



Sixth Annual World Health Continuing Medical Education Conference

Health Disparities Impacting Global and Local Caribbean Populations

June 16–17, 2023

Hyatt Centric Arlington

1325 Wilson Blvd.

Arlington, VA

Provided by Healthfirst, Howard University College of Medicine, and MediNova





Role of an NGO in Improving Outcomes in Low-Middle Income Caribbean Nations

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Purpose and Objectives

OBJECTIVES

1. To show how historic trauma, social determinants of health, developmental origin of health and disease and adverse childhood experiences are intimately and intergenerationally related.
2. To show how societal, community and individual developmental health and outcomes are shaped by past and present experiences
3. To demonstrate the importance of positive relationships in protecting against and/or mitigating adversity and improving outcomes
4. To show how an NGO working with a bottom-up therapeutic relationship building approach can effect positive changes

FINANCIAL DISCLOSURE

*Do you have a financial disclosure? **None***



GRENADA

Grenada Population (as of 4/30/2023) 126,053

[Grenada](#) is a small island nation that is comprised of the island of Grenada and six smaller islands at the south end of the Grenadines in the [Caribbean](#) Sea, northeast of [Venezuela](#). Grenada is known as the "Island of Spice" for its production of mace and nutmeg. It's one of the world's leading exporters of these spices.

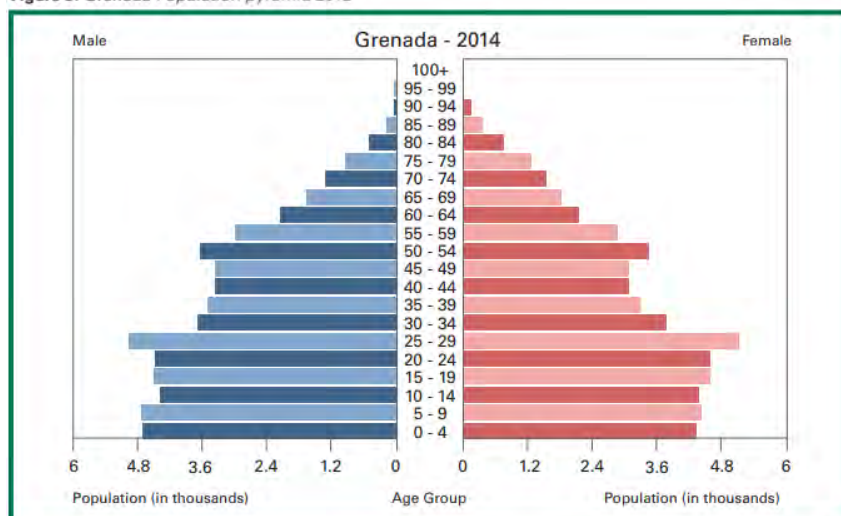
Grenada's population has remained fairly flat for decades, in part due to the country's high migration rate as young people leave the country for nearby Caribbean islands and countries like the [United States](#) and the [United Kingdom](#).

About 82% of Grenada's people are descended from African slaves brought to the islands by the French and English, although a small number are indigenous Arawak and Carib people who survived the French purging. There is also a small number of descendants of indentured workers from [India](#) who were brought to the island between 1857 and 1885. Grenadians of Indian descent account for the second largest ethnic group in the country. There is also a community of English and French descendants, with the remaining 13% of the population comprised of people of mixed descent.

Grenada has a high migration rate and there are at least 110,000 Grenadine-born people in other areas of the Caribbean like [Barbados](#) and at least this number again in other countries, particularly [London](#), [New York City](#), [Australia](#) and Toronto. Only about 30% of people born in Grenada remain in the country.

[Grenada Population 2023 \(Live\) \(worldpopulationreview.com\)](#)

Figure 3: Grenada Population pyramid 2012



SITUATION ANALYSIS OF CHILDREN IN GRENADA

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September 2017



Though it is situated to the south of most hurricanes' tracks, Grenada was hit in 1955 (Hurricane Janet), 1999 (Hurricane Lenny), 2004 (Hurricane Ivan) and 2005 (Hurricane Emily). Although Hurricane Janet was devastating, Hurricane Ivan is generally considered to have been the worst hurricane to hit Grenada in recent memory.

<https://www.bradtguides.com/>

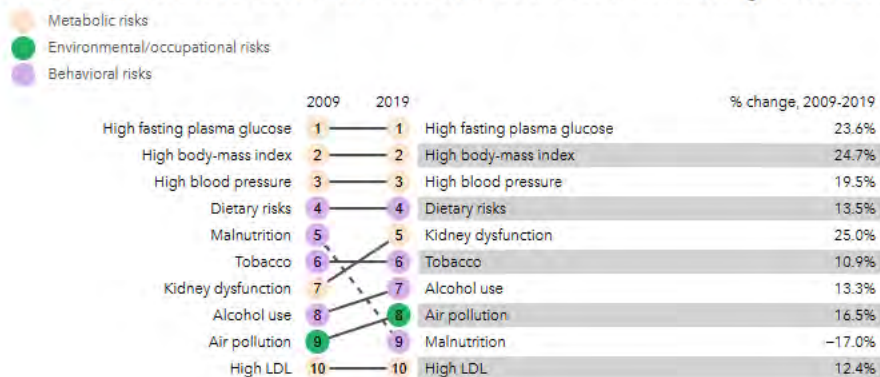
Alcohol consumption is a problem in Grenada, with the total adult per capita consumption reported at 12.5 litres annually in 2014, double the world average of 6.2 litres and higher than the average of 8.4 in the Americas. Moreover, the prevalence of heavy drinking episodes was 4.5 per cent among 15-year-olds and older – although 9.2 per cent when only drinkers were taken into account (p70).

	Males	Females	Total
Diabetes	7.4%	12.1%	9.8%
Overweight	48.2%	61.9%	55.0%
Obesity	16.9%	32.3%	24.6%
Physical inactivity	22.9%	37.4%	30.2%

Source: WHO 2016.



What risk factors drive the most death and disability combined?



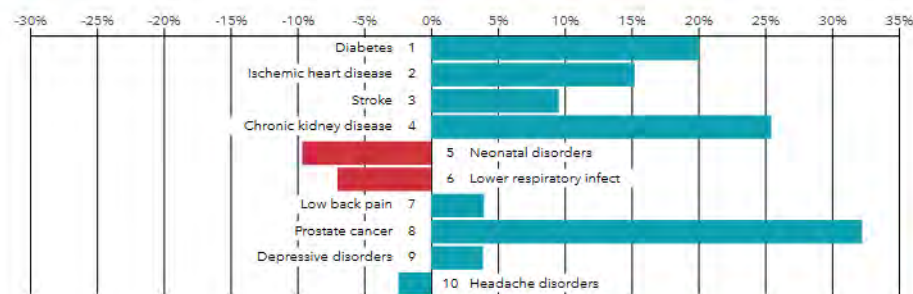
Top 10 risks contributing to total number of DALYs in 2019 and percent change 2009-2019, all ages combined

<https://www.healthdata.org/grenada>

Institute for Health Metrics and Evaluation (IHME)

What causes the most death and disability combined?

- Communicable, maternal, neonatal, and nutritional diseases
- Non-communicable diseases
- Injuries



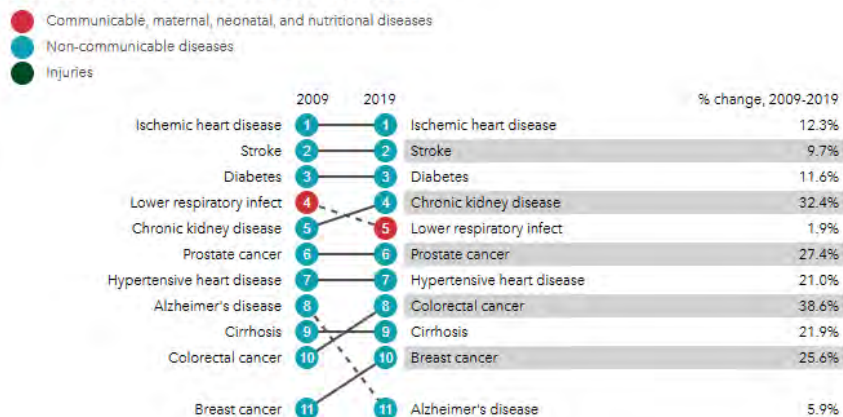
Top 10 causes of death and disability (DALYs) in 2019 and percent change 2009-2019, all ages combined

<https://www.healthdata.org/grenada>

Institute for Health Metrics and Evaluation (IHME)



What causes the most deaths?



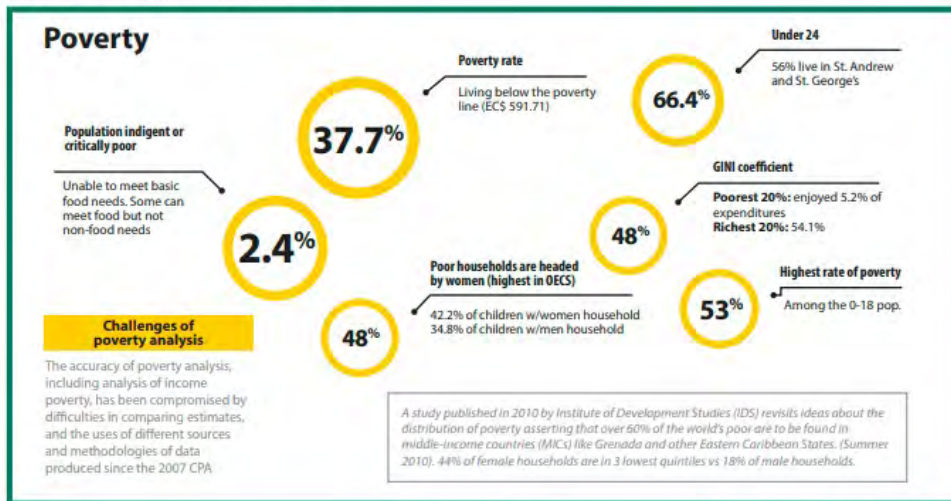
Top 10 causes of total number of deaths in 2019 and percent change 2009-2019, all ages combined

