The Adverse Childhood Experiences Study
How the accumulation of stress changes our future…

Minnesota Alliance on Crime Forum
September 2016

KARINA FORREST-PERKINS MHR LADC
PRINCIPAL – FTL CONSULTING

Welcome and FYI…

Greetings!

Safety and Self-care is our highest priority.

If you would like to speak with someone about what you heard today, or if you would like a moment to step away from the presentation, please do so.

Our Brain and Body…

How we are made…
Our Human gift…

The Brain:

*Human Beings have **multiple** areas of our brain which contribute to our thoughts and behavior. Today we will focus on only three.*

Survival Mechanism (1)

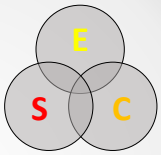
Autonomic Functioning - Survival

Limbic Mechanism (2)

Hormonal and Neurotransmitter Control - Emotional

Frontal and Pre-Frontal Cortex (3)

Judgment, Planning, Course Correction, Intentional boundaries – Executive Function and more



The intent of this gift is that we use *all three*…

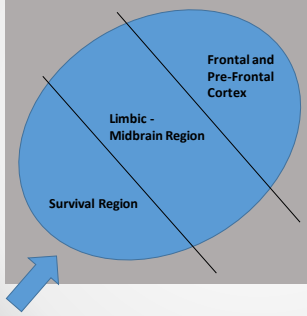
* To stay (Survival) **Safe and Alive so we have experiences…**
* To (Emotional) **Feel and Sense** our experiences…
* To (Cognitive) **Think about, Plan for, and Make Meaning of our** experiences…

Regardless of where we come from:
our ethnicity, our race, our gender,
our place of birth, our preferences….

We all experience stress and we all have the same type of response to the accumulation of stress….

'Human Biology of Stress'

All of us…

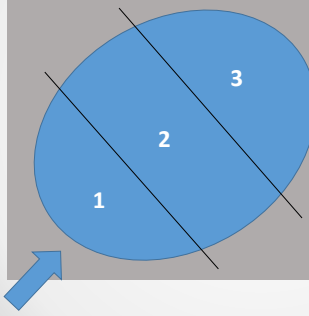


Directional growth patterns – most primitive to most advanced (0-26)

Reorganization Between ages 12-14

Mapping 0-26 Neuro-Genesis lifelong

Remember the #s…



1. Are we SOCIALIZED to limit our use? Gender differences?

2. IMPACT - The regions we develop and use most often have a bearing on our human interaction; on our ability to be spiritual; on our learning styles; and how we value self and others.

Basically how we "are" in the world and how we develop our worldview.

ENVIRONMENTAL IMPACT:

How the brain adapts to our environment…
Need for **Interaction** (experience dependent)
It is "co-created"…
Neurological **Prioritizing**
Arborization, **Utilization** and **Pruning**
Myelination
wrapping and reinforcement of neurons and pathways
(Hard wiring our experiences into our Biology)

(JUST FYI…)
What is happening around the ages of 12-14?

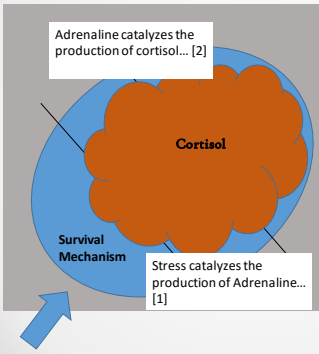
- Puberty
- Reorganization from concrete thinking to abstract
- Pruning from the arborization process

This is with no substance use, abuse, or dependence…no trauma…no adversity at all.

The Stress Response &
The *Adaptation* to
the Accumulation of Stress

Our responses to threat…
Audience example

All of us…



Stress hormones keep us safe…

We are built to withstand approx. 20" of stress

And we **adapt** so that we know how to function in the environment we spend the most time in…

Our responses typically follow the order of cognitive shut down…

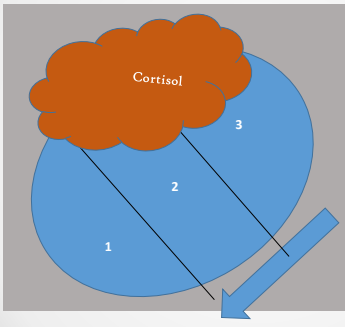
FLIGHT
While you are still able to use your executive functions

FIGHT
While you are still able to feel emotion

FREEZE
Once both frontal and midbrain functions have slowed or stopped

FAINT
lost consciousness

Cognitive Shut-Down…



A simple way to understand or explain it…

#3 goes first

#2 goes second

#1 is what is left alert as long as possible in order to keep you safe.

