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Understanding ACES, Toxic Stress, and Trauma-Informed Care

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Nothing To Disclose



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“Fire can warm or consume, water can quench or drown, wind can caress or cut. And so, it is with human relationships: we can both create and destroy, nurture and terrorize, traumatize and heal each other” (Perry & Szalavitz, 2008)



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Academy on Violence & Abuse Resources



ADVANCING HEALTH EDUCATION & RESEARCH

<https://www.avahealth.org/>



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Shutting the Door to Trauma Symptoms



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Adverse Childhood Experiences

10 ACEs

Parental Divorce or Separation
Caregiver in Jail or Prison
Caregiver Depression, Mental Illness or Suicide Attempt
Domestic Violence or Threats
Emotional Abuse or Neglect
Sexual Abuse or Exposure
Food, Clothing or Housing Insecurity
Physical Abuse, Hitting or Slapping
Caregiver Problem with Drugs or Alcohol
Felt Unsupported, Unloved and Unwanted

ACEs Being Studied

Placement in Foster Care
Bullying or Harassment at School
Parent or Guardian Died
Separated from Caregiver through Deportation or Immigration
Medical Procedure(s) or Life Threatening Illness
Frequent School or Neighborhood Violence
Treated Badly Because of Race, Sexual Orientation, Place of Birth, Disability or Religion

Source: Center for Youth Wellness, ACE Questionnaire

Intergenerational Transmission

Adverse Community Environments

Poor Housing Quality and Affordability
Discrimination
Deterioration of Physical Environment
Lack of Access to Educational Opportunities
Low Sense of Collective Political and Social Efficacy

Intergenerational Poverty
Lack of Opportunity and Economic Mobility
Poor Transportation Services or System
Community Disruption
Damaged Social Networks and Trust
Unhealthy Products
Long-Term Unemployment

Social-Cultural Environment

Physical Environment

Economic Environment

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Adapted From: Ellis W. Dietz BCR Framework *Academic Peds* (2017)