<https://www.healthdata.org/grenada>

- The 2008 CPA (Country Poverty Assessments) reported that 37.7% of the population were poor (below poverty level), while 14.6% were deemed vulnerable or sufficiently close to the poverty line than any event or shock would make them susceptible to falling into poverty. The lives of children are overwhelmingly more affected than those of adults by the discrimination and marginalization they endure as a result of deprivation and poverty. The shame, abuse, psychological stress, exclusion and stigma they experience diminish their self-esteem, confidence and ability to function socially, often leaving psychological footprints deeply affecting their personal growth and development (p33).
- With 48 per cent of all poor households headed by single women, Grenada has the highest percentage of female headed households recorded in the OECS. Forty-four per cent of urban households headed by women are found in the poorest quintiles compared to only 18 per cent for men. One in every two Grenadian children lives in poverty, with 39.3 per cent of the poor found in the 0–14 years of age group (compared to 29.4 per cent of the non-poor). (34)
- Young people between the ages of 15 and 25 experience the highest unemployment rates in Grenada and the Caribbean in general. A CDB study released in 2015 identifies an acute unemployment problem for youth (18–24), who make up a quarter of the region's population. It shows a rate of 25 per cent among youth compared to 8 per cent among adults, with unemployment among young females (30 per cent) considerably higher than young males (20 per cent). (p35)



Figure 4: County poverty assessment



Situation Analysis of Children in Grenada

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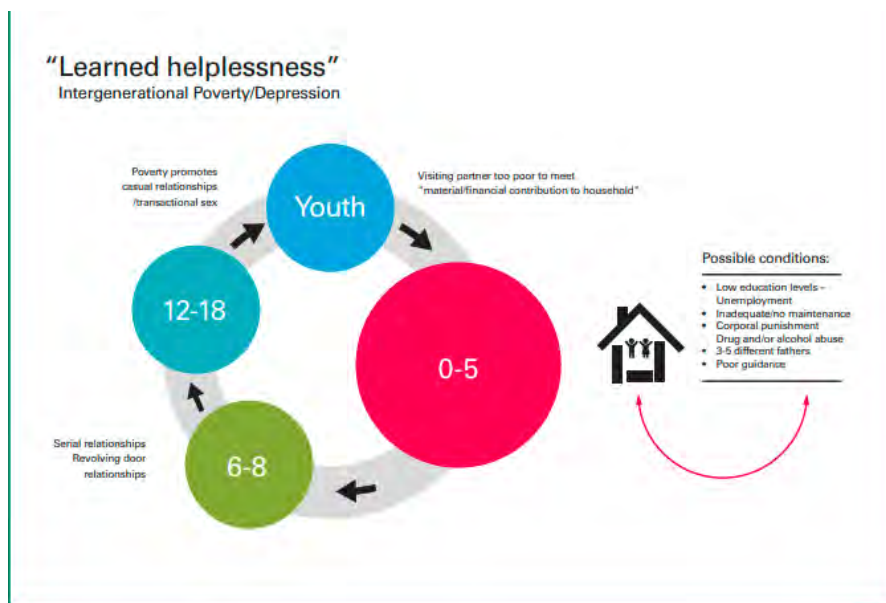
- High unemployment and underemployment rates among women carry significant implications for the 48 per cent of the country's poor households headed by women.
- With 42.2 per cent of Grenada's children living in poor households headed by women (compared to 34.8 per cent among male-headed poor households), unemployment of women has a profound effect on children. (p35)
- As women generally support larger households than men, they are more at risk of becoming or remaining poor. They carry greater responsibilities for caring for and the maintenance of the family. These poor households tend to have three or more children in addition to one or two extended family members, including other working age adults. (p35)
- These households are also characterized by low levels of education (26.6 per cent of heads of poor households attended only primary school and 61.7 per cent received secondary education), low school attendance rates among the children living in the household, children fathered by multiple men, inadequate adult guidance and support for children and limited access to basic health care. Most men engaging with female-headed households prefer a 'visiting relationship', leaving parenting to the woman. Many poor women living in this scenario resort to survival strategies that may include illegal activities and/or transactional sex. (p35)



- Typically, these poor households headed by single women support prime conditions for inter-generational poverty to take hold, promoting a 'learned helplessness'. Sexual and gender-based violence and drug and alcohol abuse are more likely to occur in these households as opposed to non-poor households with common-law or married couples. Poverty promotes casual or dysfunctional relationships as single women pursue men who can bring monetary contributions to the household, evolving into 'revolving door hook-ups' and transactional sex. With a change in partners, the chances of pregnancy increase, adding to the already overwhelming responsibilities of the growing household. (p35-36)
- Children in these households are seriously affected by these conditions in different ways depending on their age group and sex. Dysfunctional mating patterns and early pregnancies may lead to the girl child repeating the cycle of poverty that traps the single mother heading the household. The boy child can also get caught in this poverty trap by dropping out of school to bring more income into the household. (p36)

SITUATION ANALYSIS OF CHILDREN IN GRENADA

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Situation Analysis of Children in Grenada

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Table 3: Children perceived to be vulnerable in Grenada

Who is perceived to be vulnerable in Grenada	What makes them vulnerable	How the vulnerability is manifested
Children (0-5) Harmful consequences are difficult to reverse in this age group.	<ul style="list-style-type: none"> Physical and emotional neglect Abuse Malnutrition 	<ul style="list-style-type: none"> Harmful behavioural patterns Slow cognitive development Poor socialization process
Children (5-7) Removal of children from their biological homes is sometimes needed for protection and care.	<ul style="list-style-type: none"> Miss out on connectedness to family and community 	<ul style="list-style-type: none"> Poor socialization processes Face stigmatization that can have long-term effect on self-esteem
Children (7-15)	<ul style="list-style-type: none"> Poor health and nutrition results in poor school attendance 	<ul style="list-style-type: none"> Poor performance in school. Drop out
Adolescent girls and boys (15-19) This group represents a major opportunity for the future of Grenada. Children in conflict with the law	<ul style="list-style-type: none"> Girls at risk of sexual violence, abuse Boys at risk to drop out of school w/ out certificate Both at risk to engaging in harmful and risky behaviours Out-of-school and out-of-work Risk of life-long negative effect: no second chance, no higher level education due to absence of diversion programme 	<ul style="list-style-type: none"> Teen pregnancy Unemployment Marginalization Non-participation Substance abuse Crime Early parenting Recidivism Unemployment Economic vulnerability
Children of migrant families	<ul style="list-style-type: none"> Low social status associated with situation of parent in country (low paid, low skills, language barrier) Parental absence Lack of legal status/appropriate documentation to access social services Separation from extended family and culture Language barrier 	<ul style="list-style-type: none"> Stigma Poor academic performance Comparative difficulty for social inclusion

Situation Analysis of Children in Grenada

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In May 2014, UNICEF conducted a social survey on attitudes to corporal punishment, in Grenada. It involved face-to-face interviews with 600 adult men and women. The results provide a valuable basis for understanding practices, experiences and attitudes towards corporal punishment, (p55).

Figure 9: Views on discipline and corporal punishment

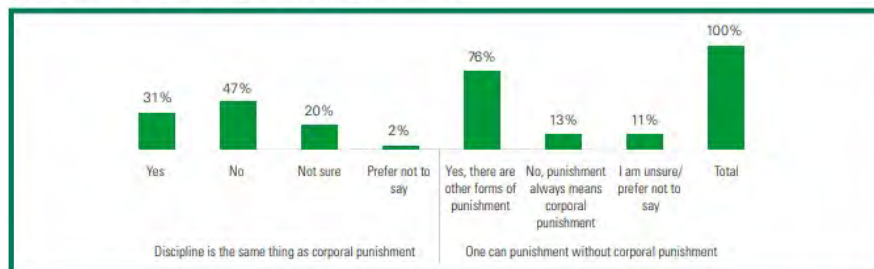




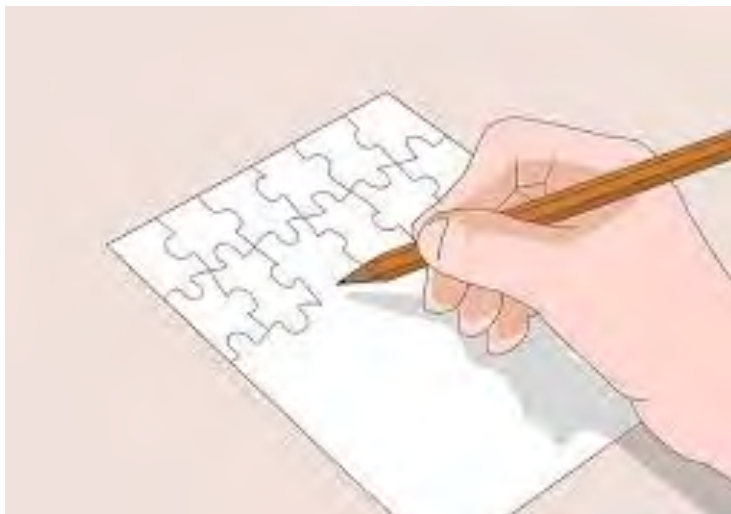
Table 6: Residential children's homes

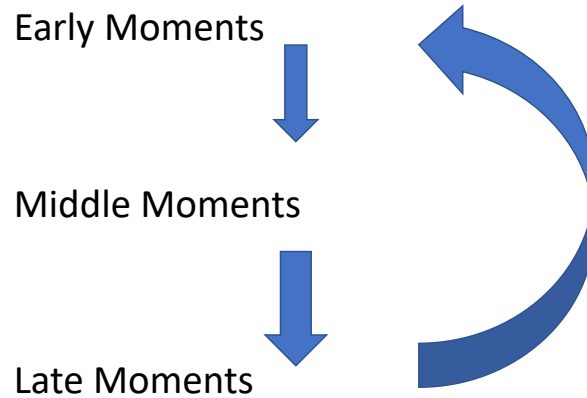
Name of the facility	Cohort
Father Mallaghan Home for Boys (St. Marks)	Boys 12-18 years
Government of Grenada Emergency Shelter for Children (St. George's)	Girls 0-18 Years
Queen Elizabeth Home (St. George's)	Children 2-12 years
Dorothy Hopkin Centre (St. George's)	Children and adults with disabilities
Bel Air Home (St. George's)	Children Boys: 0-8 years Girls: 0-12 years (girls allowed to stay until 18 years)

