Impact of Trauma at Different Developmental Ages
The ACE Study
(Adverse Childhood Experiences)

One of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being
New ACE Studies Include More Adversities

<table>
<thead>
<tr>
<th>ACE Scale Adversities (Lifetime)</th>
<th>Original</th>
<th>Revised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional abuse</td>
<td>Emotional abuse</td>
<td>Emotional abuse</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>Physical abuse</td>
<td>Physical abuse</td>
</tr>
<tr>
<td>Sexual abuse</td>
<td>Sexual abuse</td>
<td>Sexual abuse</td>
</tr>
<tr>
<td>Physical neglect</td>
<td>Physical neglect</td>
<td>Physical neglect</td>
</tr>
<tr>
<td>Emotional neglect</td>
<td>Emotional neglect</td>
<td>Emotional neglect</td>
</tr>
<tr>
<td>Mother treated violently</td>
<td>Household mental illness</td>
<td>Household mental illness</td>
</tr>
<tr>
<td>Household substance abuse</td>
<td>Property victimization</td>
<td>Property victimization</td>
</tr>
<tr>
<td>Household mental illness</td>
<td>Peer victimization (nonsibling)</td>
<td>Peer victimization</td>
</tr>
<tr>
<td>Incarcerated household member</td>
<td>Exposure to community violence</td>
<td>Exposure to community violence</td>
</tr>
<tr>
<td>Parental separation or divorce</td>
<td>Socioeconomic status</td>
<td>Socioeconomic status</td>
</tr>
<tr>
<td></td>
<td>Someone close had a bad accident or illness</td>
<td>Someone close had a bad accident or illness</td>
</tr>
<tr>
<td></td>
<td>Below-average grades</td>
<td>Below-average grades</td>
</tr>
<tr>
<td></td>
<td>Parents always arguing</td>
<td>Parents always arguing</td>
</tr>
<tr>
<td></td>
<td>No good friends (at time of interview)</td>
<td>No good friends (at time of interview)</td>
</tr>
</tbody>
</table>
Finding your ACE Score

• Answer the 10 questions about your childhood experiences.
• This is confidential information; we will not be sharing this with others.
• The goal of this activity is to learn more about yourself and the prevalence of trauma in everyday lives.
Impact of ACEs on Life Outcomes

Possible Risk Outcomes:

**BEHAVIOR**
- Lack of physical activity
- Smoking
- Alcoholism
- Drug use
- Missed work

**PHYSICAL & MENTAL HEALTH**
- Severe obesity
- Diabetes
- Depression
- Suicide attempts
- STIs
- Heart disease
- Cancer
- Stroke
- COPD
- Broken bones

Infographic: The Truth About ACEs, May 12, 2013
## Impact of ACEs on Life Outcomes (Percentages)

<table>
<thead>
<tr>
<th>Number of Adverse Childhood Experiences (ACE Score)</th>
<th>Women</th>
<th>Men</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>34.5</td>
<td>38.0</td>
<td>36.1</td>
</tr>
<tr>
<td>1</td>
<td>24.5</td>
<td>27.9</td>
<td>26.0</td>
</tr>
<tr>
<td>2</td>
<td>15.5</td>
<td>16.4</td>
<td>15.9</td>
</tr>
<tr>
<td>3</td>
<td>10.3</td>
<td>8.6</td>
<td>9.5</td>
</tr>
<tr>
<td>4 or more</td>
<td>15.2</td>
<td>9.2</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Middlebrooks JS, Audage NC. The Effects of Childhood Stress on Health Across the Lifespan. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2008.
## Impact of ACEs on Life Outcomes (Odds Ratios)

<table>
<thead>
<tr>
<th>ACE Score</th>
<th>Alcoholism*</th>
<th>Parenteral Drug Abuse*</th>
<th>Attempted Suicide*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1</td>
<td>1.9</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>2</td>
<td>2.1</td>
<td>2.8</td>
<td>4.0</td>
</tr>
<tr>
<td>3</td>
<td>2.7</td>
<td>3.5</td>
<td>4.0</td>
</tr>
<tr>
<td>4</td>
<td>4.5</td>
<td>3.8</td>
<td>7.2</td>
</tr>
<tr>
<td>&gt;4</td>
<td>4.1</td>
<td>2.2</td>
<td>16.8</td>
</tr>
</tbody>
</table>
Consequences of Trauma: Impact on Developmental Competency
Trauma’s Dual Influence on Development

- **Overdevelopment** of skills, behaviors, adaptations which help the child *survive their environment* and *meet physical, emotional, and relational needs*

- **Underdevelopment** of domains of development which are less immediately relevant to survival
What helps the child survive?

• Assumption of danger
• Rapid mobilization in the face of perceived threat
• Self-protective stance
• Development of alternative strategies to meet developmental needs
What roles can families play?

