s been revolutionary!”
  - Rick Amato, Broughal Principal
# Five Critical Steps to Implementing A Trauma-Informed School

<table>
<thead>
<tr>
<th>Concept</th>
<th>Mantra</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The stress is coming from outside of school.</td>
<td><em>It’s not about me.</em></td>
<td>Drop your personal mirror.</td>
</tr>
<tr>
<td>Allow the student to de-escalate and regulate before solving the issue at hand.</td>
<td><em>Problem solving and solutions can’t be worked through while ‘in the moment.’</em></td>
<td>Designate a quiet place(S) where students can feel safe to de-escalate</td>
</tr>
<tr>
<td>It’s never about the issue at hand. It goes much deeper.</td>
<td><em>What’s really driving this child’s behavior?</em></td>
<td>Be the one who listens and values the student’s voice...ask how you can help. Explore the underlying issues behind the behavior.</td>
</tr>
<tr>
<td>It’s a brain issue, not a behavioral issue.</td>
<td><em>My job is to help this student regulate, not simply behave.</em></td>
<td>Incorporate regulatory activities into the culture of the classroom and support students in their ability to learn how to self-regulate</td>
</tr>
<tr>
<td>Discipline is to teach, not to punish.</td>
<td><em>Discipline should happen through the context of relationships.</em></td>
<td>Use consequences that keep students in school and foster the building of trust and safety with caring adults.</td>
</tr>
</tbody>
</table>

The Role You Are Probably Already Playing…

- How many of the headaches, asthma attacks, bellyaches that you see are really symptoms of underlying stressors in students’ lives?

- Is it really ADD/ADHD that a student has, or perhaps signs of stress hormones from toxic stress?

- What other common ailments that you see might be signs of ACEs exposure?

- How many kids do you see a day that come to you for emotional support?
The Power Of Active Listening

- https://youtu.be/1Evwgu369Jw
Holistic Strategies

• Mindfulness practices (mindful minute)
• Deep breathing (yoga breathing)
• Exercise (walking a lap, jumping jacks, standing squats)
• Drinking cold water
• Emotional safety plans for student and family (and staff!)
• Healthy sleep plans
• Healthy diet plans
• Peace corners in the classroom
• A peaceful/mindful room in the school
• Taking a nap in the nurse’s room
• Having healthy snacks available
Healing Begins With You...
Importance of Self Care for School Nurses

- What is your ACE score?
- What are some of your own triggers?
- What do you look like/act like when your “buttons” are pushed?
- How do you stay calm when a student’s behavior escalates? (*mirror neurons!*)
- What activities/supports help you recharge?
- Create an Emotional Safety Plan

- **Ideas for staff mindfulness:** yoga breaks, self care plans, support groups/peer mentoring, accountability buddy, teacher lounge=oasis, “tap out” for staff, after school book club, before/after school walking group, etc.
Classroom Strategies: Teach About the Brain

- Do 20 minute/per week lesson on the brain (emotional brain, survival brain, thinking brain)
- Teach kids the “hand model” for expressing their current brain state
- Let kids use a "time out" red card, 8 minutes to calm down, no adult interaction
- Use colored cards or faces at their desk to show emotional state:
  - Green = ready to learn
  - blue = tired or sad
  - yellow = frustrated or anxious
  - red = upset
Hand Model of the Brain: Dr. Dan Siegel
Visual tool used by Principal Jim Sporleeder to help his students identify when they are ready to talk or to learn.
De-Escalation Techniques

• Phases of Acting Out Behavior: calm – triggers – agitation – acceleration – peak

• Preventing triggers as best as possible: give student choices, teach non verbal ways to communicate brain/emotional state

• Lessen agitation: remove student from triggering event/activity, redirect student, remind of strategies to stay emotionally regulated (walk, peace corner, stand up and stretch, brain break, breathing)

• Prevent/lessen acceleration: teacher empathy/proximity, relaxation techniques, pre-arranged non verbal signal to remove self from situation, emphasize student choice and responsibilities (clear, simple language), avoid escalating responses (raised voice, power struggle, de-valuing student, getting in student’s face)
De-Escalation Techniques

Youth in their survival brain state need help to calm down from the “there and then” triggers to the present “here and now” reality.