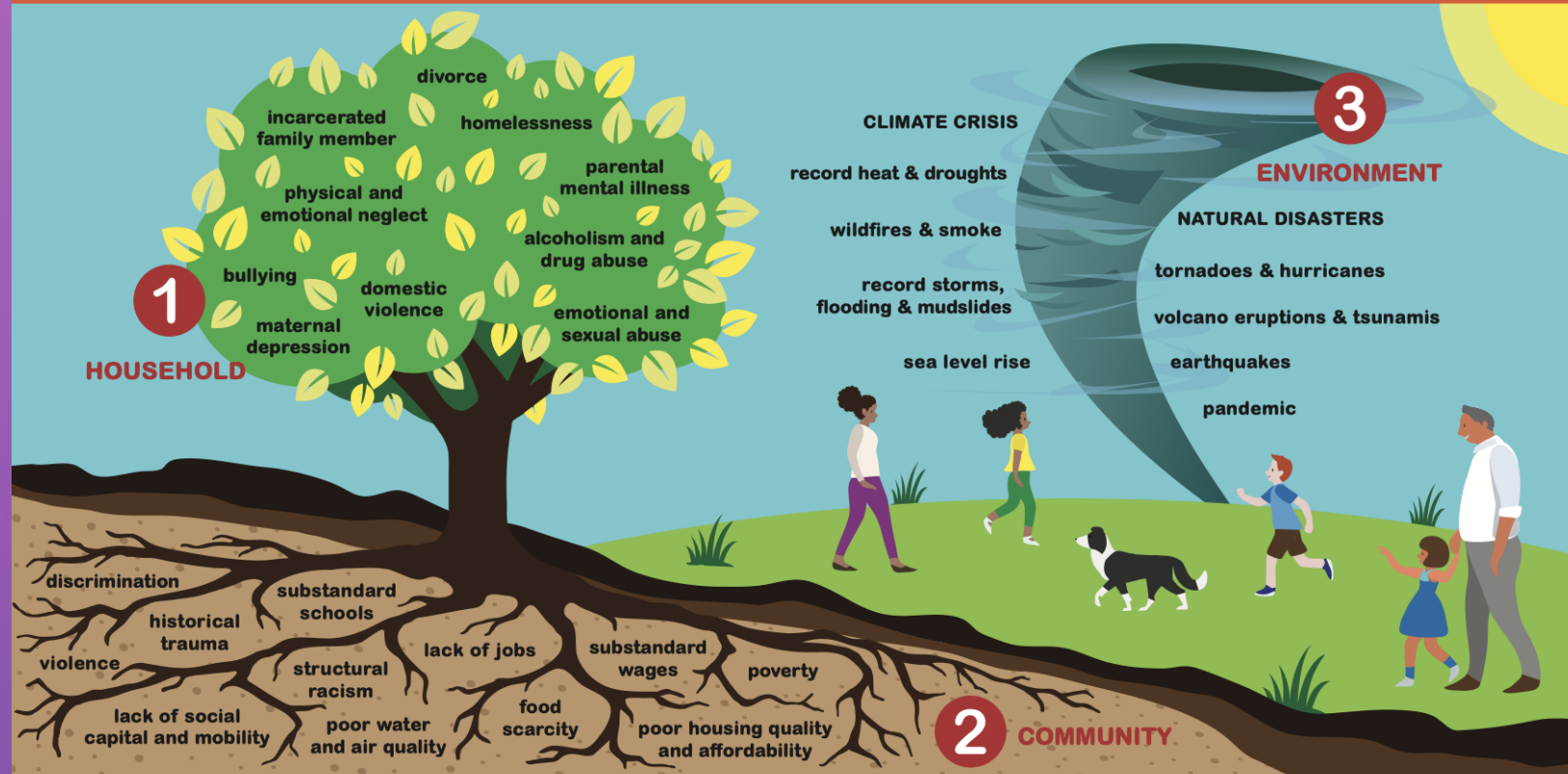


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3 Realms of ACEs

Adverse childhood and community experiences (ACEs) can occur in the household, the community, or in the environment and cause toxic stress. Left unaddressed, toxic stress from ACEs harms children and families, organizations, systems and communities, and reduces the ability of individuals and entities to respond to stressful events with resiliency. Research has shown that there are many ways to reduce and heal from toxic stress and build healthy, caring communities.



PACes Connection thanks **Building Community Resilience Collaborative and Networks** and the **International Transformational Resilience Coalition** for inspiration and guidance. Please visit [PACesConnection.com](https://www.pacesconnection.com) to learn more about the science of ACEs and join the movement to prevent ACEs, heal trauma and build resilience.

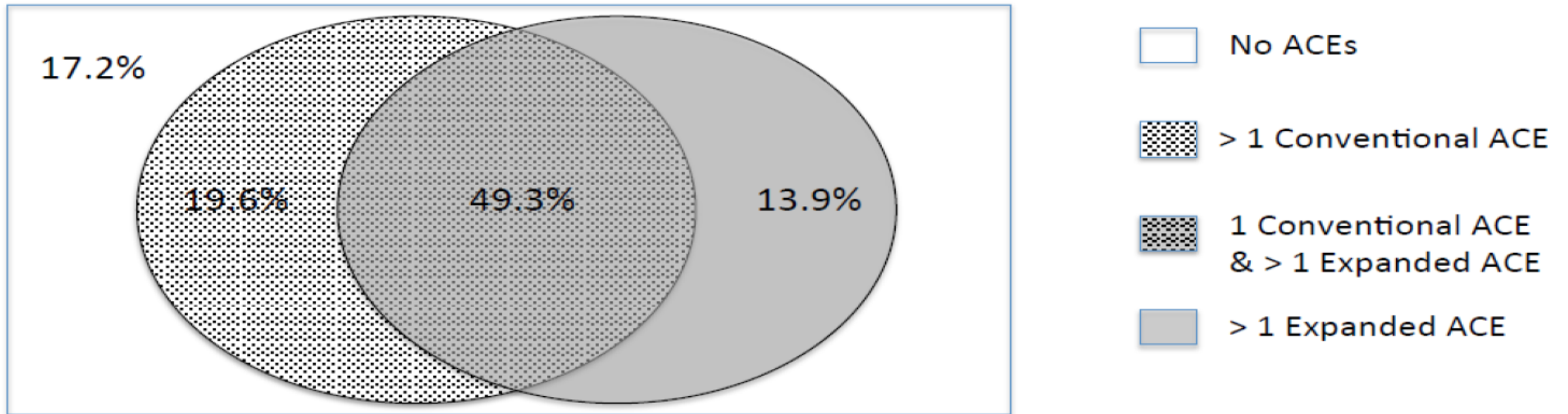


Philadelphia ACE Study Questions

| Conventional ACEs | Expanded ACEs |
|----------------------------|--------------------------------|
| Physical Abuse | Witnessing Violence |
| Emotional Abuse | |
| Sexual Abuse | Living in Unsafe Neighborhoods |
| Emotional Neglect | |
| Physical Neglect | Experiencing Racism |
| Domestic Violence | |
| Household Substance Abuse | Living in Foster Care |
| Incarcerated Care Provider | |
| Mental Illness in the Home | Experiencing Bullying |

- 70% had experienced an ACE
- 40% experienced four or more original ACEs
- 40% experienced four or more expanded, community-level ACEs
- **13.9% only experienced expanded ACEs**
- **Children from low-income households experience disproportionate exposure to ACEs**

Overlap Between Exposure to Conventional and Expanded ACEs



WADE, 2016

What Does This Tell Us?

While Aces are common, some populations are at increased risk of experiencing adversarial events and traumas.

Conceptualization of ACEs must be more expansive and should include acute, chronic and historical traumas.

Trauma involved an emotional response to:

1. Exposure to an experience involving horror, terror or fear
2. A threat to your safety or the safety of those around you
3. A change in the way you view yourself or others

Additional Victimization ACES not included in the original Ace Study

- Peer victimization (assault, physical intimidation or emotional victimization by a non-sibling peer)
- Parents always arguing (respondents were asked if there was a time in their lives when their parents were always arguing)
- Property Victimization (robbery, theft or vandalism by non-sibling perpetrator)
- Someone close to the child had a bad accident or illness
- Exposure to community violence
- No good friends
- Below average grades in school

Finkelhor, 2013

Additional Victimization ACES not included in the original Ace Study

- Someone close to the child died because of an accident or illness
- Parent lost job
- Parent deployed to war zone
- Disaster (fire, flood, tornado, hurricane, earthquake or other disaster)
- Removed from the family
- Very overweight
- Physical Disability