Situation Analysis of Children in Grenada

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- To encourage good parenting practices and early stimulation, the Government has funded the Roving Caregivers Programme (RCP) for many years, allocating nearly EC\$1 76 million in 2016. Such interventions highlight the importance of making the child a priority within the family setting while boosting the demand for ECD services. The improvement of parenting skills is essential, and the RCP is intended to provide early childhood stimulation to high-risk children from birth to 3 years using a model of home visitation intervention that focused on parent(s)- child interaction. The Rovers reach rural children, many of whom are in families that cannot afford day care or do not understand the importance of providing proper care and stimulation for ECD. Caregivers, or 'rovers', go from home to home to work with young children and parents, introducing them to developmentally appropriate child-care practices.
- The programme takes into account nutritional and disciplinary practices and parenting knowledge as they affect the family and children with a view to better prepare the child to meet standard growth and development milestones expected by pre-primary schooling. Rovers work in their home communities delivering routine home visits. The programme operates in all but two parishes and engages 90 full-time trained rovers. The RCP partnered with the Windward Islands Research and Education Foundation in 2014 to pilot efforts to reduce the practice of corporal punishment. (p44)
- The 2008 CPA attribute the dropouts and absences from schools to a number of causes, including: inability of parents to provide meals, transportation, textbooks, school fees, uniforms or examination fees for their children; teenage pregnancy; indiscipline by students at school; staying home to care for younger siblings; finding employment as a means of improving their quality of life; and low interest in the education curriculum. (p48)

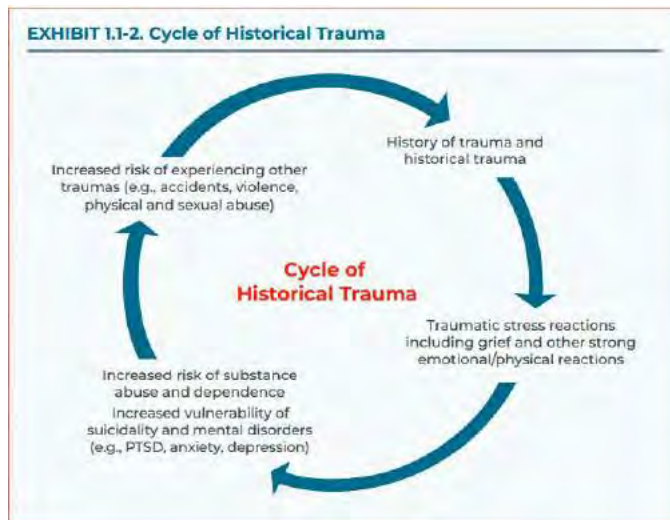




- Historical trauma is intergenerational trauma experienced by a specific cultural group that has a history of being systematically oppressed.
- Current lifespan trauma, superimposed upon a traumatic ancestral past creates additional adversity.
- Historical trauma can have an impact on psychological and physical health.
- Historical trauma is cumulative and reverberates across generations. Descendants who have not directly experienced a traumatic event can exhibit the signs and symptoms of trauma, such as depression, fixation on trauma, low self-esteem, anger, and self-destructive behavior.
- People coming into systems of services and support from communities who have been subjected to historical trauma may believe the systems do not support them. They may experience triggers that are re-traumatizing.

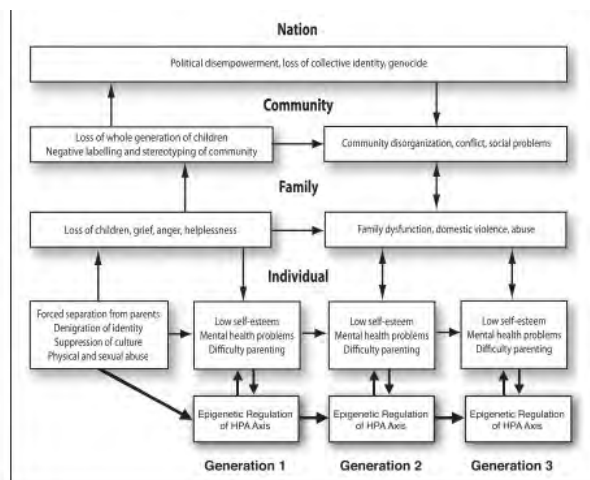
<https://www.acf.hhs.gov/trauma-toolkit/trauma-concept>

ADMINISTRATION FOR
CHILDREN & FAMILIES



HHS Publication No. (SMA) 18-5070
Printed 2018
U.S. Department of Health and Human Services
Substance Abuse and Mental Health Services Administration
Center for Substance Abuse Treatment

SAMHSA
Substance Abuse and Mental Health
Services Administration



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SAGE

Rethinking Historical Trauma

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McGill University

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University of Michigan

Joshua Moses
Haverford College

Figure 1. Transgenerational Transmission of Historical Trauma

The diagram depicts some of the hypothetical pathways through which the effects of trauma and loss may be transmitted across generations through processes at multiple levels, including: epigenetic alterations of stress response; changes in individuals' psychological well-being, self-esteem, and self-efficacy; family functioning; community integrity and cultural identity, and the continuity of identity and collective efficacy of whole nations or peoples. (Adapted from Kirmayer et al., 2007).

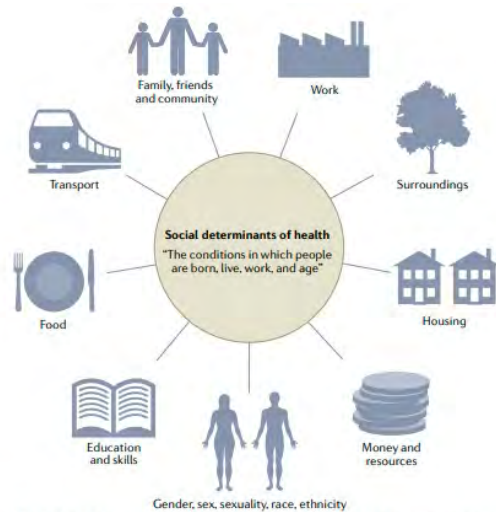


Fig. 1 | WHO social determinants of health. Social determinants of health are the conditions in which people are born, grow, live, work and age. They are non-medical factors that influence health outcomes through a wide-reaching influence on all aspects of life. Social determinants of health can be divided into

two categories: individual factors and structural determinants. Individual factors (for example, gender, race and ethnicity) have an effect via societal inequalities and structural determinants (such as health-care access and social support), which in turn affect health through their influence on the individual.

nature reviews neurology

<https://doi.org/10.1038/s41582-022-00735-5>

SOCIAL DETERMINANT(S) OF HEALTH Opposite side(s) of the same coin



Obverse

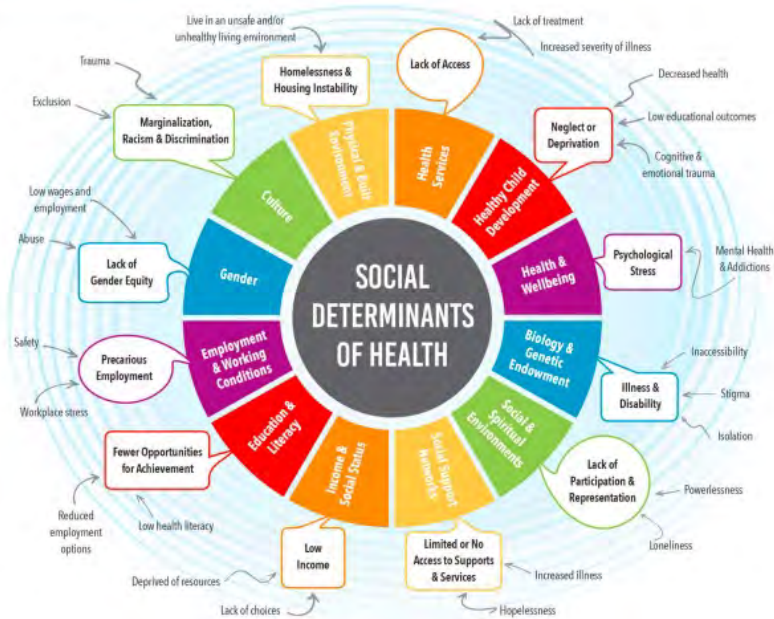
Reverse

Culturally adaptive developmental promoter/enhancer

Culturally maladaptive developmental disruptor/inhibitor



FIGURE 1: SOCIAL DETERMINANTS OF HEALTH AND WELL-BEING¹⁴



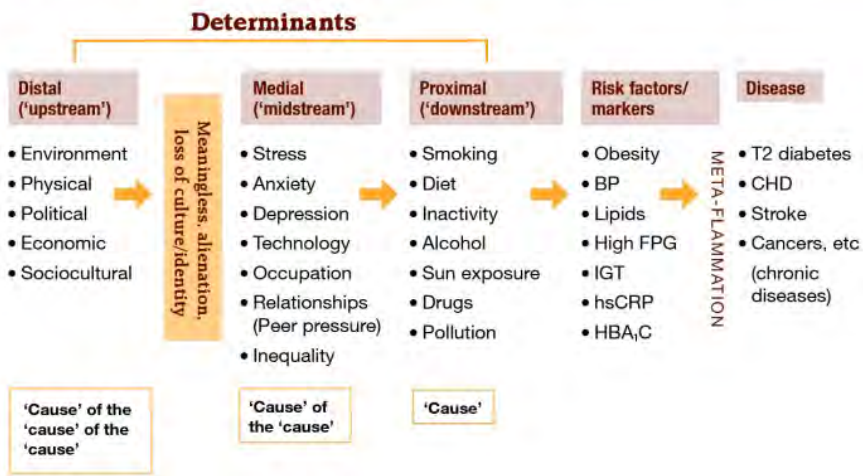
BUILDING POVERTY SOLUTIONS: IDEAS FOR ACTION

A COMMUNITY REPORT

UNITED WAY HALIFAX | HALIFAX REGIONAL MUNICIPALITY

How do the social determinants of health impact physical health?