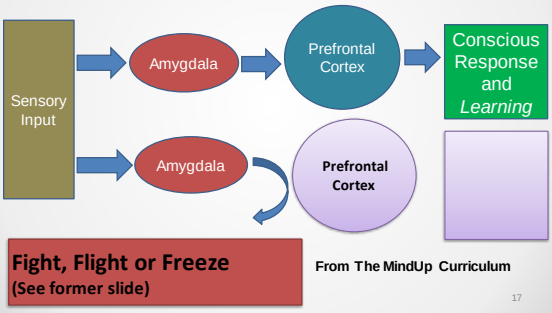
Cognitive Shut-Down…

The more prepared you become for danger, the less your body perceives you need relational skills so the less capable you will become in accessing the more sophisticated parts of the brain.

The more upset we become, the less sophisticated our thinking becomes. The more we have had to survive the quicker our brains are able to slow or shut down. If we have to survive that is good!

If we are triggered by a conversation with someone at work/home, that is not so good. We may say something designed to defend ourselves instead of maintaining our best thinking for the good of the relationship. This will have social consequences.

The Amygdala and Learning



17

SELF-MANAGEMENT

The Significance of Managing Triggers

In the moment . . .

- we have **8 to 15 seconds** to stop the trigger…

In the aftermath . . .

- it takes **6 to 8 hours** to return to normal levels…

The Adverse Childhood Experiences Study

Adverse Childhood Experiences

Centers for Disease Control and Prevention

&

Kaiser Permanente Center for Preventive Medicine

1995 and 1997

The Adverse Childhood Experiences (ACE) Study

1. Examines the health and social effects of ACEs throughout the lifespan
2. Studied among 17,421 members of the Kaiser Health Plan in San Diego County.

ACE Categories

Survey Question:
Did you experience any of the following ten categories of risk prior to the age of 18?

- Recurrent physical abuse
- Recurrent emotional abuse
- Contact sexual abuse
- An individual with an alcohol and/or drug abuse problem in the household
- An incarcerated household member
- Someone with chronic and untreated mental illness
- Witnessed your Mother treated violently
- One or no parents
- Emotional Neglect
- Physical Neglect

Adverse Childhood Experiences Are Common

Household dysfunction:	
Substance abuse	27%
Parental sep/ divorce	23%
Mental illness	17%
Battered mother	13%
Criminal behavior	6%
Abuse:	
Psychological	11%
Physical	28%
Sexual	21%
Neglect:	
Emotional	15%
Physical	10%

Adverse Childhood Experiences Rarely Occur in Isolation…

They come in groups.

Domestic Violence and the Risk of Other ACEs...

ACEs tend to come in groups

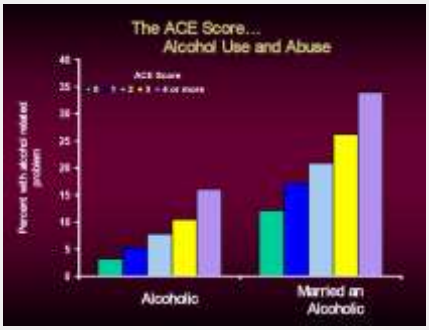
	Additional ACEs (%)				
	1	2	3	4	≥5
If you had:					
A battered mother	95	82	64	48	52

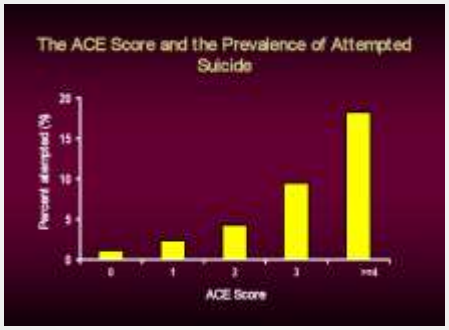
If you have 1, you are 95% more likely to have more than 1; if you have 2 you are 82% more likely to have more than 2....