Finkelhor, 2013



Additional Victimization ACES not included in the original Ace Study

- Ever involved in a bad accident
- Neighborhood violence
- Homelessness
- Repeated a grade
- Less masculine or feminine than other boys or girls his or her age

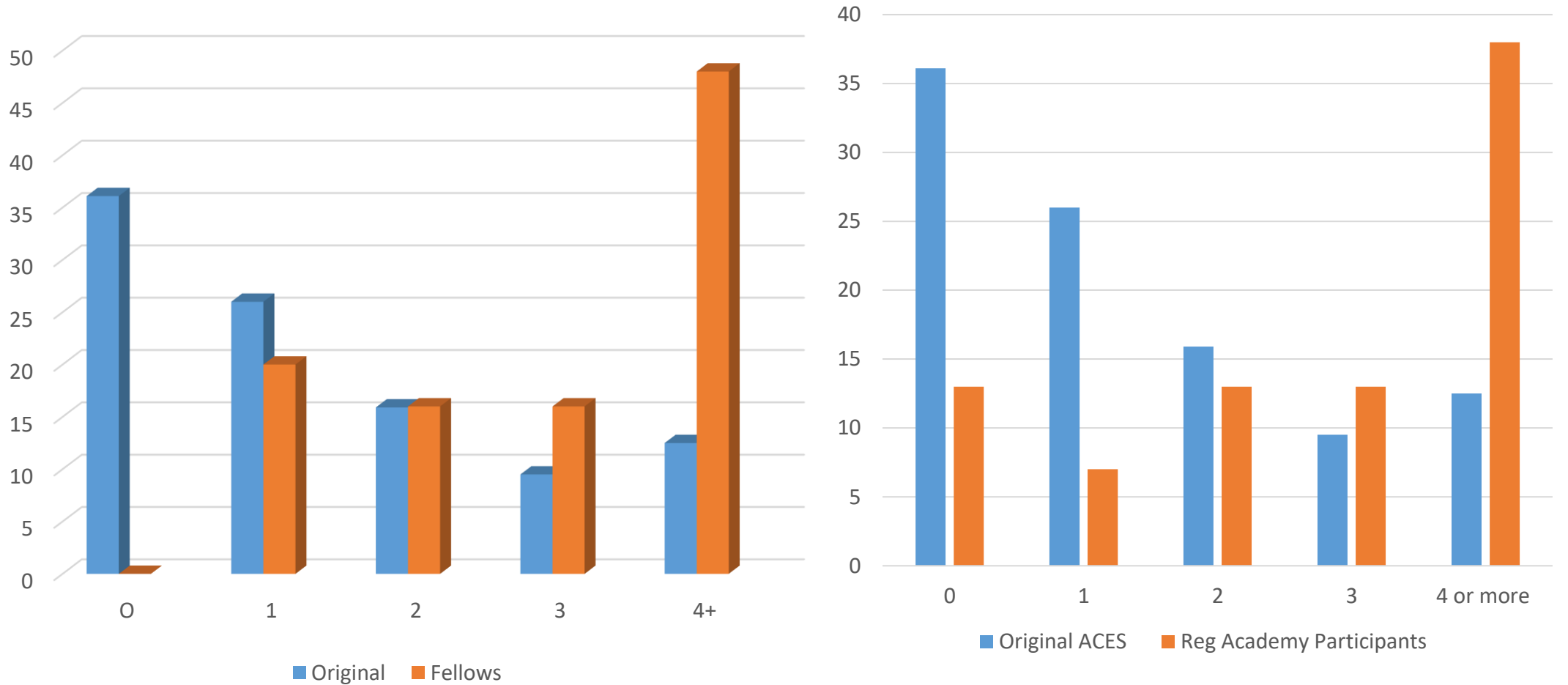
Finkelhor, 2013

Some Groups Are More Likely to Have Experienced ACEs

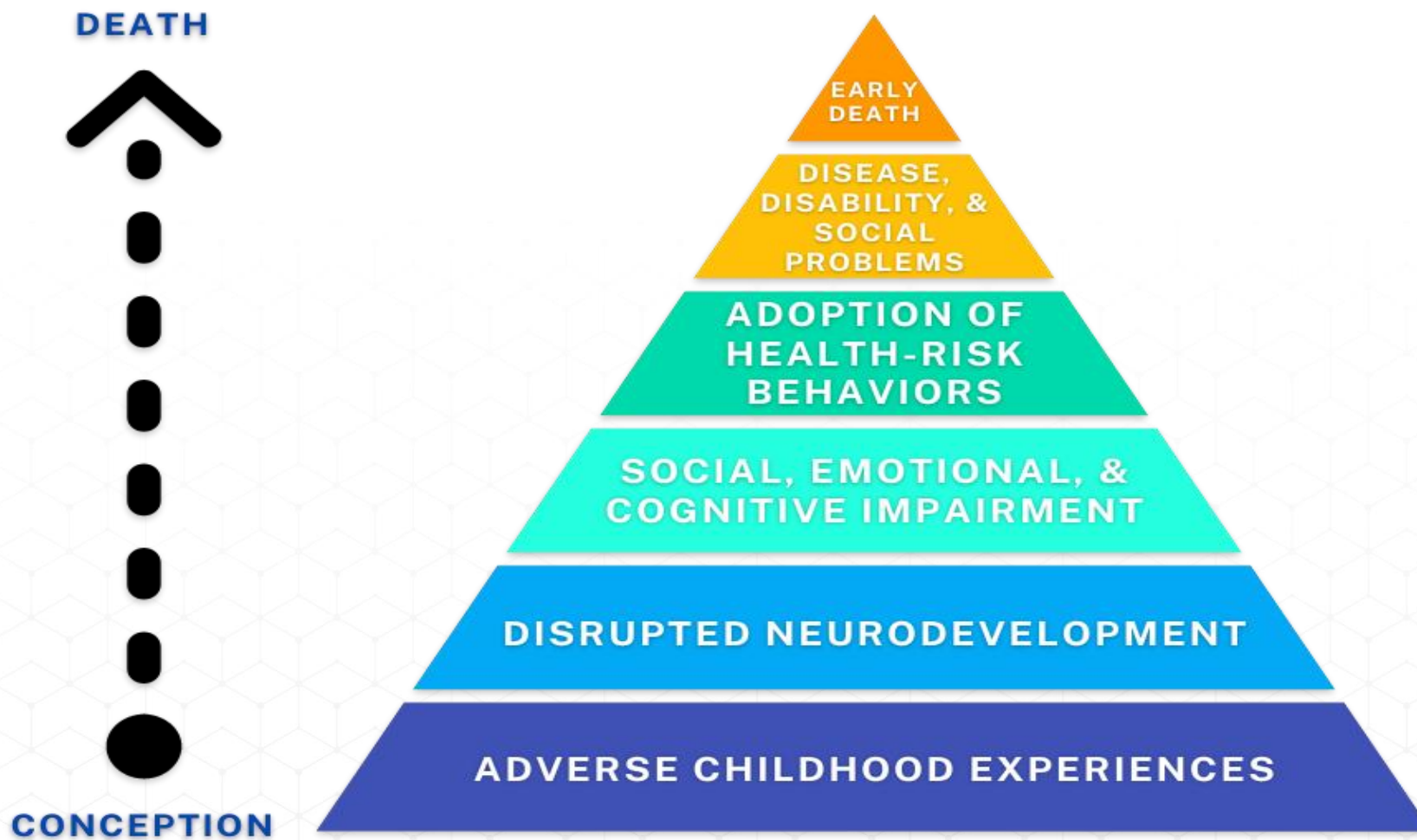
Multiple studies show that people who identified as members of these groups as adults reported experiencing **significantly more ACEs:**



Comparison Two Groups in Southern Illinois



Mechanisms by Which Adverse Childhood Effects Influence Health and Well-Being Throughout the Lifespan



Chronic Diseases Linked to ACEs

Six in ten adults in the US have a chronic disease and **four in ten adults** have two or more.



HEART DISEASE



CANCER



CHRONIC LUNG DISEASE



STROKE



ALZHEIMER'S DISEASE



DIABETES



CHRONIC KIDNEY DISEASE



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Adverse Childhood Experiences Increase Risk for Chronic Diseases - It's Not Psychological

- ½ of all of the adults in the US have a chronic illness (CDC)
- Chronic Illness accounts for 7 of the top 10 causes of death in the US (CDC)
- Nearly 1 child in 10 is limited by a chronic disease
- Risk for chronic illness is high with 4 or more ACEs
- Score of 4 or more:
 - Diabetes- 1.6 times as likely
 - Double for cancer, heart disease and quadruples for chronic lung disease
- Even an ACE score of 2 is significant

Risk for Autoimmune Disease Increases with ACE Scores of 2

- Risk for 80 or more types of autoimmune diseases increases as the ACE score rises
- For every increase in the ACE score of 1 point- the risk goes up by 20%
 - Diabetes, Lupus, rheumatoid arthritis for example
- An ACE score of 2- will increase your chances of being hospitalized for an autoimmune disease by 70-80%
- In the Dube and Felitti study- ACES will increase autoimmune disease independent of other risky behavior and
- Amplify the effect of other environmental factors like infection (Mead, 2019)

Symptoms Are Not Psychological

In conditions within the body created by ACES:

- Cortisol levels are impacted by a body in a constant state of survival
- Changes in cortisol reflect a plausible early life adaptations to increase active cortisol levels in the liver and kidneys without elevation of circulating levels creating issues for the brain and muscle tissue
- Changes in blood sugar, insulin levels, blood pressure, heart rate and other physiological functions- can be stuck on too high or too low
- Trauma affects both physical and emotional health because it alters the nervous system, the immune system, the cell danger response, gene function and beyond.