A hierarchy of disease 'causality'



Addressing the social determinants of health

By Andrew Binns / andrewbinns1@bispod.com / First published GP Speak 18/6/2019

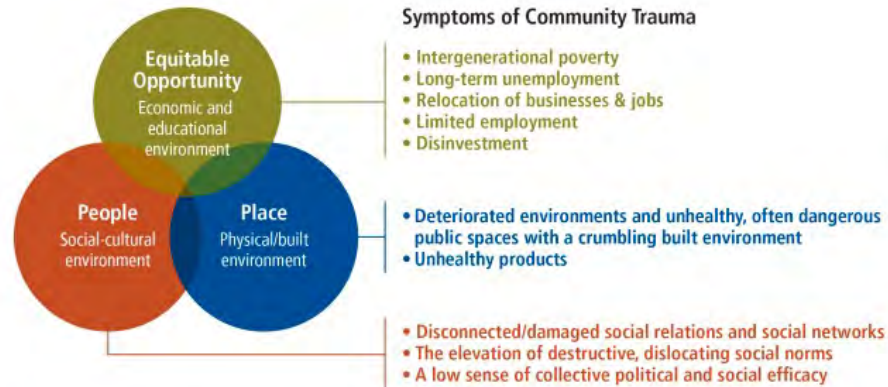


Figure 12. Community symptoms of trauma. Reproduced with permission from the Prevention Institute.¹⁰⁹⁹

Bhushan D, Kötz K, McCall J, Wirtz S, Gilgoff R, Dube SR, Powers C, Olson-Morgan J, Galeste M, Patterson K, Harris L, Mills A, Bethell C, Burke Harris N, Office of the California Surgeon General. *Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health*. Office of the California Surgeon General, 2020. DOI: 10.48019/PEAM8812.

The Adverse Childhood Experiences (ACE) Study

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

What do we mean by Adverse Childhood Experiences?

- childhood abuse and neglect
- growing up with domestic violence, substance abuse or mental illness in the home, parental discord, crime



The ACE Study Adverse Childhood Experiences

[Am J Prev Med.](#) 1998 May;14(4):245-58.

Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study.

[Felitti VJ](#), [Anda RF](#), [Nordenberg D](#), [Williamson DF](#), [Spitz AM](#), [Edwards V](#), [Koss MP](#), [Marks JS](#)

Author information

Abstract

BACKGROUND: The relationship of health risk behavior and disease in adulthood to the breadth of exposure to childhood emotional, physical, or sexual abuse, and household dysfunction during childhood has not previously been described.

METHODS: A questionnaire about adverse childhood experiences was mailed to 13,494 adults who had completed a standardized medical evaluation at a large HMO. 9,508 (70.5%) responded. Seven categories of adverse childhood experiences were studied: psychological, physical, or sexual abuse; violence against mother, or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned. The number of categories of these adverse childhood experiences was then compared to measures of adult risk behavior, health status, and disease. Logistic regression was used to adjust for effects of demographic factors on the association between the cumulative number of categories of childhood exposures (range: 0-7) and risk factors for the leading causes of death in adult life.

RESULTS: More than half of respondents reported at least one, and one-fourth reported > or = 2 categories of childhood exposures. We found a graded relationship between the number of categories of childhood exposure and each of the adult health risk behaviors and diseases that were studied ($P < .001$). Persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt, a 2- to 4-fold increase in smoking, poor self-rated health, > or = 50 sexual intercourse partners, and sexually transmitted disease, and 1.4- to 1.6-fold increase in physical inactivity and severe obesity. The number of categories of adverse childhood exposures showed a graded relationship to the presence of adult diseases including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. The seven categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of childhood exposure were likely to have multiple health risk factors later in life.

CONCLUSIONS: We found a strong graded relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults.

The ACE Questionnaire

Prior to your 18th birthday:

- Did a parent or other adult in the household often or very often... Swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?
No ___ If Yes, enter 1 ___
- Did a parent or other adult in the household often or very often... Push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured?
No ___ If Yes, enter 1 ___
- Did an adult or person at least 5 years older than you ever... Touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you?
No ___ If Yes, enter 1 ___
- Did you often or very often feel that ... No one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other?
No ___ If Yes, enter 1 ___
- Did you often or very often feel that ... You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?
No ___ If Yes, enter 1 ___
- Was a biological parent ever lost to you through divorce, abandonment, or other reason ?
No ___ If Yes, enter 1 ___
- Was your mother or stepmother:
Often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?
No ___ If Yes, enter 1 ___
- Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?
No ___ If Yes, enter 1 ___
- Was a household member depressed or mentally ill, or did a household member attempt suicide?
No ___ If Yes, enter 1 ___
- Did a household member go to prison?
No ___ If Yes, enter 1 ___
- Now add up your "Yes" answers: _ This is your ACE Score



What are the Adverse Childhood Experiences?



1. Child physical abuse
2. Child sexual abuse
3. Child emotional abuse
4. Physical Neglect
5. Emotional Neglect
6. Mentally ill, depressed or suicidal person in the home
7. Drug addicted or alcoholic family member
8. Witnessing domestic violence against the mother
9. Loss of a parent to death or abandonment, including abandonment by divorce
10. Incarceration of any family member



Demographic information is from the entire ACE Study sample (n=17,337).

Demographic Information for CDC-Kaiser ACE Study Participants, Waves 1 and 2.

Demographic Information	Percent (N = 17,337)
Gender	
Female	54.0%
Male	46.0%
Race/Ethnicity	
White	74.8%
Hispanic/Latino	11.2%
Asian/Pacific Islander	7.2%
African-American	4.5%
Other	2.3%
Age (years)	
19-29	5.3%
30-39	9.8%
40-49	18.6%
50-59	19.9%
60 and over	46.4%
Education	
Not High School Graduate	7.2%
High School Graduate	17.6%
Some College	35.9%
College Graduate or Higher	39.3%

<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>



ACE Score Prevalence for CDC-Kaiser ACE Study Participants by Sex, Waves 1 and 2.

Number of Adverse Childhood Experiences (ACE Score)	Women	Men	Total
	Percent (N = 9,367)	Percent (N = 7,970)	Percent (N = 17,337)
0	34.5%	38.0%	36.1%
1	24.5%	27.9%	26.0%
2	15.5%	16.4%	15.9%
3	10.3%	8.5%	9.5%
4 or more	15.2%	9.2%	12.5%

<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

What They Found



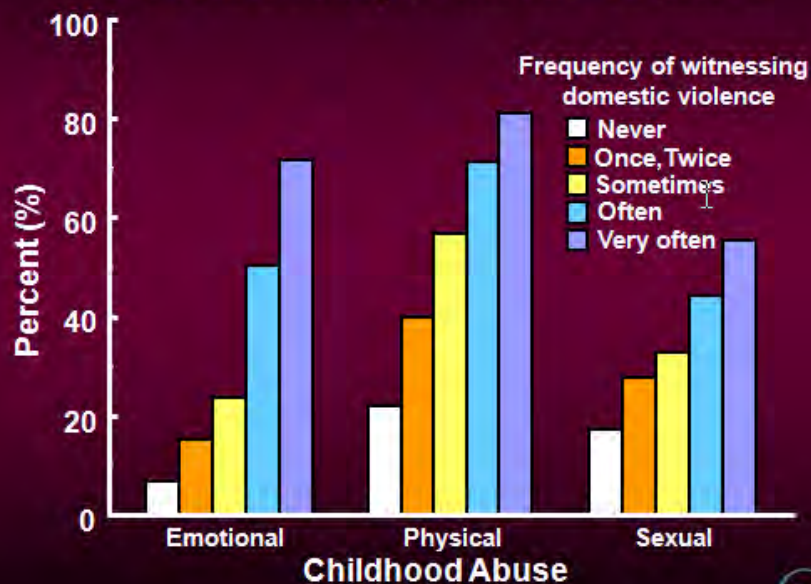
NATIONAL COUNCIL
FOR BEHAVIORAL HEALTH
www.TheNationalCouncil.org

Of the 17,000 respondents

- > 1 in 4 exposed to 2 categories of ACEs
- > 1 in 16 was exposed to 4 categories.
- > 22% were sexually abused as children.
- > 66% of the women experienced abuse, violence or family strife in childhood.
- > Women were 50% more likely than men to have experienced 5 or more ACEs

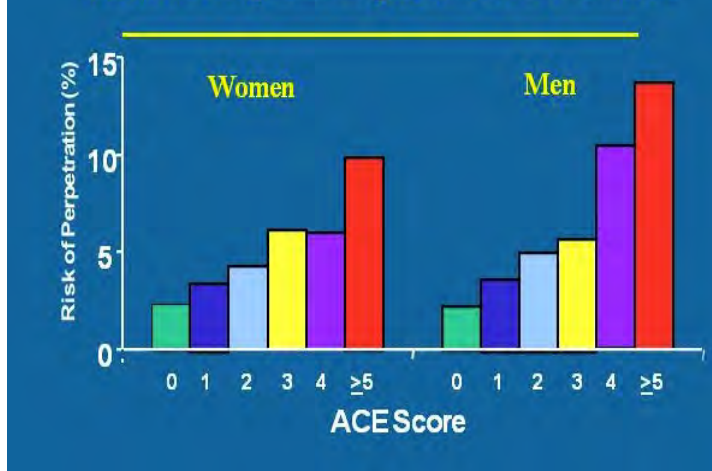


Prevalence of Childhood Abuse by Frequency of Witnessing Domestic Violence



ACE Interface © 2012

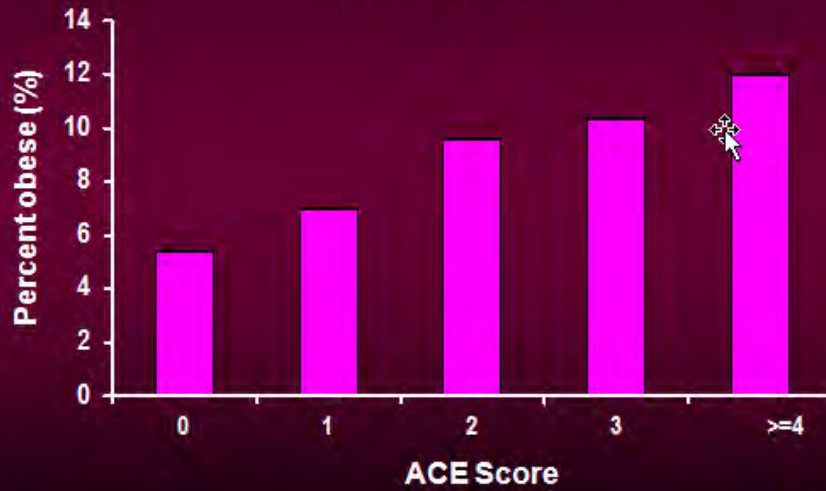
ACE Score and the Risk of Perpetrating Domestic Violence



