Helping Children Understand: Their Brains, Response to Stress, and Strategies to Manage Chronic Stress

Janet Guderian, BSN, PHN
Olmsted County Public Health Services: School Based Services

School Public Health Mission: “Creating a healthier community with school-age youth and their families
Objectives

- Identify need for resiliency education for school age children to reduce the effects of toxic stress in not only children but also adults.

- How resiliency education, regardless of one’s ACEs helps children learn about their brain along with coping strategies to help foster social and emotional awareness, enhance psychological well being and promote academic success.
Public Health’s Strategic Priority - Children’s Mental Health

2016 Minnesota Student Survey and CDC Findings

- ACEs (Adverse Childhood Experiences) can put youth at risk for alcohol and drug misuse, mental health problems, and suicidal behaviors.
- Data also shows how the presence of protective factors such as empowerment and social competency can buffer risk factors even among youth with high ACE scores.
- An increase of five to seven percentage points in reports of long-term mental, behavioral or emotional problems for students in grades eight, nine and eleven.
- The percentage of fifth graders who said either strongly agreed or agreed they “worry a lot” was 29% male and 39% females; to question “I feel bad without knowing why” 38% males and 48% females.
- The percentage of students showing signs of depression ranged from 20.9 percent in eight graders to 23.0 percent in eleventh graders.
- The percentage of eleventh graders who said they seriously considered committing suicide in the past year increased from 9.7 percent in 2013 to 12.0 percent in 2016.

Furthermore, the CDC findings note the suicide rate in Minnesota jumped 40.6 percent over 18 years, part of a nationwide trend that saw increases in all but one state.
### MindUP Pilot

**Passion for mental health promotion and prevention**

**Limited mental health related classes offered by school PHNs in Olmsted County Schools**

#### Initial collaboration and partnership with 4 Rochester Public Schools (2017-2018)

<table>
<thead>
<tr>
<th>Role</th>
<th>School Administration</th>
<th>School Support staff</th>
<th>2nd and 4th Grade Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assistant Director of Student Services</td>
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#### Continued Collaboration/Partnership offering to ALL Rochester Public Schools (2018-2019)

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The MindUP Curriculum

- Preventive mental health approach to not only help those with ACEs but all children by continuing to introduce coping skills for learning and living with goal to reduce significant mental health crisis as adults.
- Comprehensive, classroom-tested, evidence-based curriculum framed around 15 easily implemented lessons (School PHN’s combined into 8 interactive sessions of core content)
- Designed to help children understand how their brains respond to stress and prepares them for creating a calm mind set for thoughtful decision making
The Key Players of the Brain

- Prefrontal Cortex
- Amygdala
- Hippocampus
Sample of classroom activities

- Song “My Brain Is So Very Important”
- Modeling brain with 2 fists
- “Brain Power” worksheet
- Glitter bottle demonstration and discussion
- Belly breathing exercise
- 10 finger breath exercise
- Mindfulness activities
- Mindful relaxing and mindful movement
- Modeling how chains of neurons pass messages
- Gratitude tree
- Calm perspective taking; Goldilocks and Three Bears
No MindUP Technique Identified
2017-2018 vs. 2018-2019

2017-2018
12.5%
.4%

2018-2019
18.1%
8.8%

Change from pre-MindUP to post-MindUP

@preMindUP = 1%
@postMindUP = 1%

MindUP
Mindfulness
Gratitude
Physical Activity
Stress Ball
Senses
Happy Memories
Appreciation
Play
Counting
Breathing
Optimism
Self-Talk
Glitter Jar
"Mindful Movement"
MindUP Pre & Post Techniques
2017-2018

<table>
<thead>
<tr>
<th>Technique</th>
<th>Pre-MindUp 2017-2018 (n=242)</th>
<th>Post-MindUp 2017-2018 (n=241)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing techniques</td>
<td>19.8%</td>
<td>27.0%</td>
</tr>
<tr>
<td>Counting</td>
<td>6.8%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Optimism, positive self talk, gratitude</td>
<td>3.6%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Mindfulness, glitter jar, stress ball, senses</td>
<td>3.1%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Appreciating happy memories</td>
<td>1.1%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Physical activity, mindful movement &amp; play</td>
<td>2.6%</td>
<td>6.0%</td>
</tr>
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MindUP Pre & Post Techniques
2018-2019

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Breathing techniques</td>
<td>35.1%</td>
<td>52.8%</td>
</tr>
<tr>
<td>Counting</td>
<td>4.7%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Optimism, positive self talk, gratitude</td>
<td>1.9%</td>
<td>4.9%</td>
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<td>Mindfulness, glitter jar, stress ball, senses</td>
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<td>Physical activity, mindful movement &amp; play</td>
<td>7.4%</td>
<td>9.0%</td>
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Teacher Survey Responses

2017 - 2018
- 12 classes taught
- 100% response rate from teachers

2018 - 2019
- 34 classes taught
- 88% response rate from teachers
Teacher Survey Responses
2017 - 2018 (n=12)
2018 - 2019 (n=30)

Respondent's level of agreement that they had a good experience with MindUP sessions

- Strongly Agree
- Agree

2017-2018:
- Strongly Agree: 92%
- Agree: 8%

2018-2019:
- Strongly Agree: 77%
- Agree: 23%

How would you rate the value of the MindUP lessons?

2017-2018: 9.58
2018-2019: 9.10
### MindUP Sessions

**Teachers' input on perceived benefits for students**

<table>
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<tr>
<th>Benefit</th>
<th>2017-2018</th>
<th>2018-2019</th>
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<tbody>
<tr>
<td>How to become more habitually observant</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>Learning how to concentrate</td>
<td>50%</td>
<td>75%</td>
</tr>
<tr>
<td>Reflecting on situations</td>
<td>63%</td>
<td>83%</td>
</tr>
<tr>
<td>How to monitor senses and feelings</td>
<td></td>
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<tr>
<td>Understanding self-regulation of behaviors</td>
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<tr>
<td>How to focus the mind</td>
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<tr>
<td>Techniques in calming down</td>
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</tbody>
</table>
100% of teachers would participate in future MindUP lessons.
Thank you!

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School Based Services- School PHN
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