Insights and Innovations

IUPUI Webinar Series

Patsy Sellars, MSW
October 27, 2017
ACES, Development and a Path to the Future
Webinar Learning Objectives

At the conclusion of this webinar, attendees will gain an:

• Understanding of the risk factors for adverse childhood experiences (ACEs)
• Understanding of the basic underlying neurobiology of ACEs for negative health outcomes
• Understanding of the protective factors for ACEs and the mechanisms of prevention and healing in this arena
James Baldwin:

For these are all our children. We will all profit by, or pay for, whatever they become.
Trauma/Developmentally Informed

- Our task: provide relationally rich environments that grow/change the brain
  - Focus on skill building to help regulate
  - Regulate to access the cortex

- Goal: understand the “arousal continuum” vs. belief that the youth/person is being “manipulative” or “defiant” or “oppositional”

- Ask: “What’s happened to you?” instead of “what’s wrong with you?”

- Access the cortex to develop additional skills
Erikson’s Psychosocial Stages

<table>
<thead>
<tr>
<th>Stage</th>
<th>Psychosocial Crisis</th>
<th>Basic Virtue</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Trust vs. mistrust</td>
<td>Hope</td>
<td>Infancy (0 to 1.5)</td>
</tr>
<tr>
<td>2</td>
<td>Autonomy vs. shame</td>
<td>Will</td>
<td>Early Childhood (1.5 to 3)</td>
</tr>
<tr>
<td>3</td>
<td>Initiative vs. guilt</td>
<td>Purpose</td>
<td>Play Age (3 to 5)</td>
</tr>
<tr>
<td>4</td>
<td>Industry vs. inferiority</td>
<td>Competency</td>
<td>School Age (5 to 12)</td>
</tr>
<tr>
<td>5</td>
<td>Ego identity vs. role confusion</td>
<td>Fidelity</td>
<td>Adolescence (12 to 18)</td>
</tr>
<tr>
<td>6</td>
<td>Intimacy vs. isolation</td>
<td>Love</td>
<td>Young Adult (18 to 40)</td>
</tr>
<tr>
<td>7</td>
<td>Generativity vs. stagnation</td>
<td>Care</td>
<td>Adulthood (40 to 65)</td>
</tr>
<tr>
<td>8</td>
<td>Ego integrity vs. despair</td>
<td>Wisdom</td>
<td>Maturity (65+)</td>
</tr>
</tbody>
</table>
Understanding ACEs

- **Abuse:**
  - Emotional (11%); Physical (28%); Sexual (21%)

- **Neglect:**
  - Emotional (15%); Physical (10%)

- **Household Challenges:**
  - Mother treated violently (13%); Substance abuse (27%); mental illness (19%); separation/divorce (23%); incarcerated household member (5%)

ACE Study/CDC--1997
ACES are Common

ACE Score Prevalence
CDC-Kaiser ACE Study

# of ACEs:
- Zero: 12.5%
- One: 15.9%
- Two: 9.5%
- Three: 26.0%
- Four or More: 36.1%

ACE Score Prevalence
2011-2014 BRFSS ACE Module

# of ACEs:
- Zero: 23.5%
- One: 13.4%
- Two: 15.8%
- Three: 8.8%
- Four or More: 38.4%

Slide Credit: Dr. Melissa Merrick, CDC
## 2016 National Survey of Children’s Health

<table>
<thead>
<tr>
<th>No ACEs</th>
<th>One ACE</th>
<th>Two or more ACEs</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>53.7</td>
<td>24.6</td>
<td>21.7</td>
</tr>
<tr>
<td>C.I.</td>
<td>(52.7 – 54.7)</td>
<td>(23.7 - 25.5)</td>
<td>(20.9 – 22.5)</td>
</tr>
<tr>
<td>Sample Count</td>
<td>29,609</td>
<td>10,926</td>
<td>9,017</td>
</tr>
<tr>
<td>Pop. Est.</td>
<td>38,647,370</td>
<td>17,687,522</td>
<td>15,610,547</td>
</tr>
</tbody>
</table>

C.I. = 95% Confidence Interval  
Percentages and population estimates (Pop. Est.) are weighted to represent child population in U.S.
ACE Pyramid, CDC

Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

- Early Death
- Disease, Disability, and Social Problems
- Adoption of Health-risk Behaviors
- Social, Emotional, and Cognitive Impairment
- Disrupted Neurodevelopment
- Adverse Childhood Experiences
ACEs Impacts

Childhood Experiences Underlie Chronic Depression

Mental Health

% With a Lifetime History of Depression

0  1  2  3  >=4

ACE Score

Women
Men
ACEs Impacts

Adverse Childhood Experiences vs. Smoking as an Adult

Health Risks

ACE Score

0 1 2 3 4-5 6 or more

% 20 18 16 14 12 10 8 6 4 2 0

p < .001
ACEs Impacts

Health Risks

Childhood Experiences vs. Adult Alcoholism

% Alcoholic

ACE Score

0 1 2 3 4+

0 2 4 6 8 10 12 14 16 18
ACEs Impacts

Social function

ACE Score and Teen Sexual Behaviors

Percent with Health Problem (%)

ACE Score
- 0
- 1
- 2
- 3
- 4 or more

Intercourse by 15
Teen Pregnancy
Teen Paternity

Percent with Health Problem (%)
ACEs Impacts

Mental Health

Childhood Experiences Underlie Suicide Attempts

% Attempting Suicide

<table>
<thead>
<tr>
<th>ACE Score</th>
<th>% Attempting Suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4+</td>
<td>4+</td>
</tr>
</tbody>
</table>

25
20
15
10
5
0

ACE Score
ACEs Impacts

ACE Score and the Risk of *Perpetrating* Domestic Violence

Women

Men

ACE Score

Risk of Perpetration (%)
Abstract thought
Concrete Thought
Affiliation
"Attachment"
Sexual Behavior
Emotional Reactivity
Motor Regulation
"Arousal"
Appetite/Satiety
Sleep
Blood Pressure
Heart Rate
Body Temperature
Neurodevelopment and Memory

• Sequential Neurodevelopment
• Use Dependent Differentiation

• To Understand MEMORY is to understand development

• The Importance of Templates
Overwhelming Experiences

Prolonged or Chaotic patterns of Alarm or Dissociative Activation

Altered Neural Systems
# Arousal Continuum

<table>
<thead>
<tr>
<th>MENTAL STATE</th>
<th>CALM</th>
<th>AROUSAL</th>
<th>ALARM</th>
<th>FEAR</th>
<th>TERROR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognition</td>
<td>Abstract</td>
<td>Concrete</td>
<td>Emotional</td>
<td>Reactive</td>
<td>Reflexive</td>
</tr>
<tr>
<td>Primary Secondary Brain Areas</td>
<td>F-Cortex</td>
<td>Cortex</td>
<td>Limbic</td>
<td>Midbrain</td>
<td>Brainstem</td>
</tr>
<tr>
<td></td>
<td>Cortex</td>
<td>Limbic</td>
<td>Midbrain</td>
<td>Brainstem</td>
<td>Autonomic</td>
</tr>
<tr>
<td>Dissociative Continuum</td>
<td>Rest</td>
<td>Avoidance</td>
<td>Compliance</td>
<td>Dissociation</td>
<td>Fainting</td>
</tr>
<tr>
<td>Hyperarousal Continuum</td>
<td>Rest</td>
<td>Vigilance</td>
<td>Resistance</td>
<td>Defiance</td>
<td>Aggression</td>
</tr>
<tr>
<td>Adaptive Response</td>
<td>Rest</td>
<td>Vigilance</td>
<td>Freeze</td>
<td>Flight</td>
<td>Aggression</td>
</tr>
</tbody>
</table>

Dr. Bruce Perry, All Rights Reserved. Child Trauma Academy
Sequence of Engagement

Reason

Relate

Regulate

Dr. Bruce Perry, All Rights Reserved. Child Trauma Academy
5 Strategies to Prevent Child Abuse and Neglect

- Change Social Norms to Support Positive Parenting
- Intervene to Lessen Harms and Prevent Future Risk
- Enhance Parenting Skills to Promote Healthy Child Development
- Strengthen Economic Supports for Families
- Provide Quality Care and Education Early in Life

Content Credit: Dr. Melissa Merrick, CDC
Building a Therapeutic Web
Terry Tempest Williams

The eyes of the future are looking at us and they are praying for us to see beyond our own time.