**Strategies include:**

- Noticing signs of distress as early as possible
- Connecting with the student with empathy and patience
- Re-directing behavior through providing choices for alternative activities
- Grounding exercises (“3 Things”: see, feel, hear, smell or “My feet feel ______, My hands feel __________, my back feels _________”)
- After youth is calm, then discuss what happened, redirect student to more socially appropriate behavior, what harm may have occurred, discuss consequences.
Classroom Regulation Techniques: **Safe Places**

- Develop a “peace corner” in each classroom or school building:
  - Where students can go to self-regulate
  - Bean bag chair
  - Pillow and blanket on the floor
  - Calming manipulatives (stress balls, soft materials)
  - Sand timer (5-10 minutes), reflection tools to help identify triggers/what calms them down

- Have each student create a “calm box”, full of manipulatives that the individual student finds calming (stress balls, playdoh, scented sticks, soft material, straws to chew on)
Classroom Regulation Techniques: Movement

- Let students stand if they want to, let them walk around in the back of the class if they need to
- Allow students to walk a lap or two in the hallway to let off steam
- Start the day – or before/after transitions – with some safe yoga moves to relax the body
- Brain Breaks -
- Build more physical activity into the school day:
  - Recess breaks
  - Moving desks and chairs between activities
  - Lifting heavy textbooks across the classroom
  - Jumping jacks/high jumps by their desks
• Slow, deep breaths calm the mind and slow down a racing heart
• Build yoga breathing breaks into the school day (beginning of the day, before/after transitions)
• Bring singing into the classroom!!
  – Singing requires slow, long, deep breathing
  – Let students pick the song and start the day with group singing
  – Avoid rap music
Classroom Regulation Techniques: **Predictability**

- Youth who have been traumatized often live in very chaotic, unpredictable environments which forces them to ALWAYS be ready to fight, flee or freeze…

- Build predictable routines – especially with transitions
- Communicate about transitions ahead of time
- Create a plan for students to prepare for unexpected events at school: fire alarm, assemblies, student fights, holiday vacations
- Develop fair and respectful rules in the classroom – let the students help create these rules – and enforce them consistently
- Create allowed behaviors in the classroom, and boundaries in which they are permitted: such as standing or walking in the back of the classroom
Classroom Regulation Techniques: Relationship

- Relationships CAN heal trauma
- Neuroplasticity: the brain is always learning, changing, growing with new stimuli
- Safe, trusting, kind adults can re-wire a traumatized brain to trust that some adults are safe, some places are safe
- what calms Get to know your students
- Look for possible triggers
- Ask them, makes them feel safe

- Protective Factors help shape the impact of trauma on youth!
Resources on Trauma Informed Classrooms

- **On-line Trauma Sensitive Schools Training Toolkits:**
  - From the National Center on Safe and Supportive Learning Environments: https://safesupportivelearning.ed.gov/trauma-sensitive-schools-training-package
  - From the National Child Traumatic Stress Network, “the 12 core concepts for understanding traumatic stress responses in children and families”. You must register with the NCTSN in order to access resources. https://learn.nctsn.org/

- **Trauma Informed Education Tools:**
  - Emotional regulation plans for students (k-2nd, 3-5th, 6-12th)
  - Trauma Responsive School Implementation Assessment and Planning Tool, available through the SHAPE system (http://theshapesystem.com/trauma/), https://traumaawareschools.org/traumaResponsiveSchools

- **Other Trauma Informed Education Books for Group Study & Reflection:**
  - Fostering Resilient Leaners, by Kristin Souers and Pete Hall. Cost is $21.38. https://www.amazon.com/Fostering-Resilient-Learners-Strategies-Trauma-Sensitive/dp/1416621075/ref=pd_lpo_sbs_14_img_1?_encoding=UTF8&psc=1&refRID=BQ50TA3QZPFDAX7J5FBC
Training Resources for Trauma Informed Schools

- Lakeside Global Institute: https://lakesidelink.com/training/
- Lehigh University: Dr. Chris Liang, ctl212@Lehigh.edu
- Local Intermediate Unit:
  - IU21 – Rosemary Lamparella, lamparellar@cliu.org
  - IU20 – Nikki Baker, nbaker@ciu20.org
Trauma Informed Health Services Resources

Center for Health Care Strategies:
www.CHCS.org/trauma-informed-care/

Dr. Nadine Burke Harris’ Center for Youth Wellness resources:
https://centerforyouthwellness.org/cyw-aceq/

Resilience building tools for youth and parents:
https://criresilient.org/shop/

Trauma Informed Care Training for Nurses:
https://www.nurse.com/ce/trauma-informed-care-for-healthcare-professionals

National Child Traumatic Stress Network: https://www.nctsn.org/

Dr. Bruce Perry (tips for working with traumatized youth):
file:///C:/Users/betht/AppData/Local/Microsoft/Windows/INetCache/IE/AFV9AOZX/Helping_Traumatized_Children_Caregivers_Perry1.pdf
For bravely beginning your trauma awareness journey

Beth Tomlinson, betht@unitedwayglv.org
Chris Rappaport, clrapp@rcn.com