The Impact of Trauma on the Brains of Elementary Aged Students

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Yearly billions of students experience traumatic events (neglect, abuse, etc.)

Trauma impacts the development of children and their social, emotional, behavioral, academic and physical abilities.

During traumatic experiences the brain operates in a state of fear.

This state leads to adaptive changes in emotions, behavior and cognitive challenges.
Introduction (Continued)

• The purpose of the session
  • Describe how traumatic experiences affect brain development
  • Impact students in school
  • Identify interventions for student success
The Brain

- Three parts of the brain
  1. Neocortex
  2. Limbic System
  3. Reptilian
- Neocortex
  - Logic reasoning, self awareness, conscious thought, executive control, delayed gratification, insight, etc.
  - Needed for decision making skills and future plans

### 8 Key Executive Functions

Executive functions are skills everyone uses to organize and act on information. If your child has executive functioning issues, he may struggle with some or all of the following skills.

<table>
<thead>
<tr>
<th>Skill</th>
<th>What it means</th>
<th>How it looks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulse Control</td>
<td>Impulse control helps your child think before acting</td>
<td>Kids with weak impulse control might blurt out inappropriate things. They're also more likely to engage in risky behavior.</td>
</tr>
<tr>
<td>Emotional Control</td>
<td>Emotional control helps your child keep his feelings in check</td>
<td>Kids with weak emotional control often overreact. They can have trouble dealing with criticism and regrouping when something goes wrong.</td>
</tr>
<tr>
<td>Flexible Thinking</td>
<td>Flexible thinking allows your child to adjust to the unexpected</td>
<td>Kids with &quot;rigid&quot; thinking don't roll with the punches. They might get frustrated if asked to think about something from a different angle.</td>
</tr>
<tr>
<td>Working Memory</td>
<td>Working memory helps your child keep key information in mind</td>
<td>Kids with weak working memory have trouble remembering directions—even if they've taken notes or you've repeated them several times.</td>
</tr>
<tr>
<td>Self-Monitoring</td>
<td>Self-monitoring allows your child to evaluate how he's doing</td>
<td>Kids with weak self-monitoring skills may be surprised by a bad grade or negative feedback.</td>
</tr>
<tr>
<td>Planning and Prioritizing</td>
<td>Planning and prioritizing help your child decide on a goal and a plan to meet it.</td>
<td>Kids with weak planning and prioritizing skills may not know which parts of a project are most important.</td>
</tr>
<tr>
<td>Task Initiation</td>
<td>Task initiation helps your child take action and get started</td>
<td>Kids who have weak task initiation skills may freeze up because they have no idea where to begin.</td>
</tr>
<tr>
<td>Organization</td>
<td>Organization lets your child keep track of things physically and mentally</td>
<td>Kids with weak organization skills can lose their train of thought—as well as their cell phone and homework.</td>
</tr>
</tbody>
</table>

Katherine Price

www.NCLEXQuiz.com
The Brain (Continued)

- Limbic System
  - Main emotional center and pleasure seeking part of the brain
  - Attachment/relationships & emotions are stored
  - Regulates mood, memory & attention
  - Manages self preservation (fight, flight, freeze)
  - Amygdala, hypothalamus, hippocampus

The amygdala hijack

The amygdala is the brain's system for dealing with emotional memories and it’s responsible for our primal instincts, such as "fight or flight." When the amygdala is hijacked, it can cause many different anxiety disorders.

The amygdala hijack exhibits three signs:

1. Increased heart rate
2. Rapid breathing
3. Increased blood pressure

These signs can occur when we're stressed or anxious, and they can be triggered by thoughts or situations that feel threatening. When the amygdala hijack occurs, it's important to take steps to calm down and relax.

If you or someone you care about is struggling with anxiety or depression, reach out for professional help. It's important to speak to a healthcare provider about the symptoms and get the support you need.
The Brain (Continued)
The Brain (Continued)

- Reptilian
  - Brain stem and cerebellum
  - Vital functions
    - Digestions, breathing, circulation, heart rate, stress response

Main function is survival
Non existence of past or future
- here and now

Andy: "If I get my work done, I get a prize from the treasure box. Therefore, I'll get my work done and do it well to make sure I get my prize!"

Billy: "I'm too stupid to know how to do this work! But I want that prize so I'll wait until the teacher turns her back and go get myself a prize. She's not in charge of me anyway; I am!"

• Normally the neocortex functions from top to bottom motion
• Neocortex is in control (i.e. someone angry)

Figure 3.4. The regulated brain operates with a “top-down control” system.

