



Moving Forward: Meeting the Needs of Youth from a Trauma Informed Lens

2019 Delta Kappa Gamma Annual Meeting

Ajit Jetmalani, M.D.
Professor and Director
Division of Child and Adolescent Psychiatry,
Oregon Health & Science University

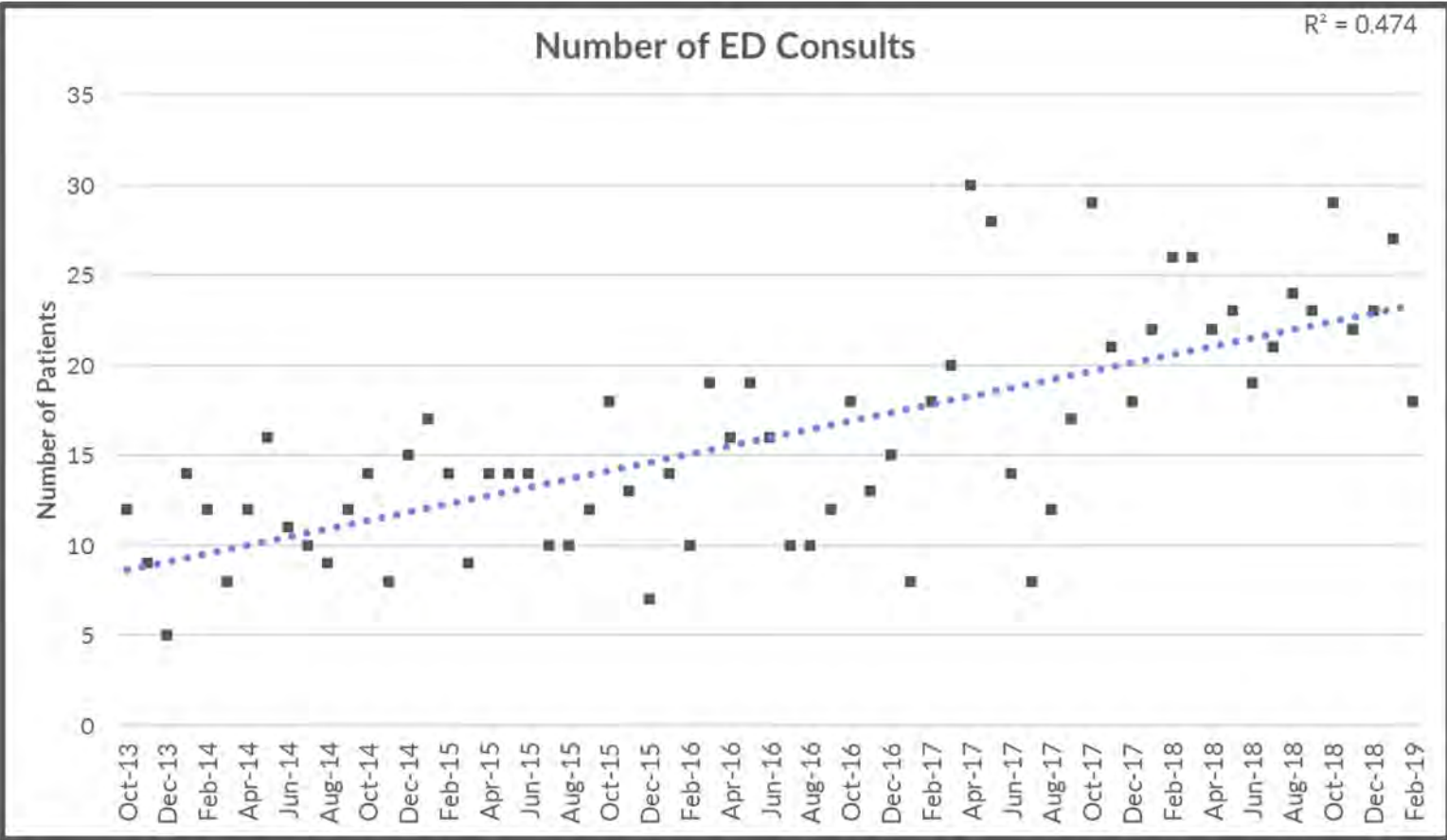
Disclosure

Disclosures

Source	Employee	Consultant	
Oregon Health & Science University	X		
Oregon Health Authority and Department of Human Service		X (multiple grants to the Division of CAP)	
Think:Kids Collaborative Problem Solving (MGH)		X (unpaid advisory board member and our division has a contract with OHA to coordinate training for CPS in Oregon)	