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

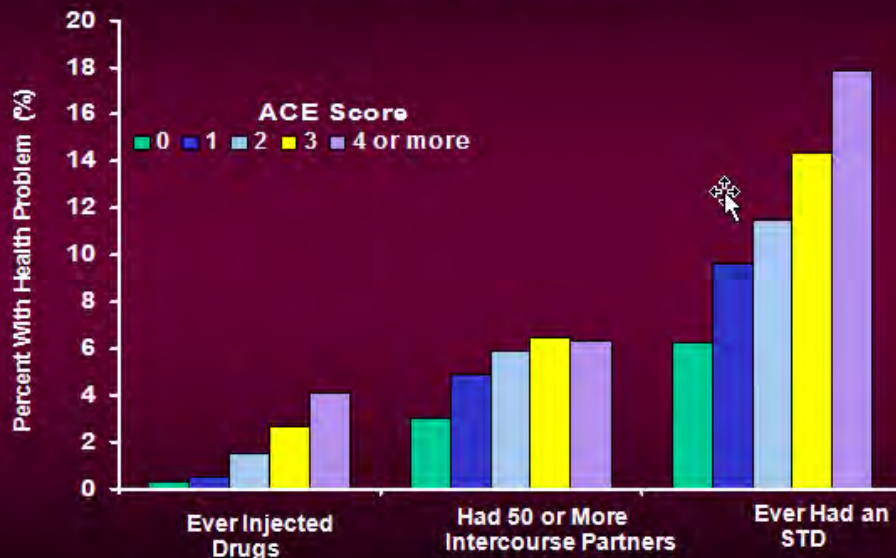


The ACE Score and the Prevalence of Severe Obesity (BMI ≥ 35)



ACE Interface © 2013

ACE Score and HIV Risks

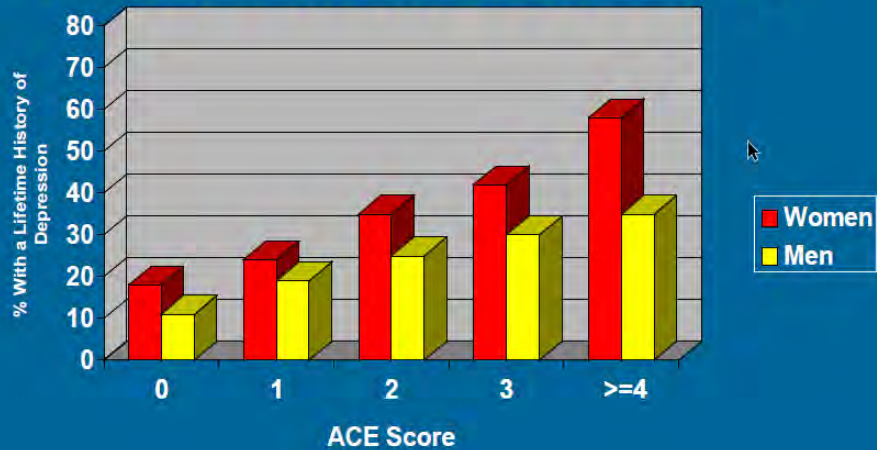


ACE Interface © 2013



Well-being

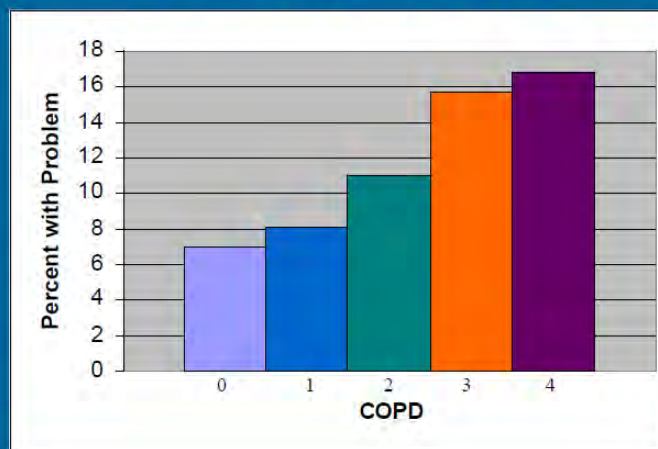
Childhood Experiences Underlie Chronic Depression



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

Biomedical Disease

ACE Score vs. COPD

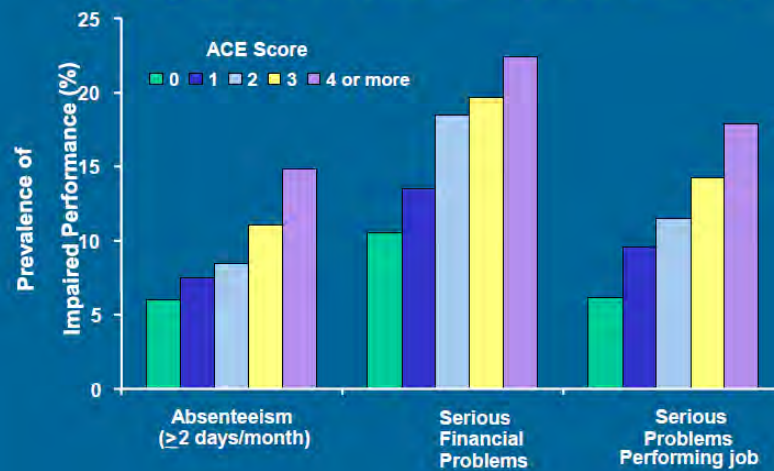


<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>



Social function:

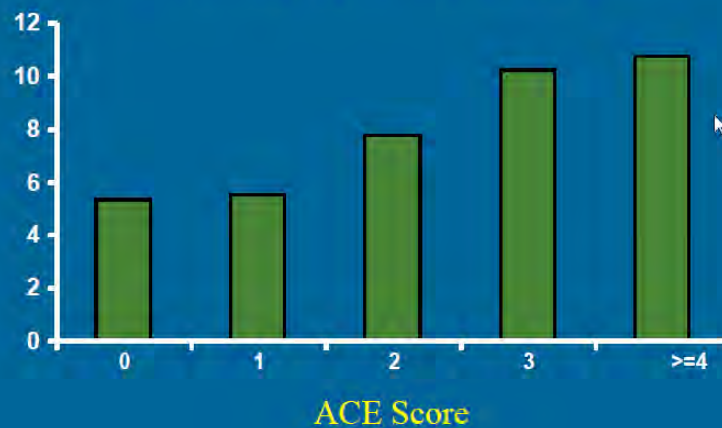
ACE Score and Indicators of Impaired Worker Performance



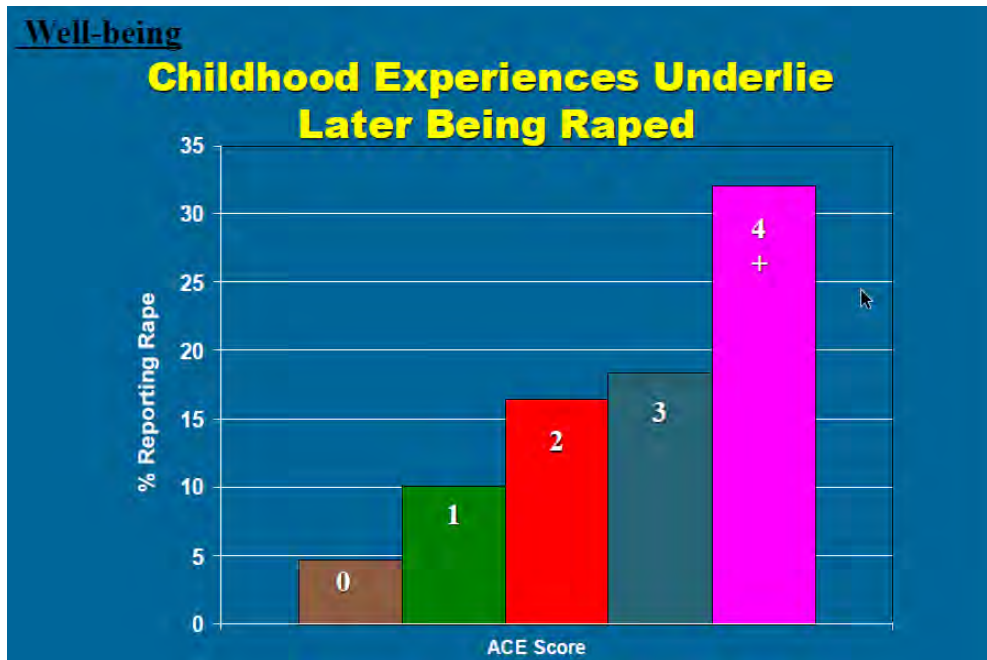
<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