Adverse Childhood Experiences Score
Cumulative Stress "Dose"

ACE score	Prevalence	
0	33%	
1	26%	
2	16%	54-67% have at least 1
3	10%	
4 or more	16%	

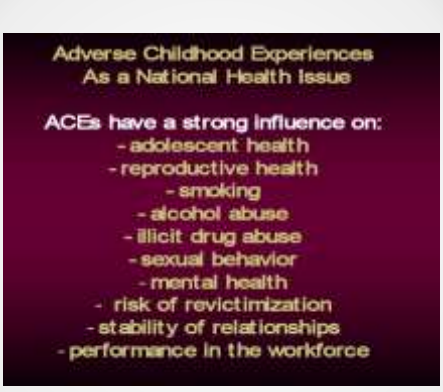
The ACE Score, Smoking, and Lung Disease
ACE Score
0 1 2 3 4 or more
Percent With Health Problem (%)
Daily smoking initiation
Current smoking
COPD


The ACE Score...
Alcohol Use and Abuse
ACE Score
Percent with alcohol related problem
Alcoholic
Married an Alcoholic


The ACE Score and the Prevalence of Attempted Suicide
Percent attempted (%)
ACE Score

ACE Score and the
Risk of Being a Victim of Domestic Violence
Women
Men
Risk of Victimization (%)
15
10
5
0
0 1 2 3 4 ≥5
0 1 2 3 4 ≥5
ACE Score

ACE Score and Indicators of
Impaired Worker Performance
Prevalence of Impaired Performance (%)
ACE Score
Absenteeism
(≥2 days/month)
Serious
Job Performance
Problems


Adverse Childhood Experiences
As a National Health Issue
ACEs have a strong influence on:
- adolescent health
- reproductive health
- smoking
- alcohol abuse
- illicit drug abuse
- sexual behavior
- mental health
- risk of revictimization
- stability of relationships
- performance in the workforce

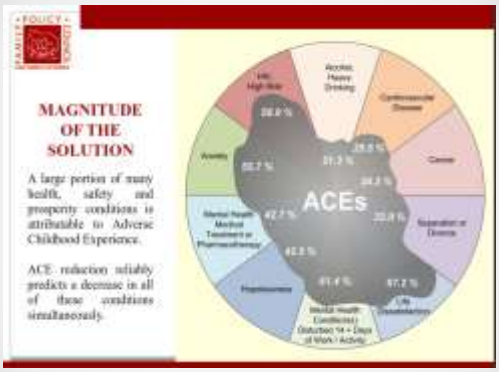
If this were a Virus or some Contagion, we would already be working toward a solution…Ebola, Zika, Enterovirus, …

Child Maltreatment affects 1.3 million children annually with over 3.3 million reports of investigated and confirmed maltreatment events

Adverse Childhood Experiences As a National Health Issue

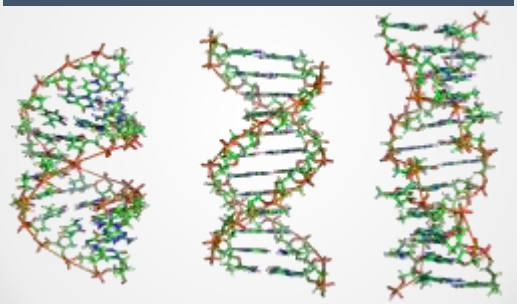
ACEs increase the risk of:

- -Early Death
- -Heart disease
- - Chronic Lung disease
- - Liver disease
- -Autoimmune disease
- - Suicide
- - Injuries
- -HIV and STDs
- - and other risks for the leading causes of death

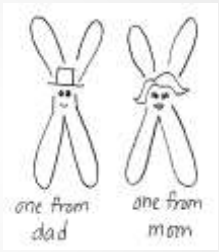


Genetics v Epigenetics

Epigenetics…what is this?



Our Chromosomes…Our DNA…Telomeres…



Brain Science Summary

Brain Development is Sequential and Organized

Experience is hard-wired into our biology and **Adaptations** (not damage) may occur

Our Behavior is often impacted chemically by stress

Our Environment can impact what genes you express and what genes you do not

Experience in one period of time affects members differently (Age, Gender)

Behavior, affect, attitude, capacities may not be "choices"- They may be responses to stress accumulation during development

We may need to rethink some of our strategies for prevention, care and treatment that were determined before we knew this information.

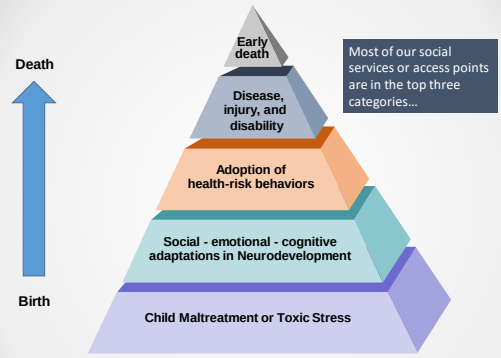
39

This is not suggesting something is ***wrong*** with the brain…On the contrary, it says more about what is happening in the ***environment***.