- Make program or school staff aware of child’s needs
- Establish a communication plan with child’s teachers
- Tell teachers any approaches or techniques that work at home
- Find out from the child’s teachers if child is making effective progress
- Visit child’s program often
Developmental Stage: Elementary

**Normative:**
- Increase in independence and industry
- Increased ties to and investment in school, community, peers
- Concrete information more important than abstract in meaning-making
- Early understanding of time/space, but still focused on the present

**Trauma Impact:**
- Reduced development of competencies across domains
- School deficits/impairments
- Building and internalization of negative self-concept/self-blame
- Failure to develop adequate peer relationships; vulnerability to harm by others
- Early onset depression/hopelessness/helplessness
What Can We Do?
A Toolbox for Teaching Children with Trauma
Unconditional and Nurturing Relationships

• Know your own level of reactivity: how high are your ACEs?
• Take care of yourself before you take care of others
• Ask yourself: “What happened to this child?” and “How can I help?” rather than “What’s wrong with this kid?”
Understanding the Problem Leads to the Solution

- Become behavior detectives
- See every challenging behavior as a communication event
- Understand that behaviors are the result of underdeveloped skills
### Reframing Our Understanding of Behavior

<table>
<thead>
<tr>
<th>OBVIOUS</th>
<th>HIDDEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tantrums and disrupts classroom activity</td>
<td>Neuro delay in self regulation</td>
</tr>
<tr>
<td>Doesn’t follow verbal instructions</td>
<td>Neuro delays in audio processing</td>
</tr>
<tr>
<td>Presents with inability to solve simple social problems except by crying</td>
<td>Language delays with possible NVL</td>
</tr>
<tr>
<td>Struggles with organizing personal environment</td>
<td>Home is chaotic</td>
</tr>
<tr>
<td>Has to be the boss when playing with peers</td>
<td>No early skill-building on taking others perspective</td>
</tr>
</tbody>
</table>
Reframing Our Understanding of Behavior

<table>
<thead>
<tr>
<th>OBVIOUS</th>
<th>HIDDEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inattentive and unfocused</td>
<td>Doesn’t sleep deeply or long enough</td>
</tr>
<tr>
<td>In and out of seat and can’t stand in line</td>
<td>Not a strong sense of self and always feeling unsafe</td>
</tr>
<tr>
<td>Doesn’t seem to learn from consequences, positive or negative</td>
<td>Has not learned the basic correlation between cause and effect</td>
</tr>
<tr>
<td>Always wants to go to nurse, has many sick days</td>
<td>Somatization due to stress at home or school</td>
</tr>
<tr>
<td>Explosive behaviors without a clear trigger</td>
<td>Internal sensory trigger creates a primitive response</td>
</tr>
</tbody>
</table>
Tools to Use: During a Crisis

• Keep calm and use the “mirror neurons”
• Move slowly with obvious deep breathing – create a body rhythm that the child can replicate
• Engage the child in simple tasks that engage the cortex – counting, singing
Tools to Use: Before a Crisis Happens

- Follow daily routines and post schedules the child understands
- Use deliberate rhythm movements during transitions (marching, hands swaying)
- Greet each child in the morning with hugs, high fives or other acknowledgement
- Use daily check-ins with child and family
Build Skills Before Behaviors Occur

- Assess developmental skills and identify strengths
- Teach social emotional learning throughout the day, in natural environments with natural consequences
- Redirect whenever possible
- Conduct discipline and behavior critiques in private
Ask for Help!

• Flock: Create teacher teams to discuss creative ways to make classrooms safe and supportive
• Encourage peer support through morning meetings or classroom clubs
• Explore new ways to maintain classroom calm through restorative justice techniques or conflict resolution
Connect with Families

• Understand that the results of trauma (anxiety, hyper-vigilance, feeling unsafe) can be passed to children genetically

• Know that many parents of traumatized children have suffered/are suffering trauma themselves

• Traumatized parents are hesitant to partake in school affairs due to their own fears, anxiety and lack of self-esteem
Community Connections

• Collaborate with local food banks, pantries, shelters, or churches to provide food for family breakfasts or dinners and invite all parents to participate

• Make the school community a welcoming, safe and supportive haven for everyone

• Connect with community supports (family clinics, CBHI agencies, supports for homelessness, MassHealth enrollment) to offer services in the school
Classroom interventions to support regulation throughout development
Increase modulation in the classroom for all students

• Actively engage class in setting key values/goals:
  – Work in individual classrooms to implement projects that explore modulation in the classroom (i.e., safety, respect, etc.)

• Develop in-class tools to support modulation:
  – Create developmentally-appropriate tools that are accessible to students (i.e., manipulatives basket, sensory corner)
  – Set rules and structure around these

• Set routines and structure:
  – Develop in-class routines to support modulation (i.e., whole-class “down-time”, transition routines)
  – Develop structure around ways students can “take a break”, etc.

• Build resources for staff:
  – Create ongoing supervision/process forums for staff to problem-solve; self-care forums; etc.
Elementary: External Modulators

• Create a classroom environment with regulation “zones”
  – Reading corner, OT tool zone, walking meditation, visible schedule, mobile education stations

• Create routines for transition times both from place to place and activity to activity
  – Songs, transition motto's, games which introduce novelty to route activities (i.e. find someone with the letter “A” in their name), identified leader

• Classroom rituals
  – Talking ball, call back and forth, using movement (i.e. stretch breaks, gestures and tone for modulation) Beginning and Ending the day Check-in and check-out, circle time
Elementary: Internal Modulation

- Increase kids connection to their school
  - groups, sports, student council, school motto, school code
- Classroom based techniques
  - Tools should be designed to allow more buy-in from students
    - Music, OT tools, buddy system, visual prompts, allowing for movement within educational activities, rhythm
- Create routines for transitions
  - Each class having beginning and ending rituals (i.e. breath to begin, meditation bells)
  - Struggle to balance teaching and academics with supporting successful transitions
- Create rituals that allow for reflection and internal organization
  - Journaling, art, posters with daily schedule, songs, talking ball
“It’s not our job to toughen our children up to face a cruel and heartless world. It’s our job to raise children who will make the world a little less cruel and heartless.”
~L.R.Knost~