Just Under the Surface



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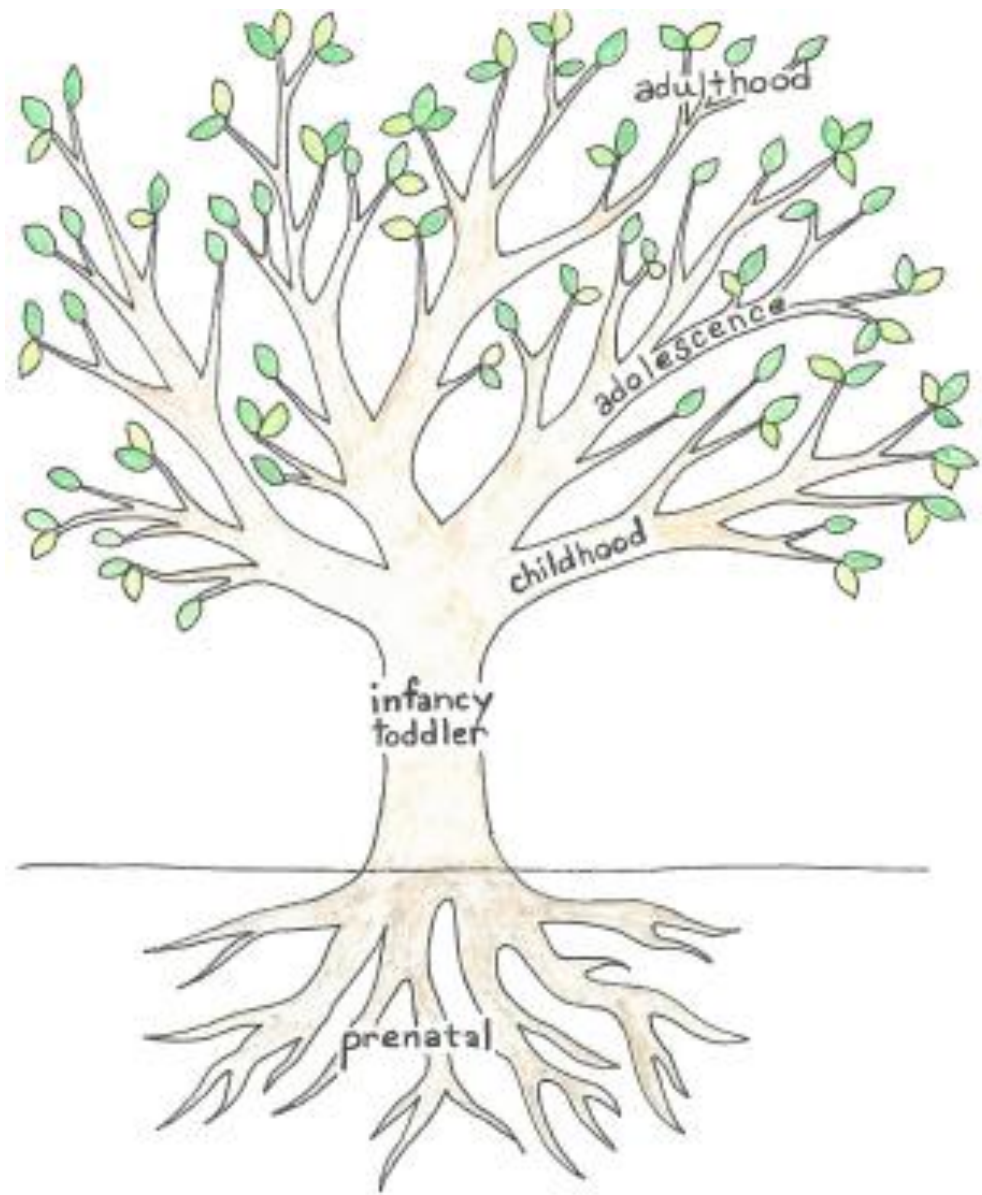


Defining Adversity or Stress

Toxic Stress

- Long Lasting, frequent or strong intensity
- More extreme- ACES
 - Physical, sexual, emotional abuse
 - Physical, emotional neglect
 - Household dysfunction
- Insufficient social-emotional buffering (deficient level of emotional coaching, reprocessing, reassurances and support)
- Potentially permanent changers and long term effects
 - Epigenetics (life long intergenerational changes in how the genetics are turned on or off)
 - Brain Architecture (the mediators of stress impact on the mechanisms of brain development/connections)





ACEs Impact Multiple Outcomes



“Not everyone who has trauma has addiction, but everyone who has addiction has trauma because there's generally something that's propelling you to use. If we don't treat the trauma, but we treat the addiction, the problem is still there.”

(Kimberly Cho, LPC, a therapist in the Dual Diagnosis Program at [Northwestern Medicine Behavioral Health Services](#).)

Fostering Resiliency/Protective factors

- Safety
- Trustworthiness and Transparency
- Collaboration and Mutuality
- Peer Support
- Empowerment, voice and choice
- Cultural, historical and gender awareness

Psychoeducation



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“Resilience is ordinary, not extraordinary” (APA, 2020)



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Relationships are the Catalyst for Developing Resiliency



Resiliency Building Experiences

Buffering Relationships

Feels Loved by Parent(s) or Primary Caregiver
Supportive Family Relationships
Supportive Community Relationships
Parent(s) or Primary Caregiver Enjoy Playing with Child
Relatives Provide Support When Sad or Worried
Caring Neighbors or Family Friends
Support from Teacher, Coach, Youth Leader, or Minister



Hope and Resilience

Family Cares about Child's School Work and Performance
Family, Neighbors, and Friends Talk About Making Lives Better
Rules, Structure, and Expectations in Household
Someone Trusted to Talk to When Feeling Bad
Adults Who Notice Child's Strengths and Accomplishments
Sense of Independence
Positive Outlook on Life

Positive Community Environments

Available, Affordable Quality Housing
Lack of Discrimination
Clean and Safe Physical Environment
Access to Educational Opportunities
High Sense of Collective Political and Social Efficacy



Physical Environment

Economic Environment

Social-Cultural Environment

Lots of Opportunity and Economic Mobility
Quality Transportation Services or System
Cohesive Social Networks and Trust
Access to Healthy Products and Foods
Employment Opportunities

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Positive Childhood Experiences Survey Questions

1. How often did you feel able to talk to your family about feelings?
2. How often did you feel your family stood by you during difficult times?
3. How often did you enjoy participating in community traditions?
4. How often did you feel a sense of belonging in high school?
5. How often did you feel supported by your friends?
6. How often did you have at least 2 non-parent adults who took a genuine interest in you? (teacher, coach, pastor, rabbi, aunt, uncle, leader of a club)
7. How often do you feel safe and protected by an adult in the home?