If a plant does not flower in the spring…what do you do to ensure it will flower next year? Check the nutrients in the soil, check the sunlight, check how much water the plant receives, and possibly prune the plant. But you do not just prune the plant. Eventually you may have to move the plant to another environment so it gets what it needs to survive.

Our brain has a masterful ability to **adapt** and **adjust** to the demands placed before us…if we ever are in need of survival skills, then growing up in a non-threatening environment may not serve us as well.

Likewise if we grow up in a dangerous/violent environment, it will be challenging for us to adjust our behavior to a non-violent one without allowing our brains the time they need for adaptation.



Influence of overwhelming stress accumulation throughout life

Behavioral Implications

What is Happening?	What it can cause….
Hyper vigilance	Hard to calm down
Routinized Defense	Prepared to Fight – quick to anger or defense Overly aware of your surroundings
Externally in tune with environment Survival Skills the strongest	Less in tune with self, your needs, your body clues, and your impact on others Quick to make assumptions about others – Barrier to trust, seeing the world as adversarial to you versus something you can engage with. We want to be safe, right?
Lack of Predictability in Behavior (Causes loop in service environments)	Caused by having to be "prepared" regardless. Cannot stay organized, focused, paced, predictable… Client hypervigilance manifests in behavior and in service environment. The accumulation of multiple clients with this dynamic causes stress in staff. Staff then insert dysregulation into the environment and the clients are hyper-exposed. Circular milieu effect.
Self Loathing, Self target of blame and shame. What is wrong with me? Instead of What is happening to me?	Victim thinking - Loss of personal accountability – Negativity Does not value self. If I don't matter, nothing in my life does either. Subconscious loop.
Tendency to re-enact painful episodes (tethered to your past)	Tendency to create a drama where there is not one
Quick criticism, resolute judgment	Resentment, bitterness & unresolved losses…

When individuals who have grown up with high stress accumulation do not receive the supports they need to balance this condition; then they transmit the same problem onto the next generation and the accumulation process starts all over again.

We all pay for this lack of investment. It shows up in our lives, in our families, in our schools, in our communities, in our treatment centers, in our cities, in our prisons, in our counties, in our states, in our emergency rooms, in our cemeteries, in our nation and beyond.

Hundreds of billions of dollars annually support strategies that do not intervene early enough.
This is not saying that we do not provide good care sometimes but the care that we do provide is too late, is not enough, is spilling into the next generation, is many times contributing to stress, is using out of date science and system delivery, and, misses too many people who would benefit from it.

Understanding Your Opportunities for Change

* How do we unpack all this and make it useful?
* What is the action plan?

Where we are historically

Dr. John Snow – Father of Epidemiology
Miasma?
1854 – Cholera outbreak
London England

Germ Theory proposed in 1546
but was not endorsed until the late 1880s
with viruses not being discovered and confirmed until the 1890s.

Our human capital is our most precious resource.
Period.
Not oil. Not natural gas.
Not even water or oxygen.

Thank you!

Resources – Authors - Major Contributors

People to research and learn from: Robert Anda MD, Bessel van der Kolk MD, Sandra Bloom MD, Bruce Perry MD, John Briere, Christine Courtois

Articles:

Understanding Interpersonal Trauma in Children: Why We Need a Developmentally Appropriate Trauma Diagnosis

D'Andrea, W., Ford, J., Stolbach, B., Spinazzola, J., van der Kolk, B., 2012, Vol. 82, No.2, 187-200.

The Heart of the Matter: Complex Trauma in Child Welfare

Spinazzola, J., Habib, M., Knoverek A., Arvidson, J., Nisenbaum, J., Wentworth, R., Hodgdon, H., Pond, A., Kisiel, C., CW360 Trauma-Informed Child Welfare Practice-Winter 2013, CASCS, University of Minnesota, pp. 8-9, 37.