The hand model of the brain
The Effects of Trauma

MARCH 23, 2018 BY COLLEEN MORRIS

Education, Mental Health, Trauma
What is Trauma

• Forbes defines it as “Any event that is more overwhelming than which is ordinarily expected”

• This event can have the child feel hopeless, scared, worthless & insecure
  • Body/emotional dysregulation

• Trauma is different for each person
  • The perception of the child and the event
  • It is inevitable – environment plays a role in the degree of severity experienced by the child
# What is Trauma

## Possible Traumatic Childhood Events

<table>
<thead>
<tr>
<th>Possible Traumatic Childhood Events</th>
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<tbody>
<tr>
<td>• Separation from a parent</td>
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<tr>
<td>• Disruptive home life</td>
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<tr>
<td>• Medical procedures and/or serious illness</td>
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<td>• Unmet needs</td>
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<tr>
<td>• Mother with post-partum depression</td>
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<td>• Poverty</td>
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<td>• Lack of a stimulating environment</td>
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<td>• Racial discrimination</td>
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<tr>
<td>• Sexual, physical, or verbal abuse</td>
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<tr>
<td>• Divorce</td>
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<tr>
<td>• Neglect</td>
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<tr>
<td>• Bullying (including from siblings)</td>
</tr>
<tr>
<td>• Absence of consistent rules and boundaries</td>
</tr>
<tr>
<td>Parent’s emotional rigidity</td>
</tr>
<tr>
<td>Domestic fighting or violence</td>
</tr>
<tr>
<td>• Single-parent households</td>
</tr>
<tr>
<td>• Two-parent working households</td>
</tr>
<tr>
<td>• Multiple siblings</td>
</tr>
<tr>
<td>• Poor nutrition</td>
</tr>
<tr>
<td>• Foster care</td>
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<tr>
<td>• Adoption</td>
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<tr>
<td>• Car accidents</td>
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<tr>
<td>• Deaths in the family</td>
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<tr>
<td>• Parent’s failure to express affection</td>
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<tr>
<td>• Depressed parent</td>
</tr>
<tr>
<td>• Absent parent</td>
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<tr>
<td>• Unattuned parent</td>
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<tr>
<td>• Overwhelmed parent</td>
</tr>
<tr>
<td>• Witnessing community and televised violence</td>
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<tr>
<td>• Parent’s failure to praise and encourage</td>
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<tr>
<td>• Frequent moves</td>
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How Trauma Can Impact Children at School

- National Child Traumatic Stress Network
- Trauma impacts relationships
  - Trust, connection, self regulation, safe vs. unsafe
  - Problems in above areas carry over in friendships and school

(The National Child Traumatic Stress Network, n.d.)
How Trauma Can Impact Children at School

- Traumatized students do not experience ordinary stress the same
- Physical changes
  - Underdeveloped immune and stress response system

(The National Child Traumatic Stress Network, n.d. p 2)
How Trauma Can Impact Children at School (Continued)

- Stress Response System
  - Increased heart rate, blood pressure, student shuts down
    - Body/emotional dysregulation

• Hypersensitivity
  • Internalize stress
    • Dissociation
    • Difficulty with self regulation
• Bottom to top vs. top to bottom connection

(Forbes, 2012, p. 26)
Children have flexible neurological pathways

Can adapt to positive or negative experiences

(Craig, 2016; Forbes, 2012)
How Schools Can Help (continued)

- Attachment Regulation Competency (ARC)
- Connect in classrooms
  - Being supportive, caring, celebrating accomplishments, community jobs, and quality time

Cole et al., 2005
How Schools Can Help (continued)

• Reprimand in private
  • Eye level
  • Listening thoroughly
  • Grace and accountability

• Sense of safety and belonging

(Cole et al. 2005 p 62; Craig, 2016, p 92)
  • Preventive measures with bullying
    (Craig, 2016. p 96)

How Can Schools Help (Continued)

• Create Emotional Space
  • Give acceptance without solving the issue
  • Ask exploratory questions to create a deeper understanding
  • Allow the child to be upset without insisting the child stop being upset
  • Accept that the child’s reality may be skewed, and do not try to convince him/her of a different reality
  • Tolerate the negative and exaggerated feelings the child is expressing for the moment to help him/her calm down
  • Give understanding to the child’s issue but not necessarily agree with it
How Can Schools Help

• Be kind, loving, safe and patient
• Listen with no agenda of teaching a life lesson – simply listen – the life lesson will come afterwards
• Validate the child’s struggle without identifying what he/she needs to do differently That will come later when the child is calm and regulated
• Engage in conversation but do not force or insist on answers
• Focus on the relationship – Strive for emotional safety and stay regulated
• TRUST THE PROCESS!!!