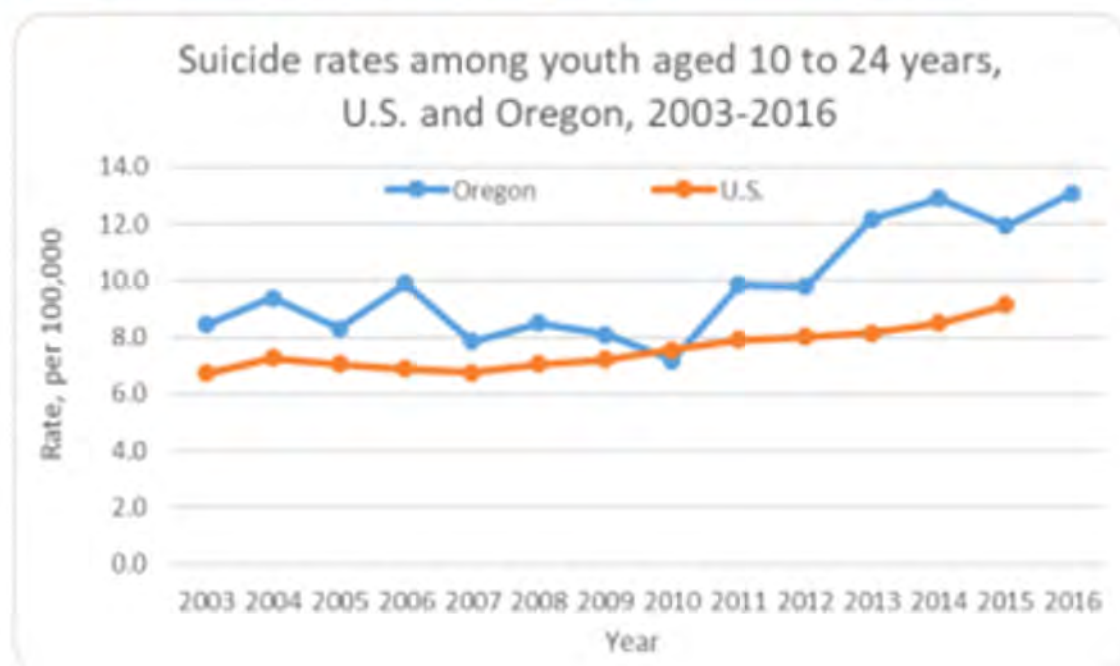
Detroit Lake 1977





Adolescent Suicide in Oregon

Suicide Rates among youth ages 10-24,
United States and Oregon, 2003-2016



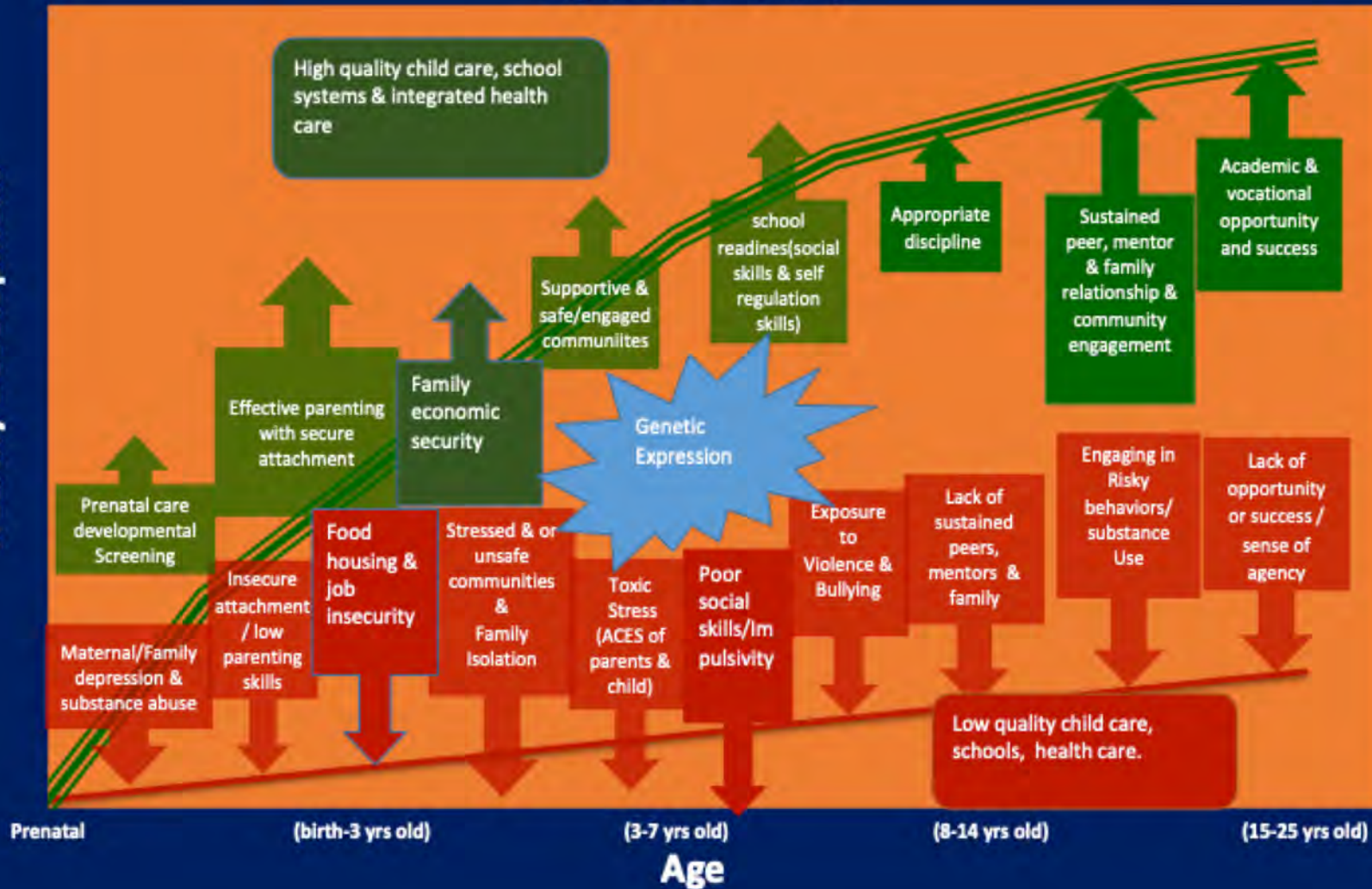
Oregon Children are in Trouble: Evidence

- KG Readiness
- Bullying (in person and Cyber)
- Graduation rates
- Health Teen Survey regarding rates of anxiety, depression and suicidal ideation

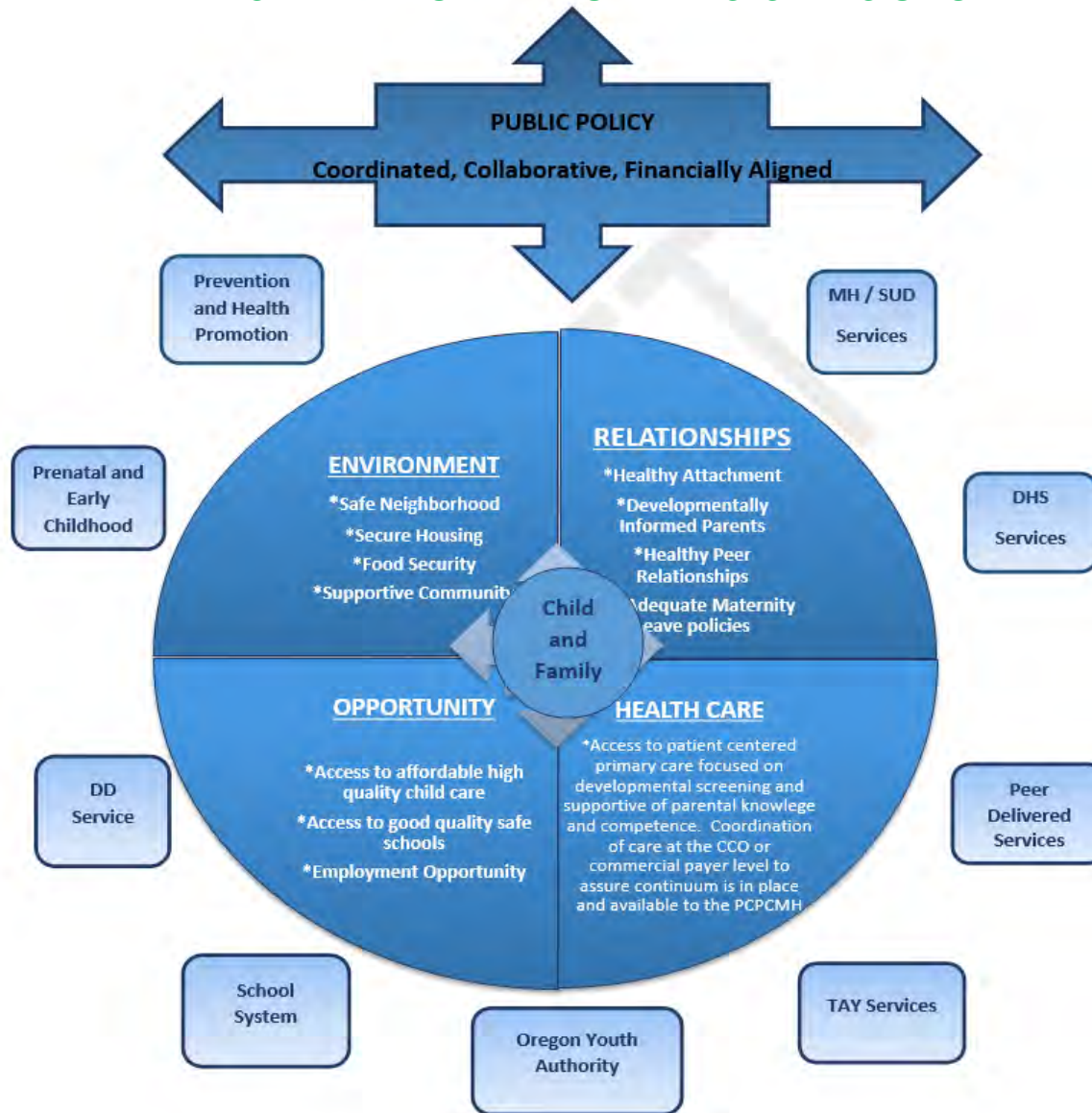
Childhood Influences on Health and Development

Ajit Jetmalani, MD
Oregon Health & Science University

Healthy Development



CORE PRACTICES TO IMPROVE OUTCOMES FOR YOUTH AND FAMILIES IN A TRAUMA INFORMED SYSTEMS OF CARE



Major domains of human development—social, emotional, cognitive, linguistic, academic—are deeply intertwined in the brain and in behavior, and all are central to learning.

The Evidence Base for How We Learn:

Supporting Students' Social, Emotional, and Academic Development: Consensus Statements of Evidence From the Council of Distinguished Scientists National Commission on Social, Emotional, and Academic Development

The Aspen Institute

Stephanie M. Jones & Jennifer Kahn

September 13, 2017

Social, emotional, and cognitive competencies can be taught and developed throughout childhood, adolescence, and beyond.

The Evidence Base for How We Learn:

Supporting Students' Social, Emotional, and Academic Development: Consensus Statements of Evidence From the Council of Distinguished Scientists National Commission on Social, Emotional, and Academic Development

The Aspen Institute

Stephanie M. Jones & Jennifer Kahn

September 13, 2017

*Effective implementation is necessary to improve outcomes and for all children to benefit.

