Link Between Historical Trauma & Health Outcomes for Native Americans

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Adverse Childhood Events

- ACES is the largest and first research study that established a direct association between childhood trauma and adult ill health. The study found that the greater the number of adverse childhood experiences, the greater the possibility of disabilities and dysfunction in adult life.
- ACEs Questionnaire (Felitti et al., 1998) is a 10-item measure used to measure childhood trauma. The questionnaire assesses 10 types of childhood trauma measured in the ACE Study. Five are personal: physical abuse, verbal abuse, sexual abuse, physical neglect, and emotional neglect.
- Note that there are many other sources of childhood trauma that are not included in the above-mentioned ACEs scoring tool. For example, exposure to community violence or food insecurity is not included in the ACE score.
What Impact Do ACEs Have?

As the number of ACEs increases, so does the risk of negative health outcomes.

RISK

0 ACEs 1 ACEs 2 ACEs 3 ACEs 4+ ACEs

Possible Risk Outcomes:

**Behavior**
- Lack of Physical Activity
- Smoking
- Alcoholism
- Substance Abuse
- Missed Work

**Physical & Mental Health**
- Severe Obesity
- Diabetes
- Depression
- Suicide Threats
- STIs
- Heart Disease
- Cancer
- Stroke
- COPD
- Broken Bones
Adverse Childhood Events

- 64% of adults report at least 1 ACE
- 1 in 5 adults report 3 or more ACEs
- 1 in 6 adults experienced 4 or more ACEs
- In one study on Native Americans 78% reported at least 1 ACE; 40% reported at least 2 ACEs
- Those who experienced 4 or more ACEs are 12 times more likely to have negative health outcomes
- Females, younger adults, sexual minorities and multiracial individuals are at greater risk for ACEs
- At least 5 of the top 10 leading causes of death are associated with trauma
- Preventing ACEs could reduce the number of adults with depression by as much as 44%
Adverse Childhood Events

• Statistics on people who have experienced 4 or more ACEs without intervention:
  • 5.13 x more likely to be depressed
  • 2.93 x more likely to smoke
  • 2.42 x more likely to develop chronic pulmonary lung disease
  • 3.23 x more likely to binge drink, etc.
Stress Response Cycle

- Stress is a normal response to challenging life events.
- Stress response is meant to be there during threat and then diminish/recover after threat.
- Chronic stress breaks down bodily functions and leads to illness, disease and problems with mood, etc.
- The only way to prevent these is though routine self-care.
Types of Stress Responses

- **Positive Stress Response** is a normal response to challenges such as attending a new school or taking a test. It involves brief increases in heart rate and mild elevations in stress hormones, which quickly return to normal.

- **Tolerable Stress Response** results from more serious events such as a car accident and results in greater activation of the body’s alarm system. When a person has sufficient support, the body can recover from these effects.

- **Toxic Stress** can occur when a person is exposure to severe, frequent, or prolonged trauma without adequate support from trusted helpers. It can affect learning, behavior and result in long term health problems. In children, toxic stress can result in changes in the brain’s architecture and function.
The Indian Boarding School
Understanding Trauma: Impact on Development

- “What fires together wires together”

- Sensitive periods (when there is the most neuroplasticity) of brain development occur during childhood. Therefore, trauma experienced during childhood is particularly harmful to brain development.

- Childhood trauma can change the structure and functioning of a child’s brain.
<table>
<thead>
<tr>
<th>Brain Region</th>
<th>Functions</th>
<th>Critical Period</th>
<th>Experiences needed</th>
<th>Functional Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cortex</td>
<td>Thinking, Planning, Reasoning, Creativity, &amp; Sensory Integration</td>
<td>3 - 6 years</td>
<td>Complex conversations, social interactions, exploration, safe, fed, secure</td>
<td>Adult</td>
</tr>
<tr>
<td>Limbic</td>
<td>Emotion, Attachment Memory, &amp; Sensory Integration</td>
<td>1 - 4 years</td>
<td>Complex movement, social experience, narrative</td>
<td>Puberty</td>
</tr>
<tr>
<td>Diencephalon</td>
<td>Sensory Motor &amp; Sensory Processing :</td>
<td>6 months - 2 years</td>
<td>Complex rhythmic movement, simple narrative, affection</td>
<td>Childhood</td>
</tr>
<tr>
<td>Brain Stem</td>
<td>State Regulation &amp; Sensory Processing</td>
<td>In utero – 9 months</td>
<td>Rhythmic, patterned input, engaged caregiving</td>
<td>Infancy</td>
</tr>
</tbody>
</table>
Amygdala

- Part of the limbic system
- Important role in expression and modulation of aggression
- Survival based
- “Boss” of the limbic system
- Activates fight-flight-freeze response
- Overactive in traumatized children, creating a “constant state of emergency”
Fight, Flight, or Freeze

- **Cortex**: Thinking, Planning, Reasoning, Creativity, & Sensory Integration
- **Limbic**: Emotion, Attachment Memory, & Sensory Integration
- **Diencephalon Cerebellum**: Sensory Motor & Sensory Processing: Coordination, body awareness, senses
- **Brain Stem**: State Regulation & Sensory Processing (HR, Breathing, BP, Body Temp., organize sensory input)

**States:**
- **Calm**
- **Vigilance**
- **Alarm**
- **Fear**
(VVC) Ventral Vagal Complex: Signaling System for motion, emotion & communication. (Our Social Engagement System)

(SNS) Sympathetic Nervous System: Mobilization System for Flight or Fight Behaviors. (Our Aggressive Defense System)


Our Autonomic Nervous System fires muscular tensions triggered by feedback signals from the external & internal world at millisecond speeds below conscious awareness. These muscles tensions fire our Thoughts?
Trauma-Informed Strategies

- **Trauma-Informed Care**
  - Understanding the prevalence and impacts on health and behavior
  - Recognizing the effects on health and behavior
  - Training on responding with best practices
  - Integrating knowledge into policies, procedures and practices
  - Avoiding retraumatizing by approaching students with non-judgmental support

- **TIC Principles**
  - Create a culture of physical and emotional safety of students and staff
  - Build and maintain trust among & between students and staff
  - Recognize the signs and symptoms of trauma-related behaviors
  - Promote student-centered education
  - Ensure teacher and student collaboration
  - Culturally sensitive education (race, ethnicity, cultural background, gender identity, etc).
Trauma-Informed Care

3 Pillars of Trauma-Informed

Connections

Safety

Managing Emotions