Balancing ACEs with HOPE: Healthy Outcomes from Positive Experiences

August 20, 2020: Dina Burstein, MD, MPH, Jeff Linkenbach, EdD, Chloe Yang, BS, Loren McCullough, BA.

Visit the HOPE website: https://positiveexperience.org/

Dina Burstein, MD, MPH, FAAP:
Project Director Healthy Outcomes for Positive Experiences (HOPE) at the Center for Community-Engaged Medicine
• Experienced physician, healthcare project designer, and leader with over twenty years of success in scientific research, grant writing, analysis, training, and clinical practice.
• Previously, Assistant Professor of Emergency Medicine at the Warren Alpert Medical School of Brown University, directing injury prevention focused community outreach programming and community-based research projects

Chloe Yang, B.S.
Senior Research Assistant, Center for Community-Engaged Medicine
• BS from the Massachusetts Institute of Technology, double majored in Bioengineering and Creative Writing.
• Worked to develop culturally specific mental health interventions as a research intern for the Boston University Asian Women's Action for Resilience and Empowerment lab
• Researched gender minority health disparities as an intern at Cambridge Health Alliance’s Health Equity Research Lab
Loren McCullough, B.A.
Research Assistant, Center for Community-Engaged Medicine

- 2020 Summa Cum Laude graduate of Boston University with B.A. in Psychology.
- Newest member of the HOPE team
- Minored in English and Deaf Studies.
- Designed an independent project to research equity in interactions between teachers and preschool students in private care systems.

Dr. Jeffrey W. Linkenbach,
Director / Research Scientist The Montana Institute

- Founder of Science of the Positive Framework and the Positive Community Norms Approach
- Co-I of H.O.P.E. (Healthy Outcomes from Positive Experiences)
- 30 years experience in research & health promotion
- Developed award-winning programs to change norms

Get on list for Science of the Positive Workshops
http://sotp.institute

Science of the Positive Framework
Seven Core Principles of Transformational Leadership
7-Step Model of Positive Community Norms
HOPE (Healthy Outcomes from Positive Experiences)

Hope is the thing with feathers that perches in the soul and sings the tune without words and never stops at all.
Emily Dickinson
HOPE IS THE CENTRAL STRATEGY

WE MUST DARE TO ALLOW OUR HOPE TO ECLIPSE OUR CONCERNS AND FEARS

Core Assumption of The Science of the Positive:

The POSITIVE exists, it is real, and is worth growing
HOPE is Centered on The POSITIVE

The solutions are in community.

Public Health 101

Science of the Positive
Cycle of Transformation
"If we want HEALTH, we must promote HEALTH."

"If we want HEALTH, we must promote HEALTH."

"If we want HEALTH, we must promote HEALTH."
Adverse Childhood Experiences (ACEs)

ACEs cause chronic disease: Population attributable fractions by ACEs score

<table>
<thead>
<tr>
<th>Outcome</th>
<th>0 ACE</th>
<th>1 ACE</th>
<th>2-3 ACE</th>
<th>4 or more</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHD</td>
<td>2.6</td>
<td>5.4</td>
<td>6.6</td>
<td>12.7</td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>4.2</td>
<td>8.1</td>
<td>11.7</td>
<td>24.0</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>6.4</td>
<td>14.7</td>
<td>23.0</td>
<td>44.1</td>
<td></td>
</tr>
<tr>
<td>Heavy Drinker</td>
<td>5.6</td>
<td>9.0</td>
<td>9.3</td>
<td>23.9</td>
<td></td>
</tr>
<tr>
<td>Education &lt; HS</td>
<td></td>
<td></td>
<td></td>
<td>4.6</td>
<td>4.6</td>
</tr>
</tbody>
</table>


Adverse Childhood Experiences and Other Risk Factors for Toxic Stress

Additional community and societal factors that contribute to toxic stress:

- Poverty
- Institutional racism
- Historical trauma
- War and migration
- Neighborhood effects

Image courtesy of RWJF
Adverse Childhood Experiences and Other Risk Factors for Toxic Stress

**Risk-based systems of screening and referral:**
- Providers define problems → mismatched priorities, lack of cultural competency
- Hierarchies of power: top-down view of families as broken
- Families as “Other” (racism, classism, ableism, gender bias, homophobia)
- Individual blame for current/historical systemic oppression

**HOPE and Health Equity: Calling out the Narrative**

**HOPE and Health Equity: Changing Mindsets**

HOPE is a mindset shift, adding:
- Appreciation of strengths: families are not broken
- Joint decision-making, recognizing family expertise
- Systemic nature of problems: not all solutions are professional services

A new form of true partnerships and lasting relationships.