*A benefit-cost analysis of SEL interventions revealed a positive return on investment averaging \$11 in long-term benefits for every \$1 invested

The Evidence Base for How We Learn:

Supporting Students' Social, Emotional, and Academic Development: Consensus Statements of Evidence From the Council of Distinguished Scientists

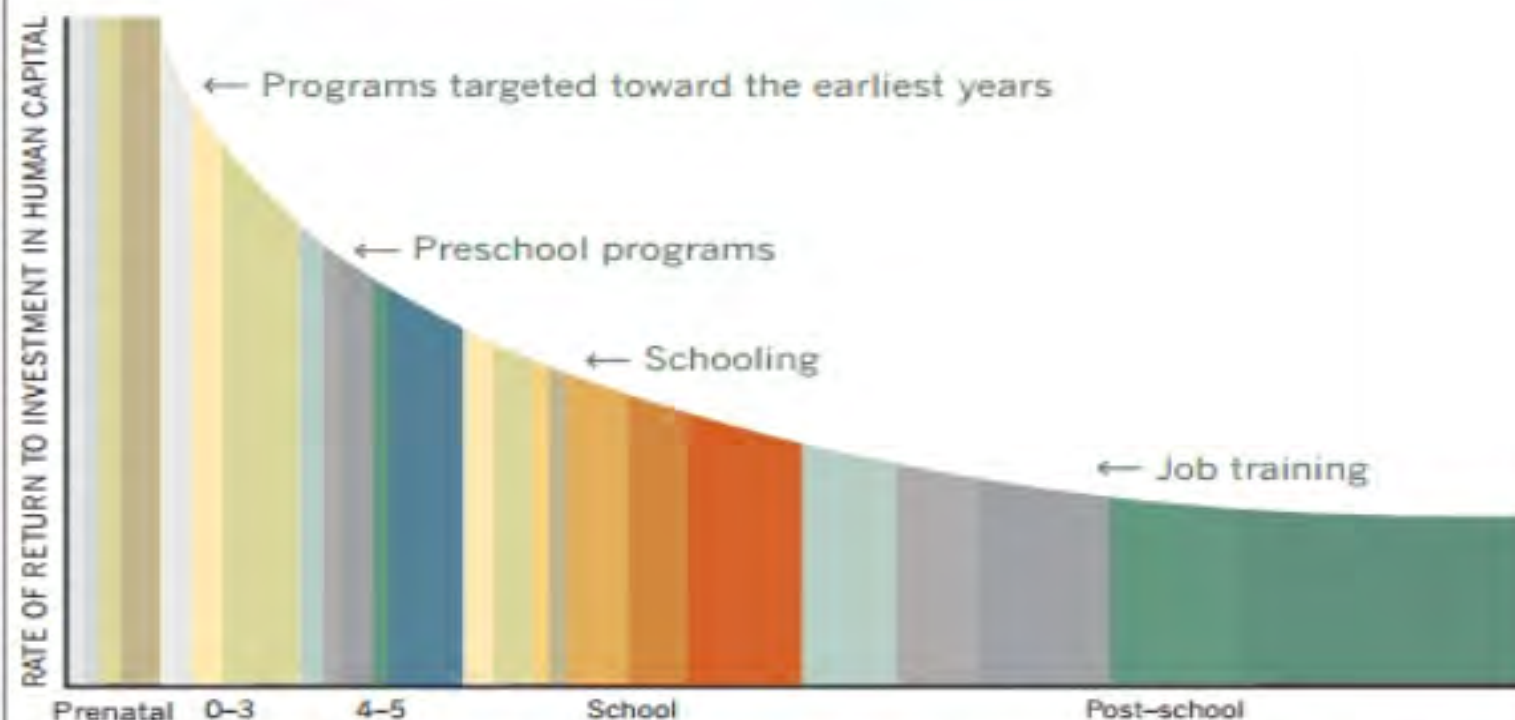
National Commission on Social, Emotional, and Academic Development

The Aspen Institute

Stephanie M. Jones & Jennifer Kahn

September 13, 2017

Returns to a Unit Dollar Invested



Heckman, James J. (2008). "Schools, Skills and Synapses," *Economic Inquiry*, 46(3): 289-324

Early childhood education is an efficient and effective investment for economic and workforce development. The earlier the investment, the greater the return on investment.

Very Brief Review of Brain Development

Oregon Health & Science University
Developmental Brain Imaging Lab

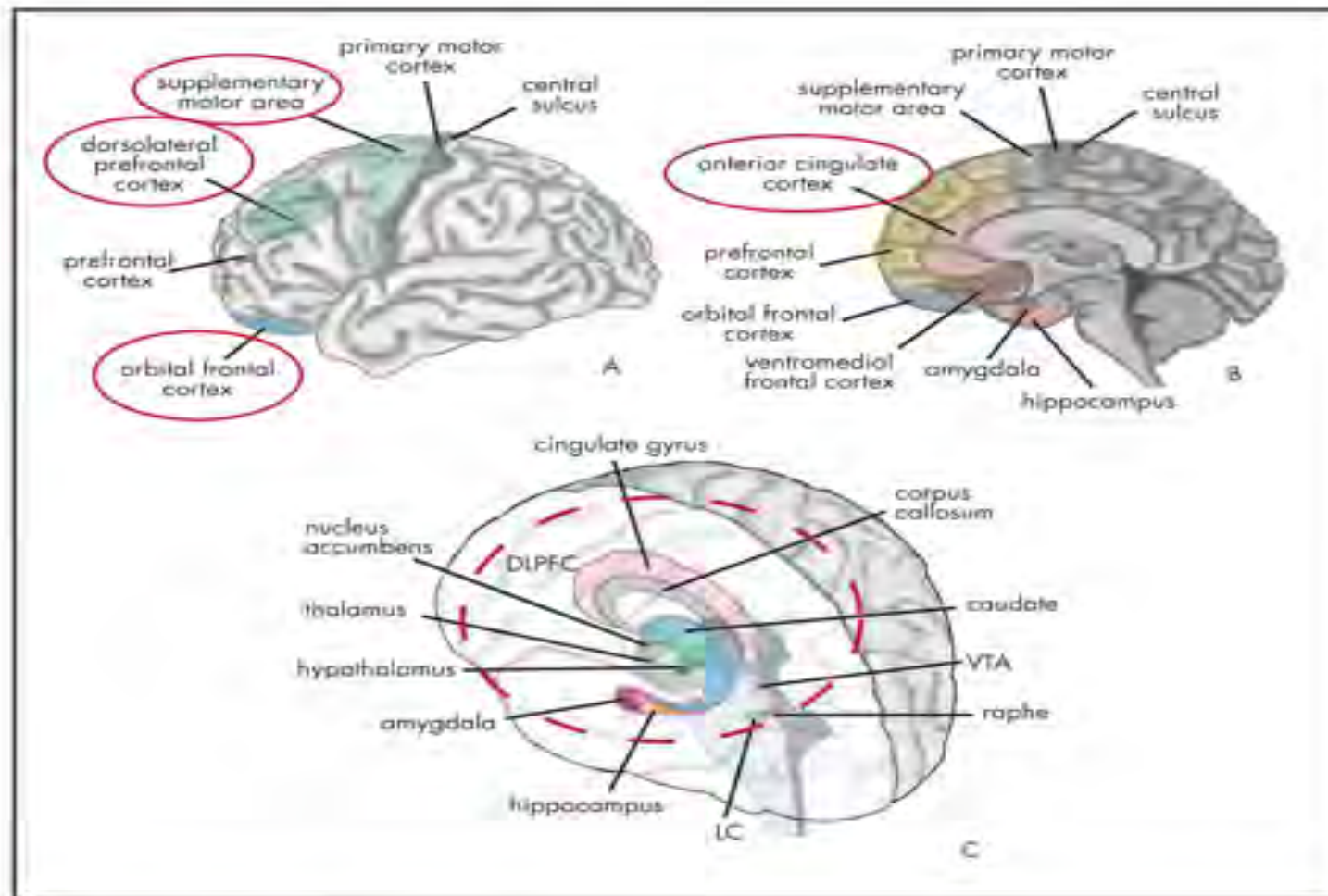


Bonnie J. Nagel, Ph.D.
Professor, Psychiatry & Behavioral Neuroscience
Vice Chair for Research, Psychiatry
Principal Investigator of the Developmental Brain Imaging Laboratory
Oregon Health & Science University

Brain Development

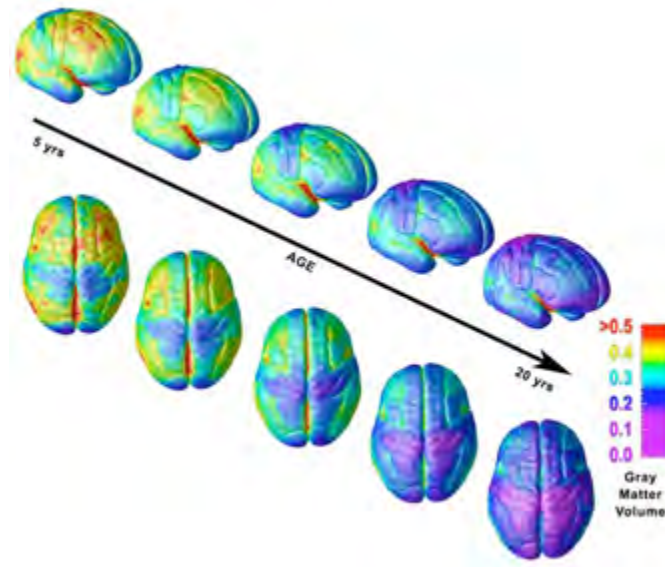
- Proliferation (Fetal Alcohol)
- Migration (Dyslexia)
- Differentiation
- Dendritic pruning: Environmental Experience
- Experience Dependent Neurons: Environmental Experience
- Programmed cell demise/developmental windows
- Mylenation: Repetition