Biomedical Disease

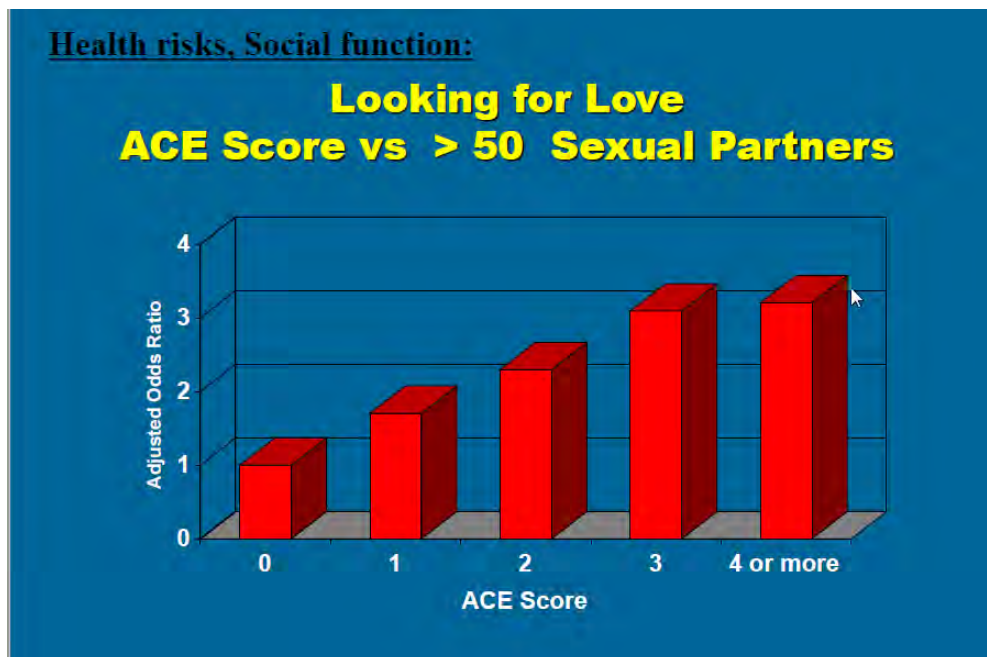
The ACE Score and the Prevalence of Liver Disease (Hepatitis/Jaundice)



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>



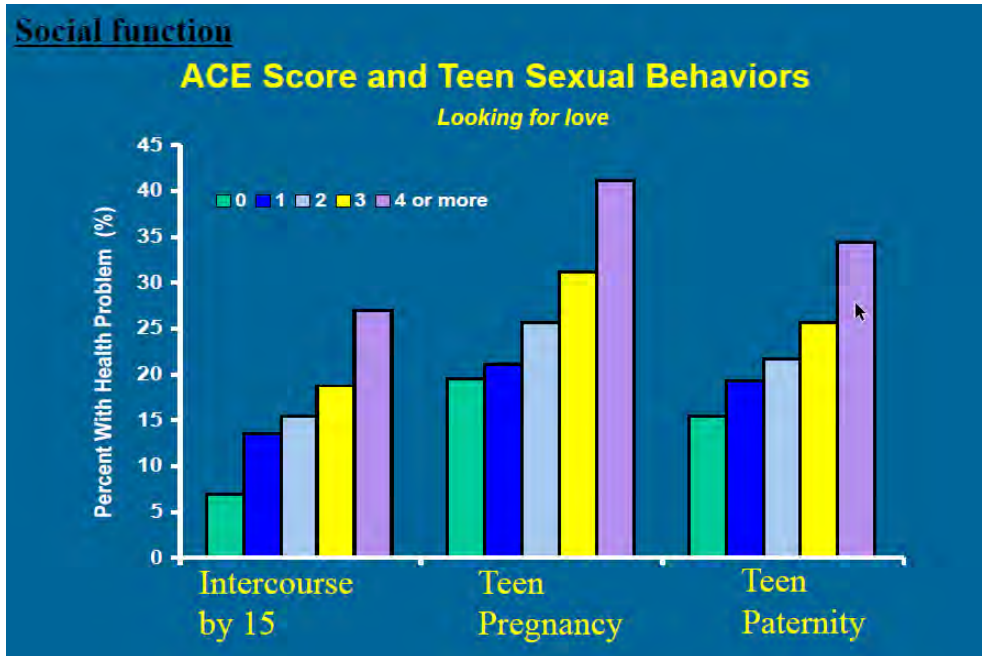
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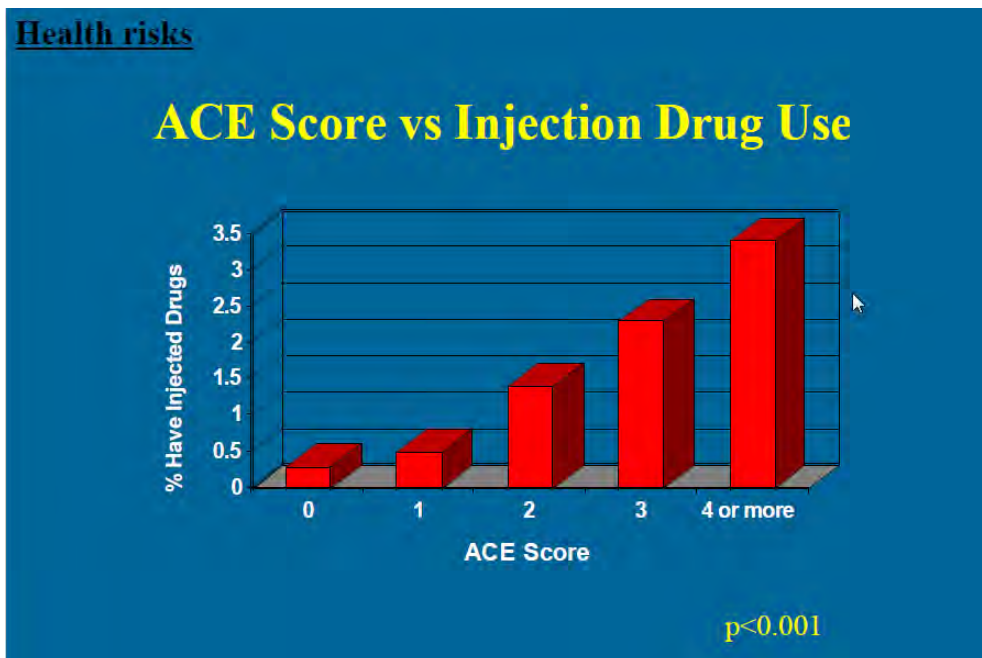


Social function



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

Health risks

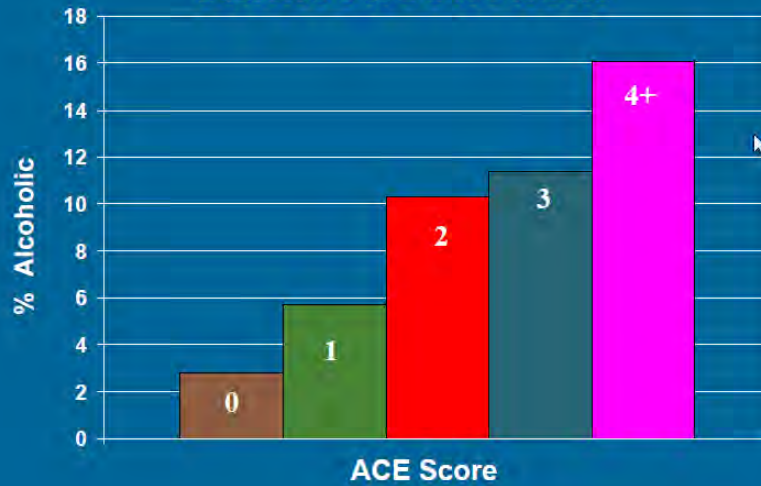


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Health Risks

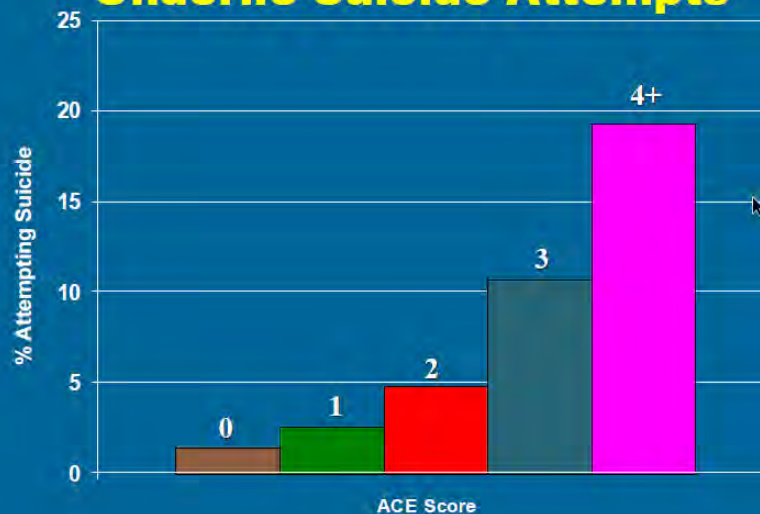
Childhood Experiences vs. Adult Alcoholism



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>

Well-being

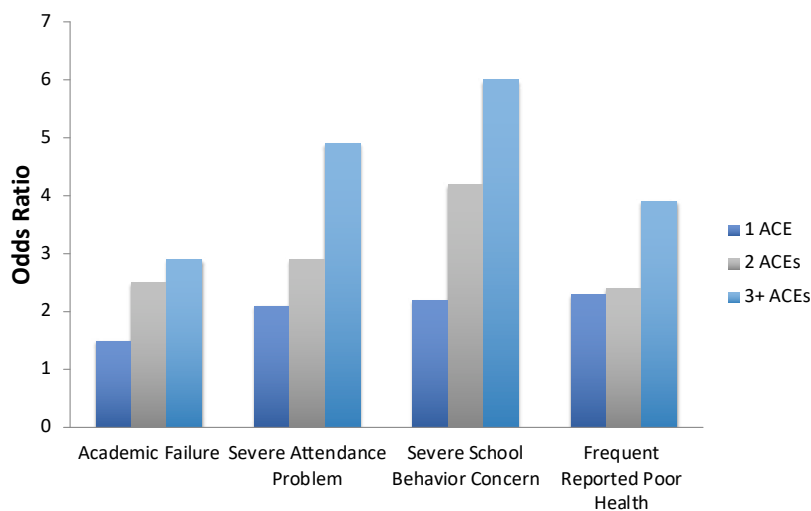
Childhood Experiences Underlie Suicide Attempts



<https://www.pacesconnection.com/blog/got-your-ace-resilience-scores>



ACEs and Developmental Risk in Elementary School Children



Christopher Blodgett PhD,
Spokane County Community
Network, 2012

Healthline News

Healthline News → News Analysis: Are We Misdiagnosing Childhood Traumas as ADHD?