Robert Sege, MD, Ph.D., 2022

Dr. C Bethal, 2019



Scoring

Seven point scale

If a participant answers always or almost always, they get one point like the ACE score.

This is the assessment measure they used to do their research.

History Culture Trauma Podcast with Bob Sege:

<https://podcasts.google.com/feed/aHR0cHM6Ly93d3cudm9pY2VhbWVyaWNhLmNvbS9yc3MvR1BvZGNhc3QvNDA1OQ/episode/aHR0cHM6Ly9jZG4udm9pY2VhbWVyaWNhLmNvbS9oZWZsdGgvMDEyMTU4L2pzdGV2ZW5zMDUwNTIyLm1wMw>

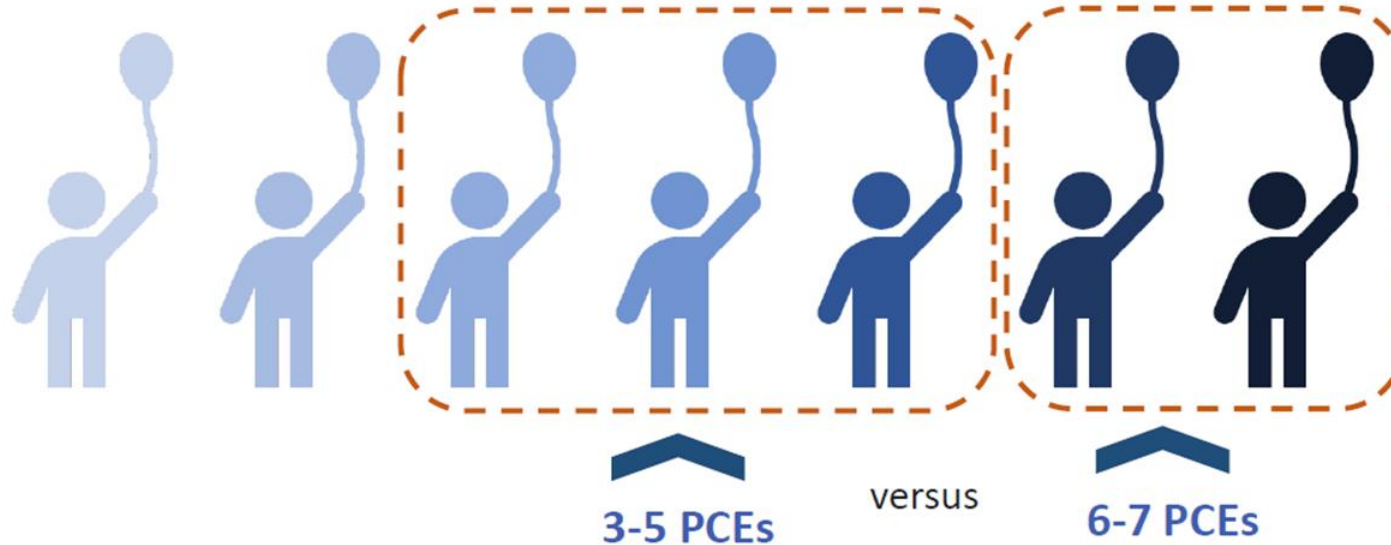
Robert Sege, MD, Ph.D.,
2022

Dr. C Bethal, 2019

Positive Childhood Experiences (PCEs) Protect Adult Mental Health



6-7 vs 3-5 PCEs: Adults with 6-7 PCEs have **50% lower odds of** adult depression or poor mental health compared to those with 3-5 PCEs. 25% v. 12.6%, OR 0.50; 95% CI 0.36-0.69. 1.98x higher rate for 3-5 vs. 6-7 PCEs.



Bethell C, Jones J, Gombojav N, Linkenbach J, Sege R. Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample: Associations Across Adverse Childhood Experiences Levels. *JAMA Pediatr.* 2019:e193007.