Important Brain Areas in Executive Function and Motor Control



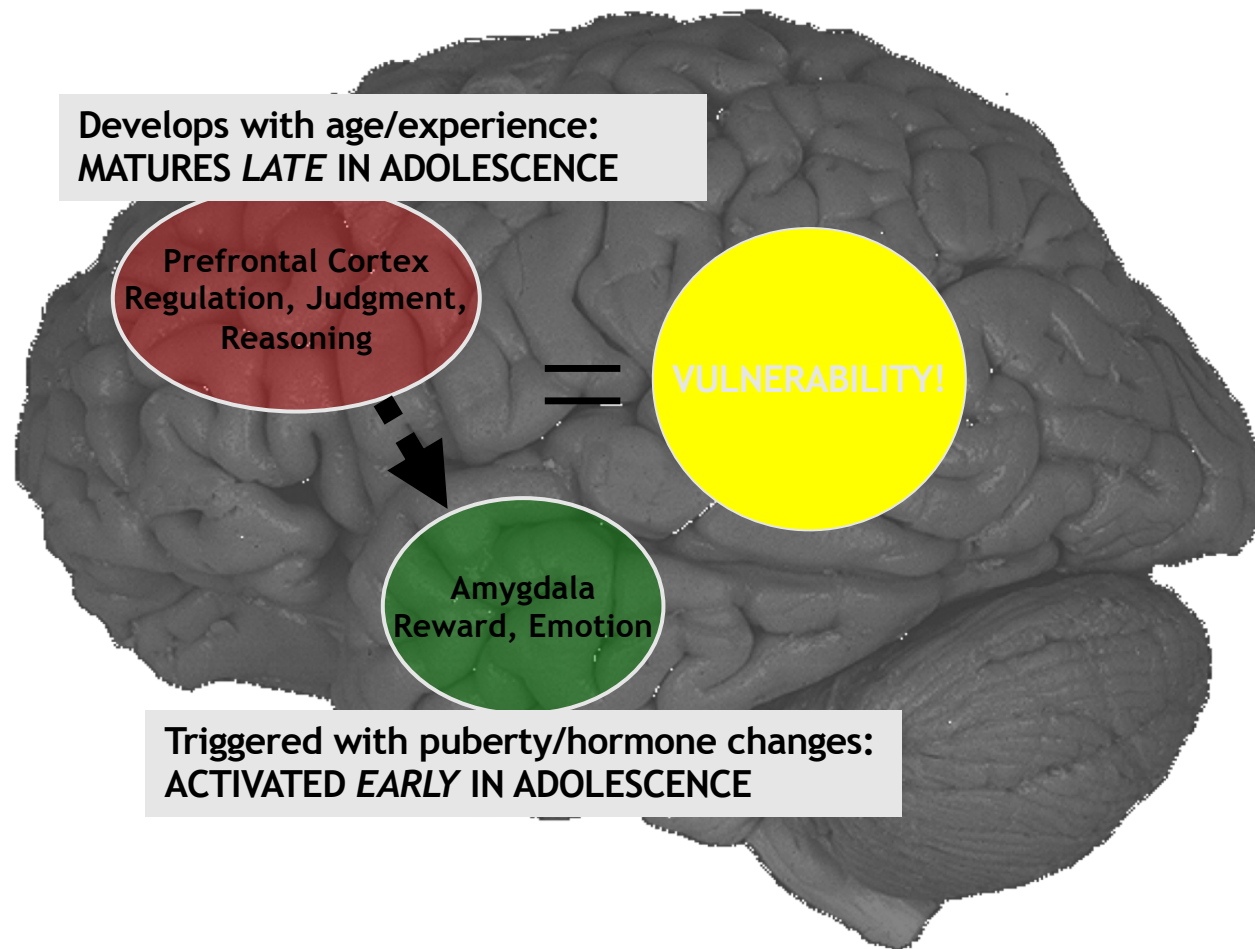
LC: locus coeruleus; VTA: ventral tegmental area

Gogtay et al., *PNAS*, 2004





From Lebel & Beaulieu, J Neurosci 2011



Develops with age/experience:
MATURES LATE IN ADOLESCENCE

Prefrontal Cortex
Regulation, Judgment,
Reasoning

=

VULNERABILITY!

Amygdala
Reward, Emotion

Triggered with puberty/hormone changes:
ACTIVATED EARLY IN ADOLESCENCE

Secure attachment is the key to self regulation!!!



John Bowlby: **Post WWII Orphans**

Mary Ainsworth: **Uganda and Maryland three attachment types**

Mary Main: **Berkeley...fourth type of attachment and AAI**

Adolescent Development

Throughout adolescence, teens get better at:

- Problem solving
- Multi-tasking
- Inhibition and judgment
- Cognitive/emotional control
- Accuracy and speed of responding
- Planning and understanding long-term consequences
- Social awareness and perspective taking

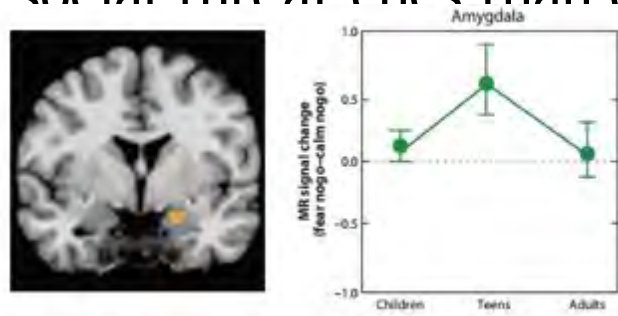
Quotes about Adolescence

- “youth are heated by Nature as drunken men by wine” (Aristotle)
- “I would that there were no age between 10 and 23 for there’s nothing in between but getting wenches with child, wronging the ancients, stealing, fighting...” (Shakespeare. The Winters Tale, Act III)
- “ Adolescents are not monsters. They are just people trying to learn how to make it among the adults in the world who are probably not so sure themselves” . (Virginia Satir, The New Peoplemaking, 1988)
- “ a Period of Turbo Charged Feelings with incomplete Driving Skills” (Ronald Dahl. 2003. Adapt Research Network, University of Pittsburgh)

Emotional

■ Responsiveness

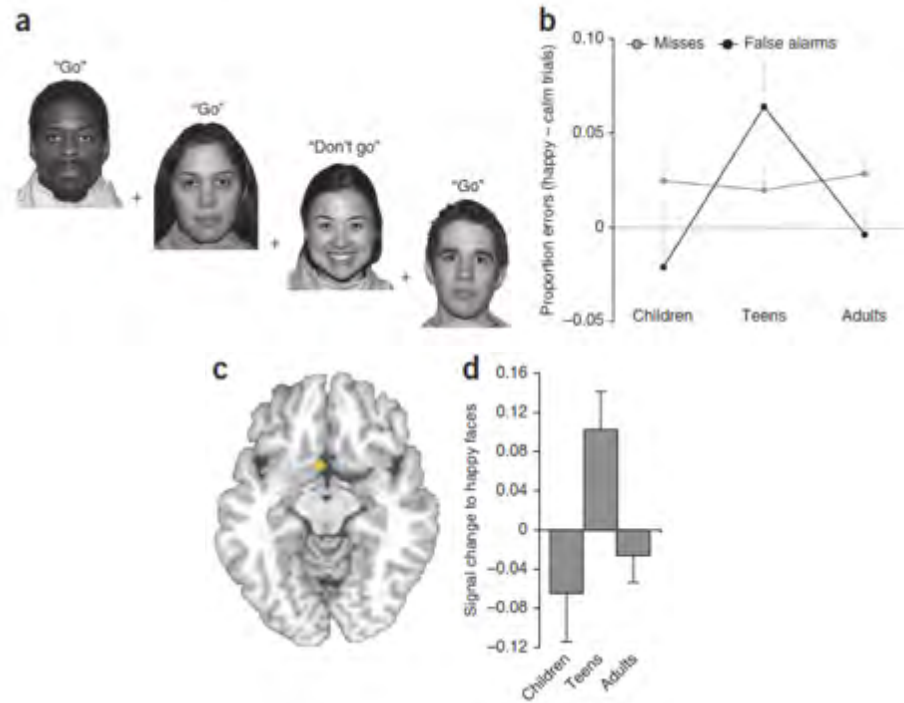
- Adolescence is a time of increased emotional responsiveness/intensity
- The amygdala is associated with the perception of emotion
- Adolescents show greater amygdalar response to social threat cues than children or adults