Table 11.2. Tips for creating emotional space

My Personal Experience

- 1st - 5th grade student (Self)
- 3rd – 8th grade student (Regulation)
Jordan’s Routine

• Breathing techniques
• Body relaxation techniques

Breathing out (exhaling) with the Diaphragm

Breathing in (inhaling) with the Diaphragm

**RELAXATION ROUTINE**

1. Sit on a chair...
2. “Scrunch” up your face...
3. Tense your arm...
   - Then relax them...
4. Tense up your shoulders and chest...
   - Then relax them...
5. Tense up your legs...
   - Then relax them...
6. Breathe out tension
Jordan’s Routine (continued)

- Visualization techniques
Jordan’s Routine (continued)

Mindfulness Techniques (Craig, 2016, p 77)

- Grounding the body
- Growth Mindset Thinking – thoughts affect feelings which affect actions
Jordan’s Routine (continued)

➢ Additional calming supports
   (Cole et al., 2005, p 62; Craig, 2016, p 92)
Jordan’s Routine (continued)

➢ Calming corner
➢ Sensory tools

(Craig, 2016, p 38)
Jordan’s Routine (continued)
Jordan’s Routine (continued)

Self regulation skills

by Leah Kuypers
Jordan’s Routine (continued)

Self regulation skills

by Leah Kuypers
Jordan’s Routine (continued)

Setting realistic goals

- Blue Zone Tools: Rest Stop
  - Take a break.
  - Think happy thoughts.
  - Talk about your feelings.
  - Ask for a hug.
  - Draw a picture

- Green Zone Tools: Go Time
  - Complete your work.
  - Listen to the teacher.
  - Remember your daily goal.
  - Think happy thoughts.
  - Help others.

- Yellow Zone Tools: Slow Down
  - Take a break.
  - Talk to the teacher.
  - Squeeze my stress ball.
  - Go for a walk.
  - Take three deep breaths.

- Red Zone Tools: Stop
  - Take a break.
  - Squeeze my stress ball.
  - Take three deep breaths.
  - Count to ten.
  - Talk about my problem.

studentSMARTgoals

- Specific (simple, sensible, significant).
- Measurable (meaningful, motivating).
- Achievable (creed, attainable).
- Relevant (reasonable, realistic and resourceful, results-based).
- Time bound (time-based, time limited, time/cost limited, timely, time-sensitive).

<table>
<thead>
<tr>
<th>Goal</th>
<th>I want to ___________ so I will ___________ by ___________ to meet my goal</th>
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<tbody>
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<td>#1</td>
<td>i want to ___________ so i will ___________ by ___________ to meet my goal</td>
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<tr>
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<td>i want to ___________ so i will ___________ by ___________ to meet my goal</td>
</tr>
<tr>
<td>#3</td>
<td>i want to ___________ so i will ___________ by ___________ to meet my goal</td>
</tr>
<tr>
<td>#4</td>
<td>i want to ___________ so i will ___________ by ___________ to meet my goal</td>
</tr>
</tbody>
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www.MoritzFineDesigns.com
Teaching social emotional learning

Jordan’s Routine (continued)
Jordan’s Routine (continued)

➢ Teaching social emotional learning
Conclusion

- Trauma –
  - Impacts brain development
  - Negatively impacts relationships
  - Detrimental to academic welfare
  - Weakens self regulation skillset

- Schools, families, and communities can work together to counteract the adverse effects of trauma
Robert Plutchik's Wheel of Emotions

- **Self-awareness**
  - Recognising one's emotions and values as well as one's strengths and limitations

- **Self-management**
  - Managing emotions and behaviours to achieve one's goals

- **Social awareness**
  - Showing understanding and empathy for others

- **Relationship skills**
  - Forming positive relationships, working in teams, dealing effectively with conflict

- **Responsible decision-making**
  - Making ethical, constructive choices about personal and social behaviour

**Social and emotional learning**
Robert Plutchik's Wheel of Emotions
Appendix

Move in Space

Special Delivery
Paper Delivery
Book Delivery
Collect Recycling
Deliver Mail
Water Garden

Chairs up
Chairs down
Wall Writing

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Appendix

- Eagle Pose
- Tree Pose
- Chair Twist
- Quadriceps Stretch
- Hero Pose
- Chair Push Up
- Plank Pose
- Wall Sit
- Wall Push

Work in Place
Appendix

Be With Your Breath

- Mountain Breathing: Breathe in counting up, blow out sliding down.
- Infinity Breath
- Blow pom-poms
- Balloon Breath
- Blow feathers with a straw
- Blow bubbles
- Tense: Breathe in, Relax: Breathe out
- Slowly blow out the candles on your cake
- Smell your soup, Blow your soup

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Appendix

**SQUARE BREATHING**

1. Breathe in for 4 seconds
2. Hold for 4 seconds
3. Breathe out for 4 seconds
4. Hold for 4 seconds

Repeat the cycle 4 times for deep relaxation.
End of Presentation