HEALTHY OUTCOMES
from
POSITIVE EXPERIENCES

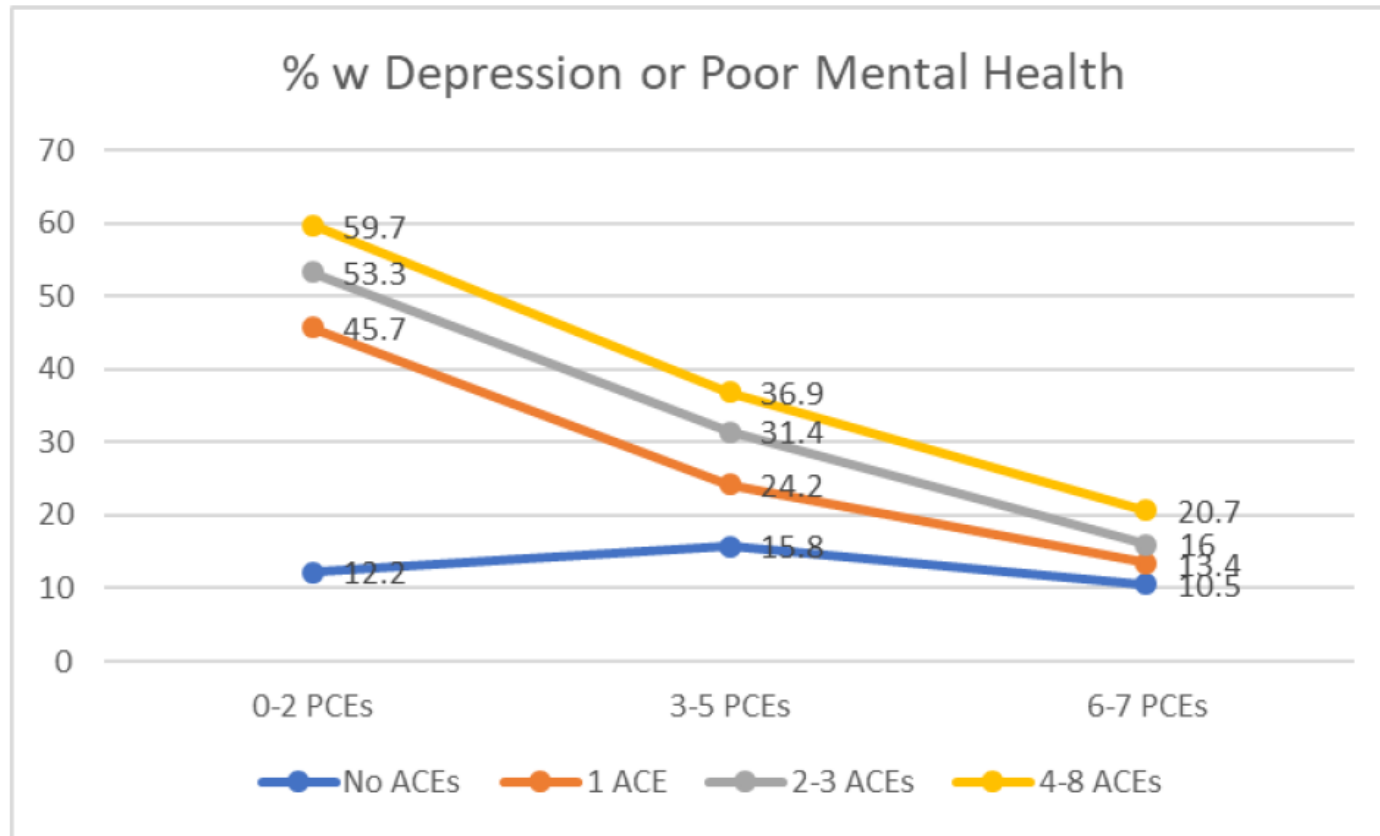


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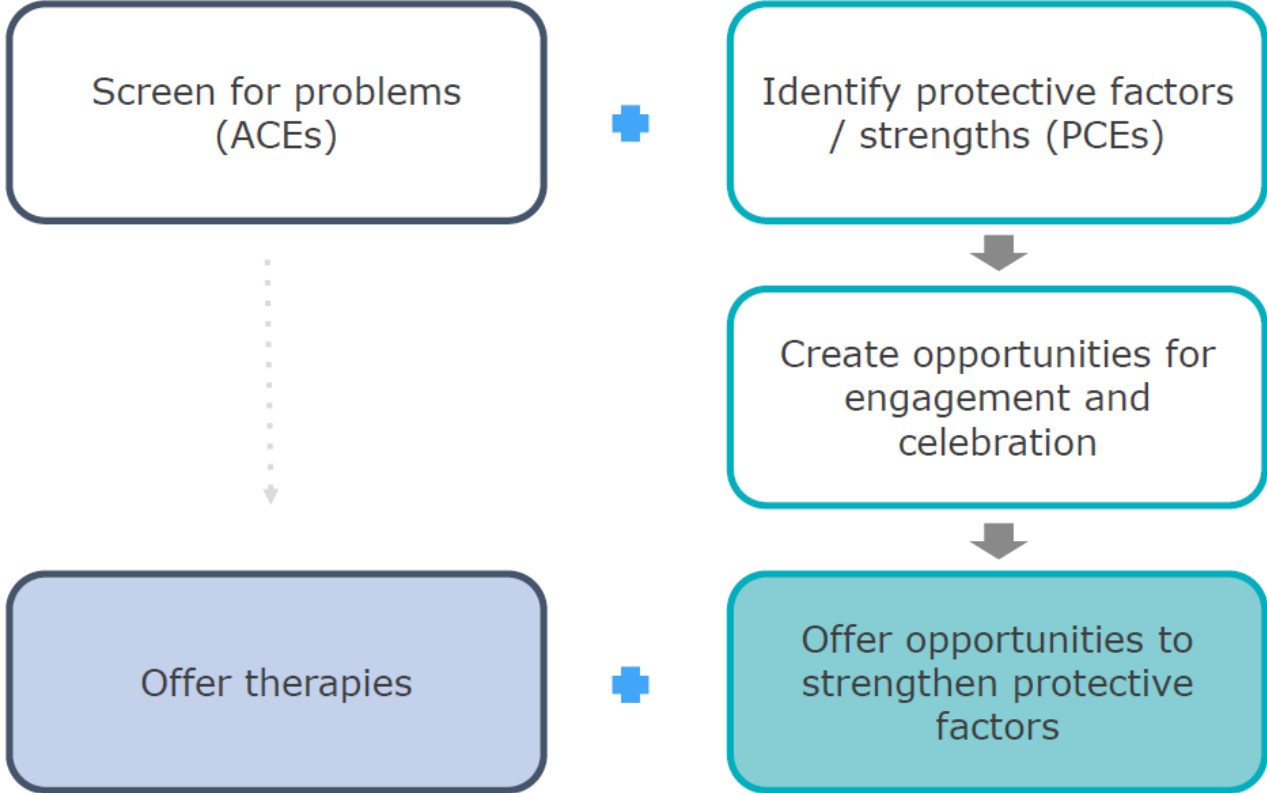
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Positive Childhood Experiences Mitigate ACEs Effects