- Gonadal steroid levels (e.g., testosterone) have been associated with amygdala activity

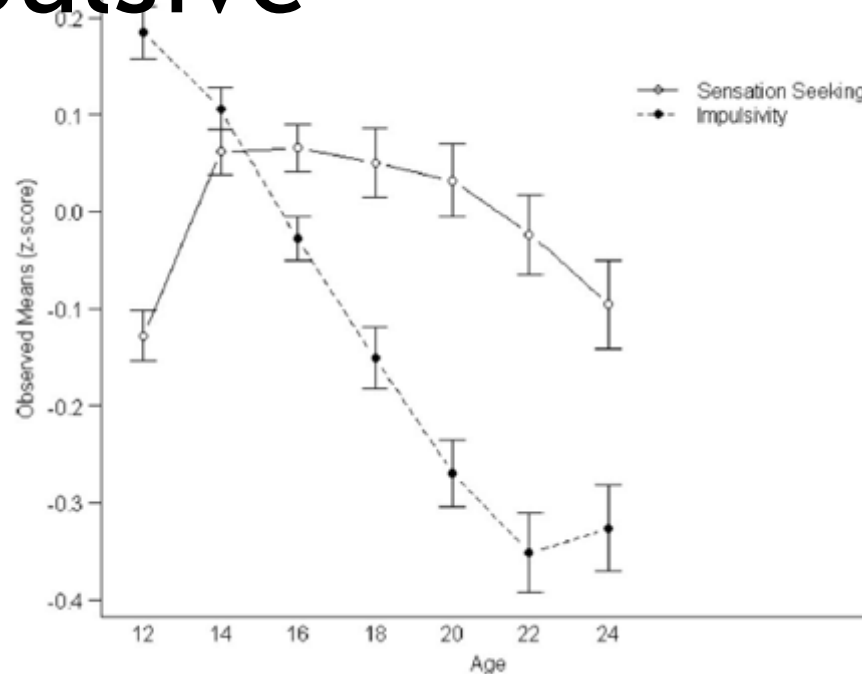
Figure from Casey, Annu Rev Psychol 2015

Emotional Context Influences Teen's Inhibitory Control



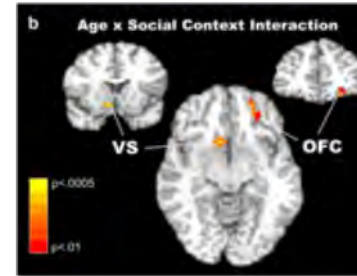
From Somerville et al., 2011, JCN

Adolescents Are More Sensation Seeking and Impulsive

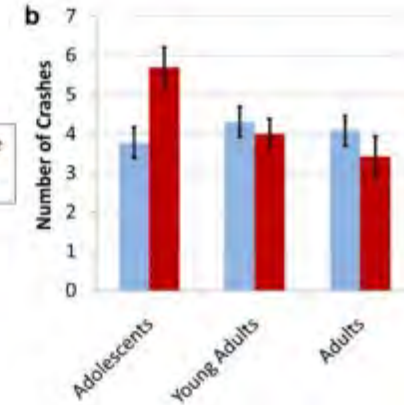
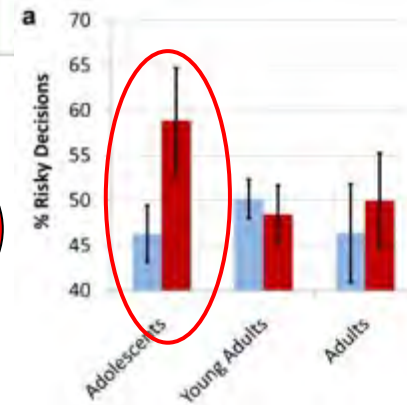


From Harden & Tucker-Drob, Dev Psychol 2011

Peers Increase Adolescent Risk Taking



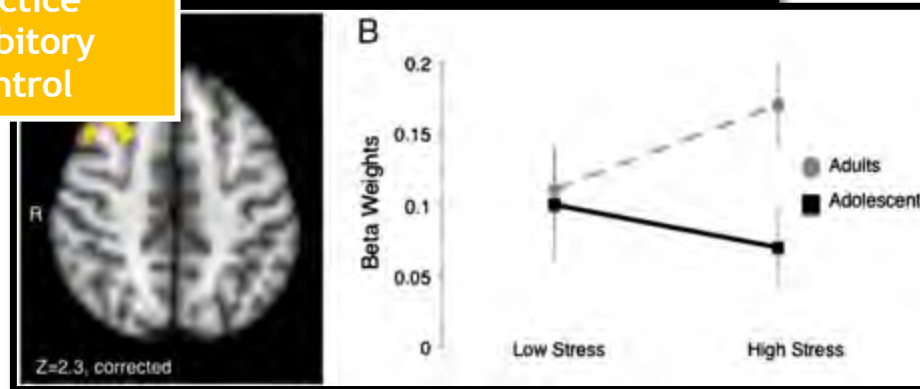
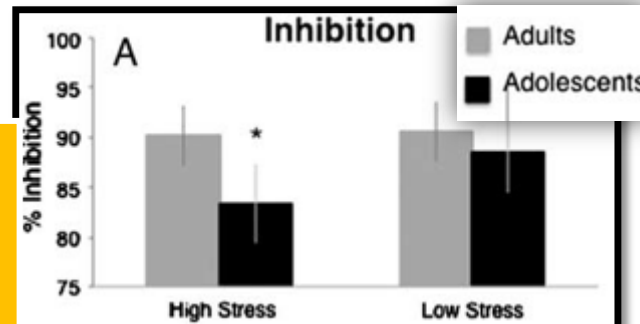
Risk taking with peers is rewarding to the adolescent brain!



From Chein et al., 2011 Dev. Sci.

Stress Impacts Inhibitory Control and Brain Functioning In Adolescents

High stress impairs adolescents' ability to practice inhibitory control



From Rahdar & Galvan, NeuroImage 2014

Summary: Compared to Children and Adults, Adolescents:

1. Have diminished judgment (prefrontal cortex) when their reward and threat cue systems (amygdala/limbic system) are activated.
2. Are stimulus seeking which leads to risk taking behaviors.
3. Are neurologically activated by having peers around at the expense of good judgment.
4. Are made more vulnerable by typical and chronic or toxic stress.
5. When binge drinking have demonstrably diminished judgment.
6. When Chronically using THC have persistent deficits in judgment and memory functions.

Levels of Stress

http://developingchild.harvard.edu/topics/science_of_early_childhood/toxic_stress_response/

Positive

Brief increases in heart rate,
mild elevations in stress hormone levels.

Tolerable

Serious, temporary stress responses,
buffered by supportive relationships.

Toxic

Prolonged activation of stress response systems
in the absence of protective relationships.

Elements Necessary for Trauma:

- An Experience/event:
 - actual/threatened death or serious injury
 - threat to physical integrity of self/others (sexual abuse)
- A Subjective Experience of Fear