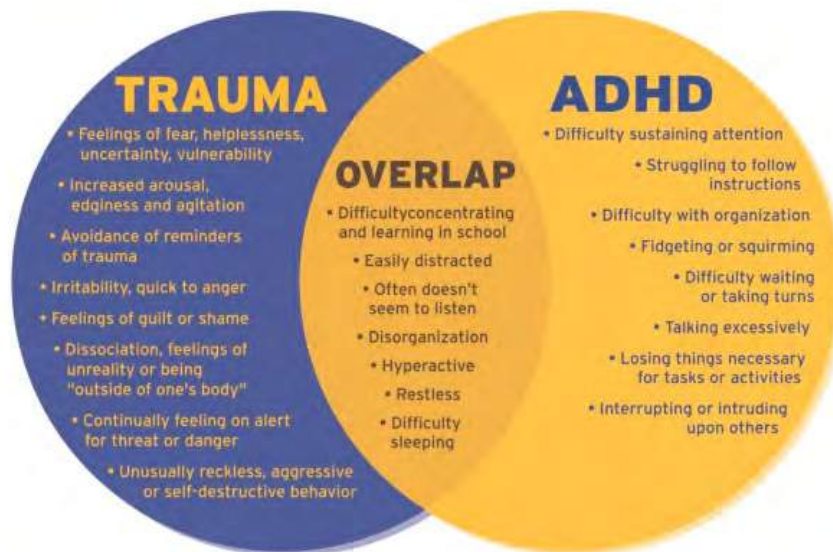
News Analysis: Are We Misdiagnosing Childhood Traumas as ADHD?

Written by Rachel Berday | Published on May 6, 2014



A new study shows that a child with an ADHD diagnosis is more likely to have also experienced stress and trauma early in life.

Children with attention deficit hyperactivity disorder (ADHD) receive a diagnosis based on their behavior: age-inappropriate fidgeting, inattentiveness, hyperactivity, and trouble sitting still and concentrating. However, according to new research presented today at the [Pediatric Academic Societies](#) annual meeting in Vancouver, Canada, these behaviors may also be linked to childhood trauma.

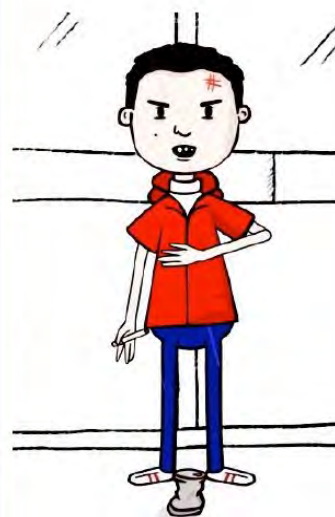


Siegrfried, C. B., Blackshear, K., National Child Traumatic Stress Network, with assistance from the National Resource Center on ADHD: A Program of Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD). (2016). *Is it ADHD or child traumatic stress? A guide for clinicians*. Los Angeles, CA & Durham, NC: National Center for Child Traumatic Stress.

18-29 year olds

With no ACEs 3% had hit someone in the last 12 month

With 4 or more ACEs 30% had hit someone in the last 12 month



Chronic Stress from ACEs

- Violence - over-develop 'life-preserving' brain
NEUTRAL CUES LOOK THREATENING
- School - anxious, disengaged, poor learner

Tau et al, 2010; Mercy, Butchart, Bellis et al, 2014

http://www.healthscotland.scot/media/1267/2_mark-bellis-presentation.pdf



National Study of ACEs in Wales (18-69 years)

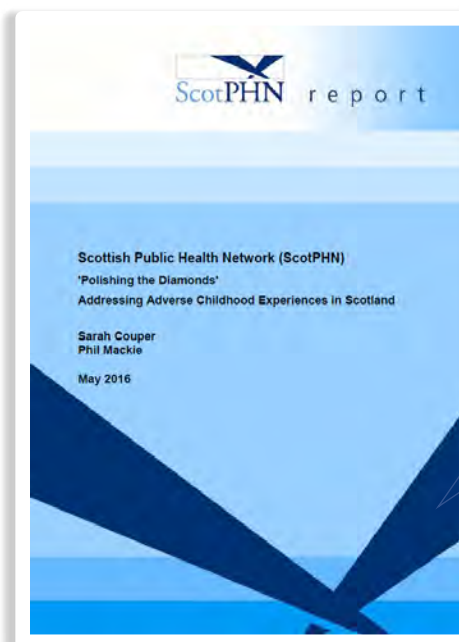
Compared with people with no ACEs, those with 4+ ACEs were:



- 4** times more likely to be a high risk drinker
- 6** times more likely to smoke tobacco or E-cigs
- 11** times more likely to have smoked cannabis
- 15** times more likely to have committed violence in last 12 months
- 16** times more likely to have used crack cocaine or heroin
- 20** times more likely to have been incarcerated in their life

http://www.healthscotland.scot/media/1267/2_mark-bellis-presentation.pdf

Scottish Public Health Network Report May 2016



“The evidence of impact of adverse childhood experiences is compelling, as is the case for action from a moral and financial perspective at an individual level and to prevent the repeated cycle of intergenerational transmission.”

<https://www.scotphn.net/projects/adverse-childhood-experiences/introduction/>



Adverse Childhood Experiences and Adult Well-Being in a Low-income, Urban Cohort

Alison Giovanelli, MA, Arthur J. Reynolds, PhD, Christina F. Mondt, BA, Suh-Ruu Ou, PhD

OBJECTIVE: This study tests the association between adverse childhood experiences (ACEs) and multidimensional well-being in early adulthood for a low-income, urban cohort, and whether a preschool preventive intervention moderates this association.

METHODS: Follow-up data were analyzed for 1202 low-income, minority participants in the Chicago Longitudinal Study, a prospective investigation of the impact of early experiences on life-course well-being. Born between 1979 and 1980 in high-poverty neighborhoods, individuals retrospectively reported ACEs from birth to adolescence, except in cases of child abuse and neglect.

RESULTS: Nearly two-thirds of the study sample experienced ≥ 1 ACEs by age 18. After controlling for demographic factors and early intervention status, individuals reporting ACEs were significantly more likely to exhibit poor outcomes than those with no ACEs. Those with ≥ 4 ACEs had significantly reduced likelihood of high school graduation (odds ratio [OR] = 0.37; $P < .001$), increased risk for depression (OR = 3.9; $P < .001$), health compromising behaviors (OR = 4.5; $P < .001$), juvenile arrest (OR = 3.1; $P < .001$), and felony charges (OR = 2.8; $P < .001$). They were also less likely to hold skilled jobs (OR = 0.50; $P = .001$) and to go further in school even for adversity measured by age 5.

CONCLUSIONS: ACEs consistently predicted a diverse set of adult outcomes in a high-risk, economically disadvantaged sample. Effective and widely available preventive interventions are needed to counteract the long-term consequences of ACEs.

abstract

To cite: Giovanelli A, Reynolds AJ, Mondt CF, et al. Adverse Childhood Experiences and Adult Well-Being in a Low-income, Urban Cohort. *Pediatrics*. 2016;137(4):e20154016

Adverse Childhood Experiences Expanding the Concept of Adversity



Peter F. Cronholm, MD, MSCE, Christine M. Forke, MSN, CRNP, Roy Wade, MD, PhD, MPH,
Megan H. Bair-Merritt, MD, MSCE, Martha Davis, MSS, Mary Harkins-Schwarz, MPH,
Lee M. Pachter, DO, Joel A. Fein, MD, MPH

Introduction: Current knowledge of Adverse Childhood Experiences (ACEs) relies on data predominantly collected from white, middle- / upper-middle-class participants and focuses on experiences within the home. Using a more socioeconomically and racially diverse urban population, Conventional and Expanded (community-level) ACEs were measured to help understand whether Conventional ACEs alone can sufficiently measure adversity, particularly among various subgroups.

Methods: Participants from a previous large, representative, community-based health survey in Southeast Pennsylvania who were aged ≥ 18 years were contacted between November 2012 and January 2013 to complete another phone survey measuring ACEs. Ordinal logistic regression models were used to test associations between Conventional and Expanded ACEs scores and demographic characteristics. Analysis was conducted in 2013 and 2014.

Results: Of 1,784 respondents, 72.9% had at least one Conventional ACE, 63.4% at least one Expanded ACE, and 49.3% experienced both. A total of 13.9% experienced only Expanded ACEs and would have gone unrecognized if only Conventional ACEs were assessed. Certain demographic characteristics were associated with higher risk for Conventional ACEs but were not predictive of Expanded ACEs, and vice versa. Few adversities were associated with both Conventional and Expanded ACEs.