Bethell C, Jones J, Gombojav N, Linkenbach J, Sege R. Positive Childhood Experiences and Adult Mental and Relational Health in a Statewide Sample: Associations Across Adverse Childhood Experiences Levels. *JAMA Pediatr.* 2019:e193007.

Balance ACEs with HOPE



HEALTHY OUTCOMES
from
POSITIVE EXPERIENCES

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

HEALTHY OUTCOMES
from
POSITIVE EXPERIENCES

BUILDING RESILIENCE

- Taking care of your body
- Building Community
- Writing in a journal
- Setting Goals
- Preparing for everyday stressors

Finkelhor, 2013



BUILDING RESILIENCE

- Social Support
- Self-Care
- Mindfulness
- Therapy
- Pets



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Resilience characteristics mitigate tendency for harmful alcohol and illicit drug use in adults with a history of childhood abuse: A cross-sectional study of 2024 inner-city men and women

[Aliza P Wingo](#)^{a,b}, [Kerry J Ressler](#)^{b,c}, [Bekh Bradley](#)^{a,b,*}

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The publisher's version of this article is available at [J Psychiatr Res](#)

For those habituated to high levels of internal stress since early childhood, it is the absence of stress that creates unease, evoking boredom and a sense of meaninglessness. People may become addicted to their own stress hormones, adrenaline and cortisol, Hans Selye observed. To such persons stress feels desirable, while the absence of it feels like something to be avoided.

Gabor Maté M.D.



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▶ Front Psychiatry. 2019 Oct 15;10:727. doi: [10.3389/fpsyt.2019.00727](https://doi.org/10.3389/fpsyt.2019.00727) [↗](#)

Attachment and Substance Use Disorders—Theoretical Models, Empirical Evidence, and Implications for Treatment

[Andreas Schindler](#) ^{1,*}

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PMCID: PMC6803532 PMID: [31681039](#)



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Stephanie

Stephanie has an ace score of six. She is 27 years old and has two living children and has suffered one miscarriage. Stephanie struggles with depression, anxiety, substance use disorder; has experienced domestic violence, physical and sexual abuse by her family. She has low self-worth, shame and guilt from her lifestyle. Stephanie was engaged in the sex industry and self-reported prostitution. She demonstrated some resiliency by going to rehab and remains sober for over two years. She no longer is involved in prostitution and is making healthier choices.

CASE Time Line

Ages 0-6: heard domestic violence between mother and father

Age 6: sexual molestation by two older cousins

Ages 7-11: physical abuse by stepfather

Age 15: pregnant with first child

Age 16: injury and prescribed Vicodin; began abusing pills and buying off street

CASE Time Line

Age 17: pregnant with second child; sober during pregnancy

Age 18-23: used Vicodin and other opiates daily; sporadic prostitution

Age 23: sexually assaulted by father of second child; he shortly after went to prison; following this she began using heroin and continuing with more regular prostitution

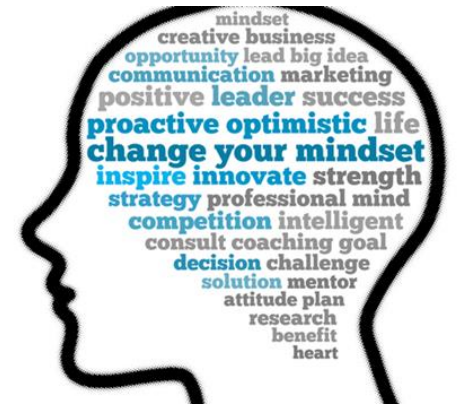
Age 24: used during pregnancy; did not realize she was pregnant, had miscarriage and struggled with self blame/extreme guilt

Age 25: went to rehab and was sober; two years later still sober

Trauma Informed Care and Principles and Practices



The Theoretical mindset



- Symptoms are adaptations
- Trauma shapes beliefs about identify and world view
- Using a trauma framework can address mental health
- Collaboration between client and provider
- Four important components to offer client: respect, information, connections and HOPE
- Providers need to support each other
- You will be affected too

Trauma informed Care



- Aims to avoid re-victimization.
- Appreciates many problem behaviors began as understandable attempts to cope.
- Strives to maximize choices for the survivor and control over the healing process.
- Seeks to be culturally competent
- Understands each survivor in the context of life experiences and cultural background. (Alvarez and Sloan, 2010)

Final thoughts

- Rethinking our question about people
- Working on ourselves
- Responding with compassion
- Connections with other professionals to build systems of care that are trauma informed
- All children/families can thrive and healthy child development is good for all