BIOLOGICAL and PSYCHOLOGICAL RESPONSES to TRAUMA

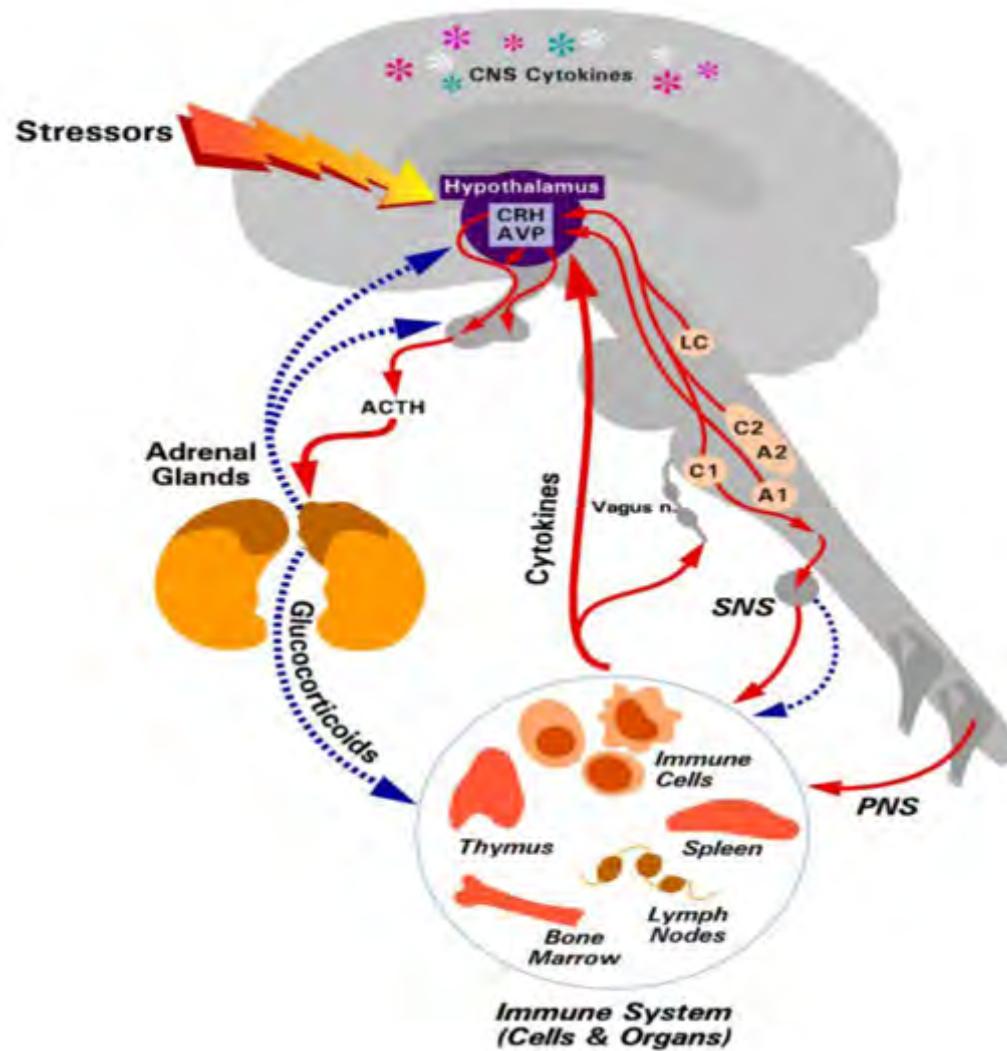
- **Hyperarousal** (irritability, fear, startling, difficulty falling asleep)
- **Re-experiencing** (intrusive thoughts or images, flashbacks)
- **Avoidance of reminders** (talking, thinking, activities)
- **Dissociation** (confusion, numbness, lost time and personal details)

The Role of Trauma in Human Development and Function

- **Fight, Flight or Freeze**
- **Over development of stress response alters brain development**
- **Trauma can occur during attachment phase**

Toxic Stress Cascade

Webster, J.I.; Tonelli, L.; Sternberg, E.M. Neuroendocrine regulation of immunity. *Annu. Rev. Immunol.* 2002, 20, 125–163



Trauma Exposure Will Effect Child Thinking Emotions and Behavior

- PRESCHOOL
- SCHOOL AGE
- TEEN YEARS

TRAUMA CAN LEAD TO PSYCHIATRIC AND PHYSICAL MIS-DIAGNOSES

- Oppositional Defiant Disorder
- ADHD
- Conduct Disorder
- Bipolar Disorder
- Anxiety
- Depression

- Non-specific GI conditions
- Non-specific Head aches

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults The Adverse Childhood Experiences (ACE) Study

Vincent J. Felitti, MD, FACP, Robert F. Anda, MD, MS, Dale Nordenberg, MD, David F. Williamson, MS, PhD, Alison M. Spitz, MS, MPH, Valerie Edwards, BA, Mary P. Koss, PhD, James S. Marks, MD, MPH

Am J Prev Med 1998;14(4)

© 1998 American Journal of Preventive Medicine

METHOD

13,494 adults at Kaiser with recent standardized medical evaluation were mailed a questionnaire about adverse childhood experiences: 9,508 (70.5%) responded.

ACE Categories

Abuse of Child

- Severe emotional abuse
- Physical abuse
- Sexual abuse

Neglect of Child

- Abandonment
- Child's basic physical and/or emotional needs are unmet

ACE Categories

Environmental Trauma

- Parental Substance abuse
- Parental separation or divorce
- Chronically depressed, mentally ill or suicidal household member
- Witness to domestic violence toward mother
- Imprisoned household member
- Loss of parent – (by abandonment, suicide or death)

The percentage of Kaiser members with each ACE score

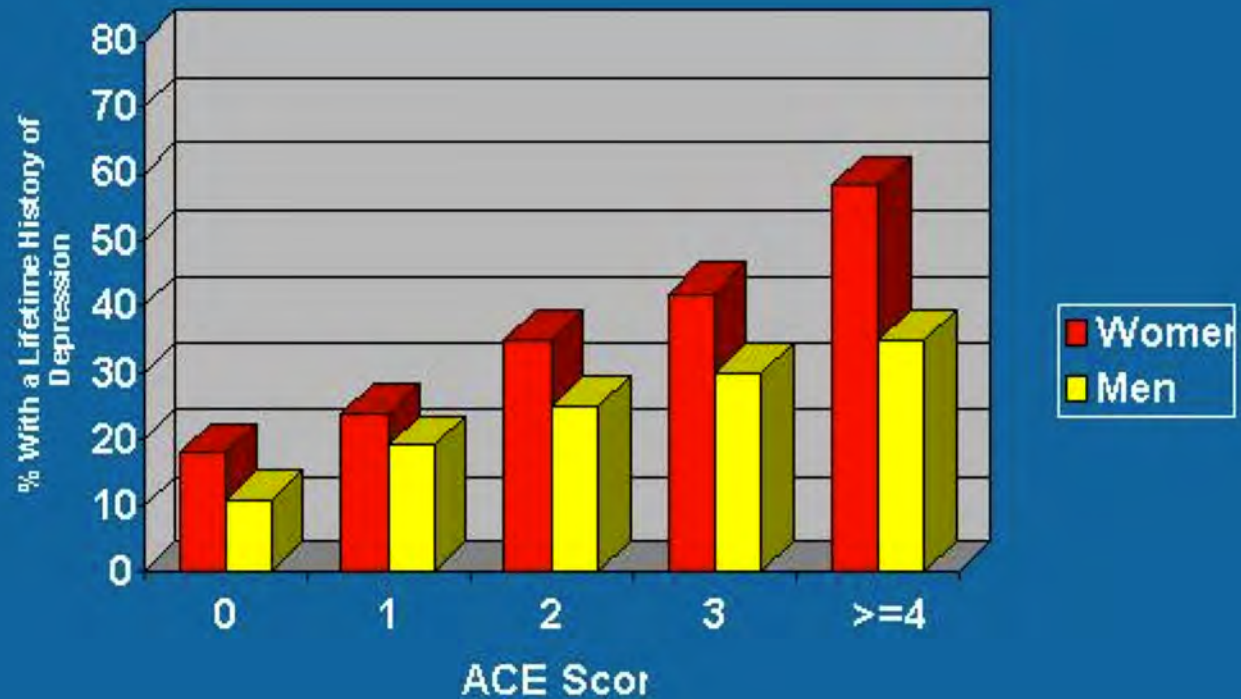
ACE score:

0	33%
1	26%
2	16%
3	10%
4	6%
5	5%
6	6%

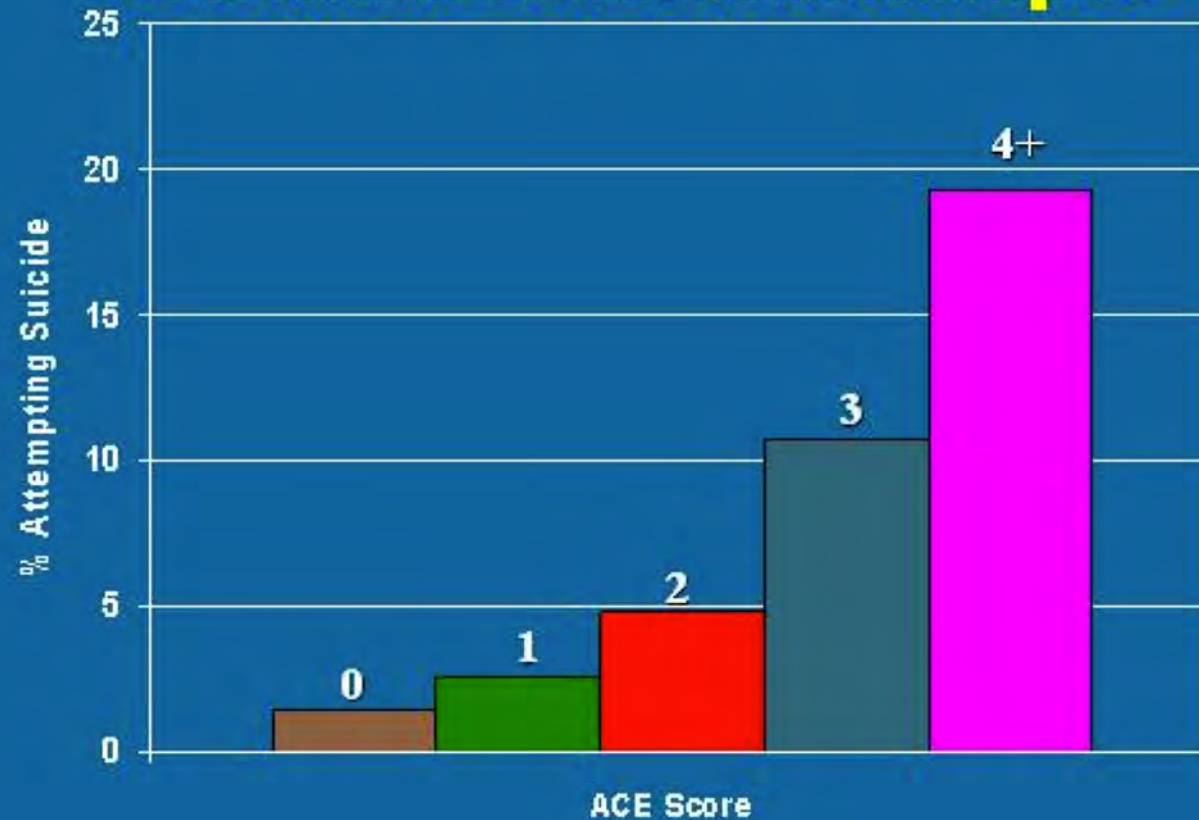
RESULTS

A nearly linear relationship between the number of categories of childhood exposure and each of the adult health risk behaviors and diseases that were studied

Childhood Experiences Underlie Chronic Depression



Childhood Experiences Underlie Suicide Attempts



The True Nature of Preventive Medicine

Death

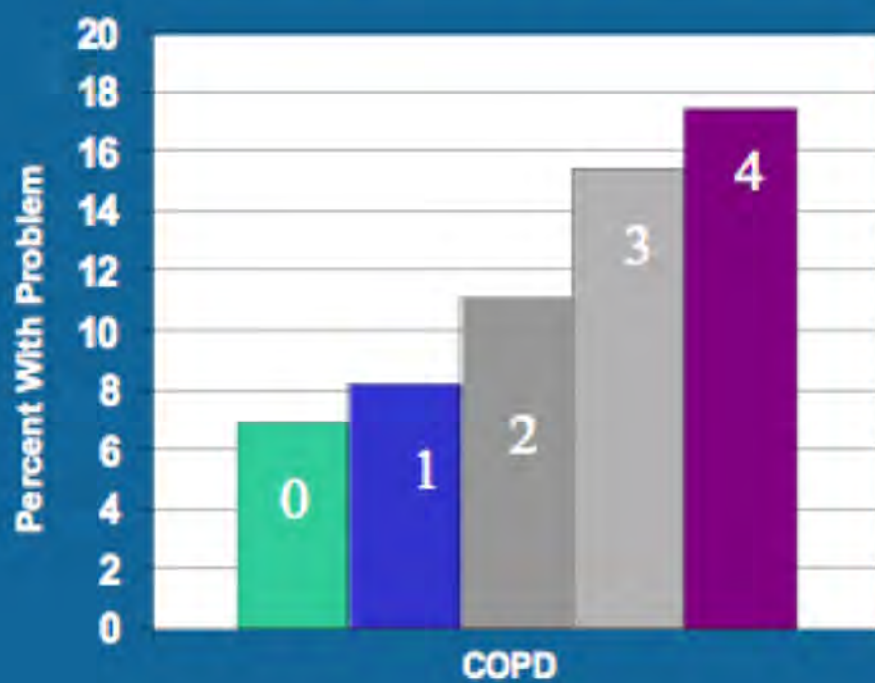


Birth



**Mechanisms By Which
Adverse Childhood Experiences
Influence Adult Health Status**

ACE Score vs. COPD



- **WHAT DOES IT MEAN TO BE TRAUMA INFORMED?**

Universal Precautions as a Core Trauma Informed Concept

*Presume that every person
around you may have been
exposed to abuse, violence,
neglect or other traumatic
experiences.*

Trauma Informed

INTERPRETING BEHAVIOR:

The trauma informed person recognizes that behavior represents underlying attempts to cope.

Think: “what happened to you” not “what is wrong with you”

An Examples of Trauma Informed Classroom practices:

PAX GOOD BEHAVIOR GAME



- <https://www.youtube.com/watch?v=6FHNKNAXGeM&list=PLKBLdBK15dpCavMxE-eI5sH4yLJfV2qVg&index=3>

Collaborative Problem Solving:



The Collaborative Problem Solving Approach

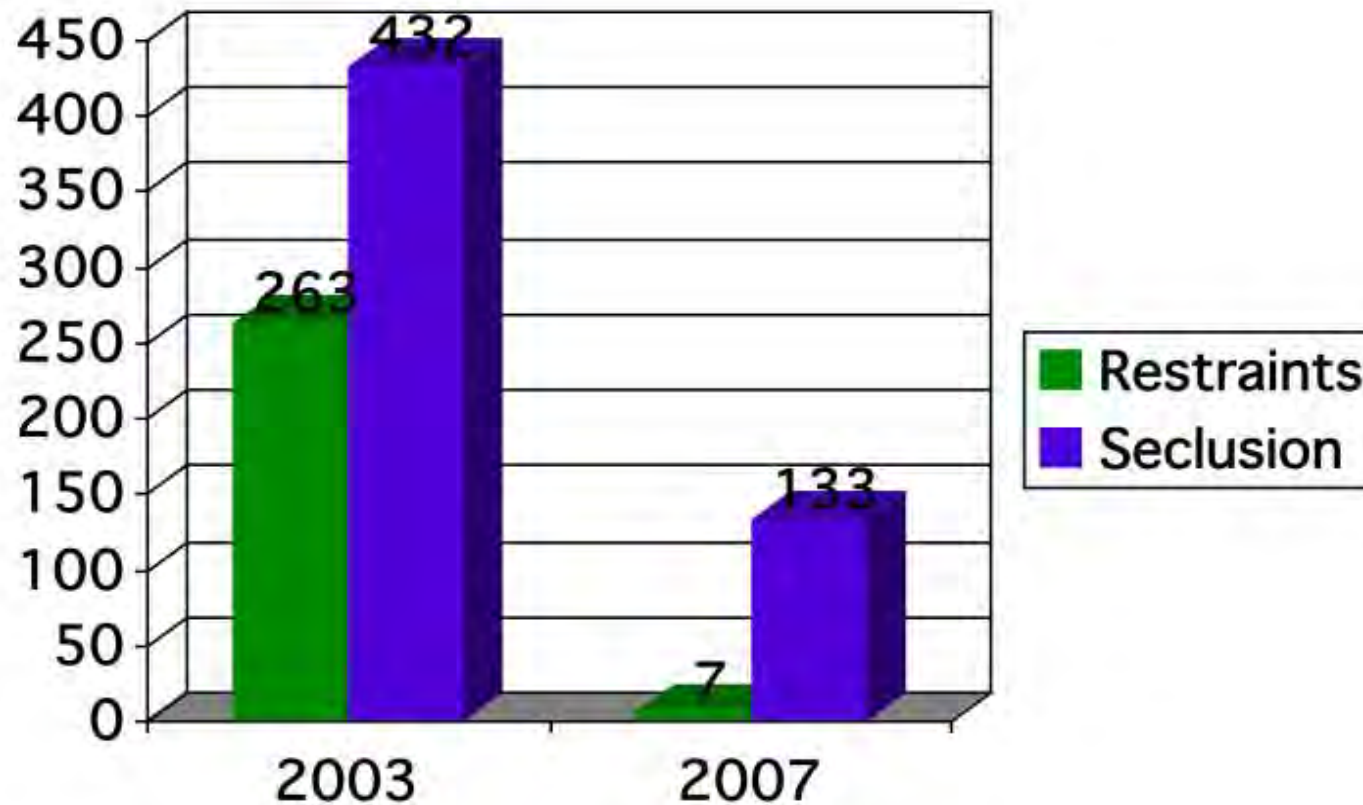
Children do well *if they can...*
(vs Children do well *if they want to*)

...if they can't, we adults need to figure out what's getting in the way, so we can help.