ACEs are only part of the picture:
- Many people with 4 or more ACEs are OK
- Other experiences affect the brain
- Do positive experiences affect outcomes too?
Experience Shapes Human Development

ACEs
1. 1998 study of employed people in the Pacific Northwest
2. Patients answered questions about their childhood
3. Correlated with mental and physical health

PCEs
1. 2015 population study in Wisconsin
2. Part of the BRFSS
3. Asked about ACEs
4. Asked about Positive Childhood experiences
5. Correlated with mental health

Positive Childhood Experiences (PCEs) questions asked how often respondent:
1. Felt able to talk to their family about feelings
2. Felt their family stood by them during difficult times
3. Enjoyed participating in community traditions
4. Felt a sense of belonging in high school
5. Felt supported by friends
6. Had at least two non-parent adults who took genuine interest in them
7. Felt safe and protected by an adult in their home

- Internal consistency reliability: 0.77
- Principal components factor analysis: single factor with an Eigenvalue > 1 (2.95)
- Factor loadings ranged from 0.57 (“felt safe/home”) to 0.72 (“family stood by/difficult times”)
Positive Childhood Experiences (PCEs) Protect Adult Mental Health

6-7 vs. 0-2 PCEs: Adults reporting 6-7 PCEs have 72% lower odds of depression or poor mental health compared to those reporting 0-2 PCEs.

48% vs. 12.6%, OR 0.28; 95% CI 0.21-0.39. 3.8x higher rate for 0-2 vs. 6-7 PCEs.

Positive Childhood Experiences Mitigate ACEs Effects

% of Depression or Poor Mental Health

3-5 PCEs vs. 6-7 PCEs: Adults with 3-5 PCEs have 50% lower odds of adult depression or poor mental health compared to those with 6-7 PCEs.

25% vs. 12.6%, OR 0.50; 95% CI 0.36-0.69. 1.98x higher rate for 6-7 vs. 3-5 PCEs.

Positive Childhood Experiences Mitigate ACEs Effects

Biological mechanisms of action

Toxic stress model built on observed changes in brain architecture from adversity

Growing evidence of broader brain plasticity

Role of oligodendrocytes in recovery
Superhighways in the brain

Experiences build brain super highways

Experiences that promote oligodendrocyte development:
- exercise,
- social interactions,
- environmental stimulation.

Experiences that suppress oligodendrocyte development:
- sedentary lifestyle,
- social isolation,
- environmental deprivation.


Biological mechanism of action

Neurobiology of Addiction and Recovery

- Binge drinking leads increased size of lateral ventricles in the brain
- During recovery the ventricular size returns to normal


Experience Shapes Human Development

Experience Shapes Human Brain Development

Old Science
Affects brain development and health

New Science
Positive experiences affect brain development

Hope - Healthy Outcomes from Positive Experiences

4 Building Blocks of HOPE

41

42

43

44
What risk factors do you see in this picture?
What protective factors do you see in this picture?

Bringing HOPE into our work

Changing our own professional norms
From: Screen and refer
To: Understand and support

Initial encounter: Ask about PCEs along with ACEs

ACEs Screening
- ACEs are a known risk factor for poor health
- Standard screening tools becoming available

PCEs Assessment?
- Promote health
- More complete picture of the client
- Supports relationship
- Provides directions for action
Offer therapies

Balance ACEs with HOPE

Screen for problems (ACEs)

Identify protective factors / strengths (PCEs)

Create opportunities for engagement and celebration

Offer opportunities to strengthen protective factors

Change in Mindset

✓ How do we see ourselves and our clients?
✓ Risk and Strengths
✓ Cognitive re-framing
✓ Change from judge to coach

HOPE: Healthy Outcomes from Positive Experiences
https://positiveexperience.org

Integration of HOPE into Trauma-Informed Care

4. Building Blocks of HOPE

- Relationships
- Environment
- Engagement

HOPE: How do health outcomes benefit from positive experiences?

- Awareness:
- Childhood memories
- Reassurance:
- History is not destiny
- Healing:
- No shame in getting help
- Inventing:
- Better ways to live
After today

Stay connected
https://Positiveexperience.org

Share your story of HOPE for new webpage (link will be provided)

Balancing ACEs with HOPE on ACES Connection

Stay-HOPEful

Share your story of HOPE!

Stories featured on HOPE webpage

Submit using this form (in chat):
https://forms.gle/QN7y56lZm7d4Wv3g