Disorders of Extreme Stress: The Empirical Foundation of a Complex Adaptation to Trauma, Journal of Traumatic Stress

van der Kolk, Roth, Pelcovitz, Sunday, and Spinazzola, 2005, , Vol. 18, No. 5, October 2005, pp. 389–399

Posttraumatic Stress Disorder Treatment Outcome Research: The Study of Unrepresentative Samples

Spinazzola, Margaret Blaustein, and van der Kolk, 2005, Journal of Traumatic Stress, Vol. 18, No. 5, October 2005, pp. 425–436

Phenomenology and Psychological Assessment of Complex Posttraumatic States

Briere and Spinazzola, 2005, Journal of Traumatic Stress, Vol. 18, No. 5, October 2005, pp. 401–412

Anda, R. F., Felitti, R. F., Walker,], , Whitfield, C., Bremner, D.], , Perry, B. D., Dube, S. R., & Giles, W. G. (2006). The enduring effects of childhood abuse and related experiences: A convergence of evidence from neurobiology and epidemiology.
***European Archives of Psychiatric and Clinical Neuroscience,* 256(3), 174-186.**

Barfield, S., Gaskill, R., Dobson, C., & Perry, B. D. (submitted). Implementing the Neurosequential Model of Therapeutics© (NMT) with Filial Therapy in a therapeutic preschool setting: Implications for work with children with serious emotional disturbance.

Perry, B. D. (2001) The neuroarcheology of childhood maltreatment: The neurodevelopmental costs of adverse childhood events. In K. Franey, R. Geffner, &

R. Falconer (Eds.), *The cost of maltreatment: Who pays? We all do* (pp. San Diego: Family Violence and Sexual Assault Institute.

Perry, B. D. (2006). The Neurosequential Model of Therapeutics: Applying principles of neuroscience to clinical work with traumatized and maltreated children. In N.

B. Webb (Ed.), *Working with traumatized youth in child welfare* (pp. 27-52). New York: The Guilford Press.

Perry, B. D. (2008). Child maltreatment: The role of abuse and neglect in developmental psychopathology. In T.

P. Beauchaine & S. P. Hinshaw (Eds.), *Textbook of child and adolescent psychopathology* (pp. New York: Wiley.

Resources – Online and In Person

CFHCC
40 W. 12th Street
New York, NY 10011-8604
(212) 675-2477
http://www.cfhcc.org

Collaborative Family Healthcare Coalition (CFHC) is a diverse group of physicians, nurses, psychologists, social workers, family therapists and other health care workers, working in both primary and tertiary care settings, who study, implement, and advocate for the collaborative
family health care paradigm.

Richard Davidson's *The Emotional Life of The Brain*

Daniel Goleman *Emotional Intelligence*

InsideOutcomes.biz Emotional Intelligence for Leaders Course

The Whole Brain Child – D. Siegel, MD

Building Resilience in Children and Teens – AAP, K. Ginsburg MD

The Four Agreements – M. Ruiz

National Scientific Council on the Developing Child

Childstats.gov offers easy access to federal and state statistics and reports on children and their families, including: population and family characteristics, economic security, health, behavior and social environment, and education.
http://www.childstats.gov/

http://www.nctsn.org/ National Child Traumatic Stress Network

The International Society for Traumatic Stress Studies (ISTSS), founded in 1985, provides a forum for the sharing of research, clinical strategies, public policy concerns and theoretical formulations on trauma in the United States and around the world. ISTSS is dedicated to the discovery and dissemination of knowledge and to the stimulation of policy, program and service initiatives that seek to reduce traumatic stressors and their immediate and long-term consequences.

ISTSS
60 Revere Drive, Suite 500
Northbrook, Illinois 60062 USA
Phone: 847/480-9028; Fax: 847/480-9282
http://www.istss.org

Centers for Disease Control and Prevention
cdc.Gov

Prevent Child Abuse America
200 S. Michigan Avenue, 17th Floor
Chicago, Illinois 60604-2404
(800) CHILDREN
Tel: (312) 663-3520
Fax: (312) 939-8962
www.preventchildabuse.org
mailbox@preventchildabuse.org

Child Welfare League of America
440 First Street, NW, Third Floor
Washington, DC 20001-2085
Tel: (202) 638-2952
Fax: (202) 638-4004
http://www.cwla.org/

APSAC
407 South Dearborn Street Suite 1300
Chicago, IL 60605
http://www.apsac.org/

The National Center for PTSD
http://www.dartmouth.edu/dms/ptsd/

Websites and Online Learning:

- www.acestudy.org
- American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorder, Revised (DSM IV-R)* 4th ed. Washington, DC: APA, 2000) Version Five (V) coming out 2013.
- Lise Addario, *Six Degrees from Liberation: Legal Needs of Women in Criminal and Other Matters* (Research and Statistics Report) (Ottawa: Department of Justice, 2002)
- Bruce Perry MD, www.childtrauma.org
  Please feel free to research this website and Dr. Perry's online course in trauma and brain development.
- Sandra Bloom MD, www.sanctuaryweb.com

Karina A. Forrest Perkins LADC
FTL Consulting – Founder
karinaforrest@Hotmail.com
651-600-7442