Your explanation guides your intervention...

How you respond to behavior, depends on what you think is causing it.

Effect on Restraints / Seclusions @ Yale- New Haven Children's Hospital Inpatient Psychiatry Unit



Three Plans

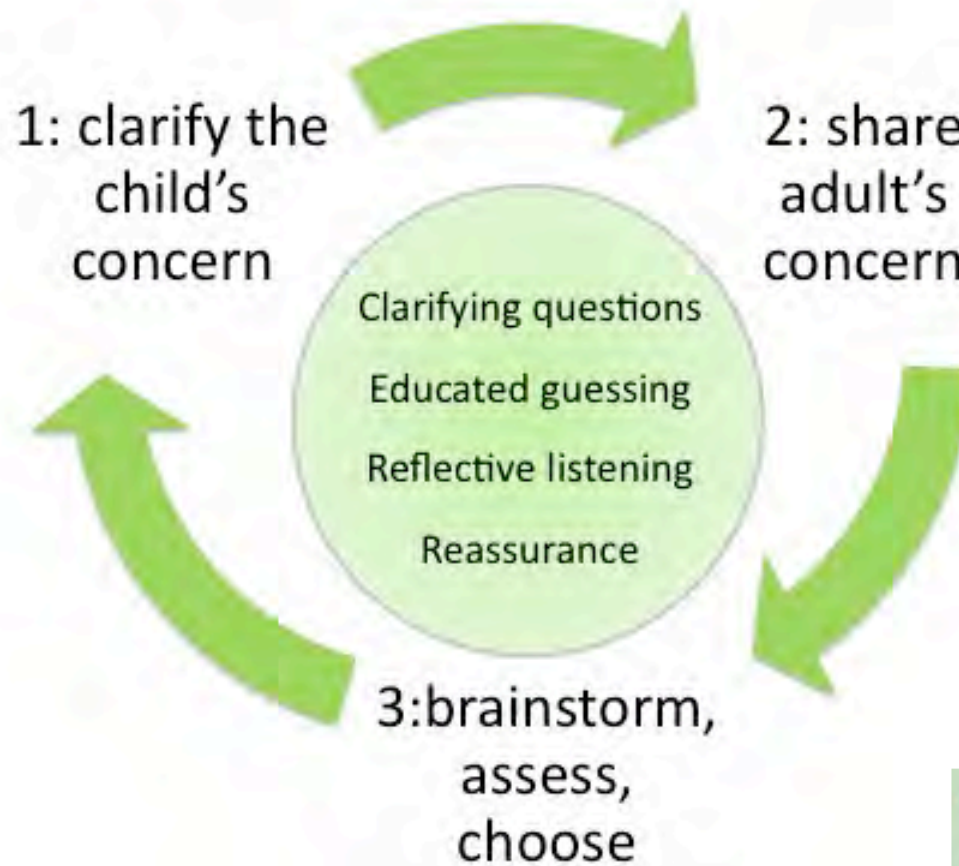
- **Plan A: Impose adult will**
- **Plan B: Collaborative Problem Solving**
- **Plan C: Drop it (for now)**

Plan B:

Skills Modeled and Practiced

- 1. EMPATHIZE: Clarify child concern**
Identifying, clarifying and expressing concerns, regulating emotions
- 2. SHARE adult concern**
Perspective-taking, recognizing impact on others, empathy, impulse control
- 3. COLLABORATE: Brainstorm, assess and choose solution**
Generating solutions, reflecting on multiple thoughts, considering outcomes, moving off original idea

Plan B Ingredients





“A sign of health in the mind is the ability of one individual to enter imaginatively and accurately into the thoughts and feelings and hopes and fears of another person; to allow the other person to do the same to us.”

-DW Winnicott, “Cure”

Play is the
thing.



Jimmy

Sources:

- N. Gotay, *et al.* **Dynamic mapping of human cortical development during childhood through early adulthood.** Proc. Natl. Acad. Sci. U.S.A., 101 (2004), pp. 8174-8179
- J.E. Cohen-Gilbert, K.M. Thomas. **Inhibitory control during emotional distraction across adolescence and early adulthood.** Child Dev., 84 (2013), pp. 1954-1966
- M. Dreyfuss, *et al.* **Teens impulsively react rather than retreat from threat.** Dev. Neurosci. (2013)
- J. Chein, *et al.* **Peers increase adolescent risk taking by enhancing activity in the brain's reward circuitry** Dev. Sci., 14 (2011), pp. F1-F10

References

- Ainsworth, MDS.; Blehar, MC.; Waters, E.; Wall, S. Patterns of attachment: A psychological study of the strange situation. Erlbaum; Hillsdale, NJ: 1978.
- Bowlby, J. (1988). *A secure base: Parent-child attachment and healthy human development*. New York: Basic Books.
- Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine* 1998;14:245–258.
- Perry, B., (2004). Understanding traumatized and maltreated children: The core concepts – Living and working with traumatized children. The Child Trauma Academy, www.ChildTrauma.org.

References

www.Acestudy.org

Danese et al., Arch Pediatr Adolesc Med, 163:1135-1143, 2009

Ducci, F., et al. (2009). American Journal of Psychiatry, 166: 1031-1040.

Copeland et al., Archives of Gen Psychiatry 2007, 64:577-584

Stahls: Essentials of Psychopharmacology on line

Webster, J.I.; Tonelli, L.; Sternberg, E.M. Neuroendocrine regulation of immunity. *Annu. Rev. Immunol.* **2002, 20, 125–163**

References

- Elliot,D, Bjelajac, P, Fallot, R, Markoff, L, & Reed,B (2005) Trauma-Informed or Trauma-Denied: Principles and Implementation of Trauma Informed Services for Women; JOURNAL OF COMMUNITY PSYCHOLOGY, Vol. 33, No. 4, 461–477
- Hillis SD, Anda RF, Dube SR, Felitti VJ, Marchbanks PA, Macaluso M, Marks JS. (2010). The Protective Effect of Family Strengths in Childhood against Adolescent Pregnancy and Its Long-Term Psychosocial Consequences. *Permanente Journal*, Vol. 14, No. 3, pp. 18–27.
- Main, M.; Goldwyn, R. Adult attachment classification system. In: Main, M., editor. Behavior and the development of representational models of attachment: Five methods of assessment. Cambridge University Press; Cambridge: 1995.

References

National Scientific Council on the Developing Child (2010). Early Experiences Can Alter Gene Expression and Affect Long-Term Development: Working Paper No. 10. Retrieved from www.developingchild.harvard.edu

Shonkoff, J.P., Garner, A.S., Siegel, B.S., Dobbins, M.I., Earls, M.F., McGuinn, L., ... & Wood, D.L. (2012). The Lifelong Effects of Early Childhood Adversity and Toxic Stress. *Pediatrics*, 129 (1), 232-246.

Van Der Kolk, B.A., *Ann N Y Acad Sci.* Clinical implications of neuroscience research in PTSD. van der Kolk BA. 2006 Jul;1071:277-93

Dietz PM, Spitz AM, Anda RF, Williamson DF, McMahon PM, Santelli JS, Nordenberg DF, Felitti VJ, Kendrick JS. Unintended pregnancy among adult women exposed to abuse or household dysfunction during their childhood. *JAMA* 1999;282:1359–1364. Suchman NE, DeCoste C, Castiglioni N, McMahon T, Rounsaville B, Mayes L. The Mothers and

Toddlers Program, an attachment-based parenting intervention for substance using women: Preliminary results from a randomized clinical pilot. *Attachment and Human Development*. 2010; 12:483–504.

Sources:

- Cohen, A, Casey B.; **Rewiring juvenile justice: the intersection of developmental neuroscience and legal policy.** Trends in Cognitive Sciences, Feb. 2014, vol. 18, No. 2. pp 63-65
- Somerville, LH et al. **Frontostriatal maturation predicts cognitive control failure to appetitive cues in adolescents.** J Cogn Neurosci. 2010. 23(9): 2123-34.
- Jones SA, Cservenka A, Nagel BJ. **Binge drinking impacts dorsal striatal response during decision making in adolescents.** Neuroimage. 2016; vol 129; 378-388
- Harden, KP and Tucker-Drob, EM. **Individual differences in the development of sensation seeking and impulsivity during adolescence.** Developmental Psychology 2011, Vol. 47, No. 3, 739–746
-



Thank You