Conclusions: To more accurately represent the level of adversity experienced across various sociodemographic groups, these data support extending the Conventional ACEs measure.
(Am J Prev Med 2015;49(3):354–361) © 2015 American Journal of Preventive Medicine



Philadelphia ACE Study Questions

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

Am J Prev Med 2015;49(3):354-361

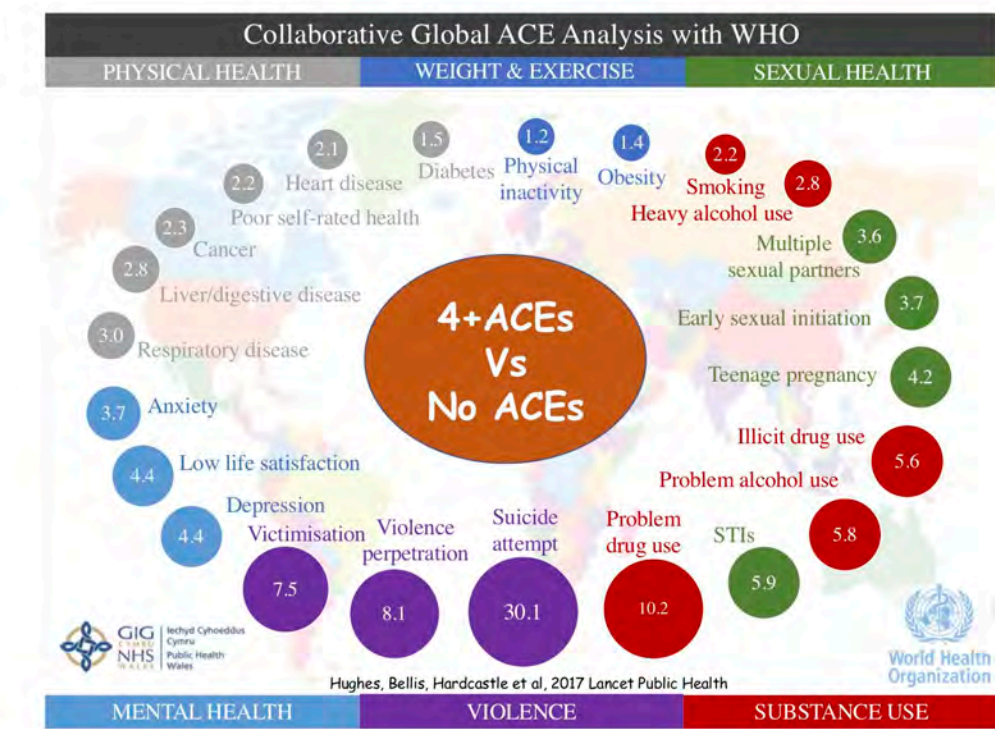




Table 1 | Health conditions in children associated with adverse childhood experiences (ACE)

Symptom or health condition	For ≥ 4 ACEs (compared with 0)	Odds ratio
Asthma	4	1.7-2.6
Allergies	4	2.5
Dermatitis and eczema	3*	2.0
Urticaria	3*	2.2
Increased incidence of chronic disease, impaired management	3	2.3
Any unexplained somatic symptoms (eg, nausea/vomiting, dizziness, constipation, headaches)	3	2.3
Headaches	4	3.0
Epilepsy, encephalitis	—	—
Overweight, obesity	4	2.0
Failure to thrive, poor growth, psychosocial dwarfism	—	—
Poor dental health	4	2.8
Increased infections (viral, upper and lower respiratory tract infections and pneumonia, acute otitis media, urinary tract infections, conjunctivitis, otitis)	3*	1.4-2.4
Later menarche (≥ 14 years)	2*	2.3
Sleep disturbance†	5†	OR† 3.1
Developmental delay	3	1.9
Learning and/or behaviour problems	4	32.6
Repeating a year at school	4	2.8
Not completing homework	4	4.0
High school absenteeism	4	7.2
Graduating from high school	4	0.4
Aggression, physical fighting	For each additional ACE	1.9
Depression	4	3.9
Attention deficit/hyperactivity disorder (ADHD)	4	5.0
Any of: ADHD, depression, anxiety, conduct/behaviour disorder	3	4.5
Suicidal ideation	—	3.9
Suicide attempts	For each additional ACE	1.9-2.1
Self-harm	—	3.8
First use of alcohol at ≤ 14 years	4	6.2
First use of illicit drugs at ≤ 14 years	5	9.1
Early sexual debut ($\leq 15-17$ years)	4	3.2
Teenage pregnancy	4	4.3

*Odds ratio represents at least one ACE, but also includes other adversities
 †Odds ratio represents at least one ACE, but also includes other adversities

<https://doi.org/10.1136/bmj.2020.371034>

Table 2 | ACE-associated health conditions in adults associated with adverse childhood experiences (ACE)

Symptom or health condition	Odds ratio (excluding outliers)*
Cardiovascular disease (coronary artery disease, myocardial infarction, ischemic heart disease)	2.1
Tachycardia	≥ 1 ACE: 1.4
Stroke	2.0
Chronic obstructive pulmonary disease (emphysema, bronchitis)	3.1
Asthma	2.2
Diabetes	1.4
Obesity	2.1
Hepatitis or jaundice	2.4
Cancer, any	2.3
Arthritis, self-reported	1 ACEs, hazard ratio=1.5 ≥ 5 ACEs: 1.3
Memory impairment (all causes, including dementia)	4.9
Kidney disease	3.7
Headaches	≥ 5 ACEs: 2.1
Chronic pain, any (using trauma 2-score)	1.2
Chronic back pain (using trauma 2-score)	1.3
Fibromyalgia	≥ 1 ACE: 1.8
Unexplained somatic symptoms, including somatic pain, headaches	2.0-2.7
Skull fracture	1.6-2.6
Physical disability requiring assistive equipment	1.8
Depression	4.7
Suicide attempts	37.5
Suicidal ideation	10.5
Sleep disturbance	1.8
Anxiety	3.7
Panic and anxiety	—
Post-traumatic stress disorder	4.5
Wife drug use (any)	5.2
Injected drug, crack cocaine, or heroin use	10.2
Alcohol use	6.9
Cigarette or e-cigarette use	6.1
Cannabis use	11.0
Teen pregnancy	4.2
Sexually transmitted infections, (HIV)	5.9
Violence, victimization (intimate partner violence, sexual assault)	2.5
Violence perpetration	8.1

*Odds ratios represent outcomes in individuals with ≥ 4 ACEs with those with ≤ 2 ACEs except where specified

<https://doi.org/10.1136/bmj.2020.371034>



Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: a systematic review and meta-analysis

Mark A Bellis, Karen Hughes, Kat Ford, Gabriela Ramos Rodriguez, Dinesh Sethi, Jonathan Passmore



Summary

Background An increasing number of studies are identifying associations between adverse childhood experiences (ACEs) and ill health throughout the life course. We aimed to calculate the proportions of major risk factors for and causes of ill health that are attributable to one or multiple types of ACE and the associated financial costs.

Methods In this systematic review and meta-analysis, we searched for studies in which risk data in individuals with ACEs were compared with these data in those without ACEs. We searched six electronic databases (MEDLINE, CINAHL, PsycINFO, Applied Social Sciences Index and Abstracts, Criminal Justice Databases, and the Education Resources Information Center) for quantitative studies published between Jan 1, 1990, and July 11, 2018, that reported risks of health-related behaviours and causes of ill health in adults that were associated with cumulative measures of ACEs (ie, number of ACEs). We included studies in adults in populations that did not have a high risk of ACEs, that had sample sizes of at least 1000 people, and that provided ACE prevalence data. We calculated the pooled RR for risk factors (harmful alcohol use, illicit drug use, smoking, and obesity) and causes of ill health (cancer, diabetes, cardiovascular disease, respiratory disease, anxiety, and depression) associated with ACEs. RRs were used to estimate the population-attributable fractions (PAFs) of risk attributable to ACEs and the disability-adjusted life-years (DALYs) and financial costs associated with ACEs. This study was prospectively registered in PROSPERO (CRD42018090356).

Findings Of 4387 unique articles found following our initial search, after review of the titles (and abstracts, when the title was relevant), we assessed 880 (20%) full-text articles. We considered 221 (25%) full-text articles for inclusion, of which 23 (10%) articles met all selection criteria for our meta-analysis. We found a pooled prevalence of 23·5% of individuals (95% CI 18·7–28·5) with one ACE and 18·7% (14·7–23·2) with two or more ACEs in Europe (from ten studies) and of 23·4% of individuals (22·0–24·8) with one ACE and 35·0% (31·6–38·4) with two or more ACEs in north America (from nine studies). Illicit drug use had the highest PAFs associated with ACEs of all the risk factors assessed in both regions (34·1% in Europe; 41·1% in north America). In both regions, PAFs of causes of ill health were highest for mental illness outcomes: ACEs were attributed to about 39% of cases of anxiety and 40% of cases of depression in north America and more than a quarter of both conditions in Europe. Costs of cardiovascular disease attributable to ACEs were substantially higher than for most other causes of ill health because of higher DALYs for this condition. Total annual costs attributable to ACEs were estimated to be US\$581 billion in Europe and \$748 billion in north America. More than 75% of these costs arose in individuals with two or more ACEs.

Interpretation Millions of adults across Europe and north America live with a legacy of ACEs. Our findings suggest that a 10% reduction in ACE prevalence could equate to annual savings of 3 million DALYs or \$105 billion. Programmes to prevent ACEs and moderate their effects are available. Rebalancing expenditure towards ensuring safe and nurturing childhoods would be economically beneficial and relieve pressures on health-care systems.

Lancet Public Health 2021; 6: e1927–28

Published Online

September 8, 2021

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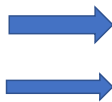
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Health and financial costs of adverse childhood experiences in 28 European countries: a systematic review and meta-analysis

Karen Hughes, Kat Ford, Mark A Bellis, Freya Glenndinning, Emma Harrison, Jonathan Passmore



Summary

Background Adverse childhood experiences (ACEs) are associated with increased health risks across the life course. We aimed to estimate the annual health and financial burden of ACEs for 28 European countries.

Methods In this systematic review and meta-analysis, we searched MEDLINE, CINAHL, PsycINFO, Applied Social Sciences Index and Abstracts, Criminal Justice Databases, and Education Resources Information Center for quantitative studies (published Jan 1, 1990, to Sept 8, 2020) that reported prevalence of ACEs and risks of health outcomes associated with ACEs. Pooled relative risks were calculated for associations between ACEs and harmful alcohol use, smoking, illicit drug use, high body-mass index, depression, anxiety, interpersonal violence, cancer, type 2 diabetes, cardiovascular disease, stroke, and respiratory disease. Country-level ACE prevalence was calculated using available data. Country-level population attributable fractions (PAFs) due to ACEs were generated and applied to 2019 estimates of disability-adjusted life-years. Financial costs (US\$ in 2019) were estimated using an adapted human capital approach.

Findings In most countries, interpersonal violence had the largest PAFs due to ACEs (range 14·7–53·5%), followed by harmful alcohol use (15·7–45·0%), illicit drug use (15·2–44·9%), and anxiety (13·9%–44·8%). Harmful alcohol use, smoking, and cancer had the highest ACE-attributable costs in many countries. Total ACE-attributable costs ranged from \$0·1 billion (Montenegro) to \$129·4 billion (Germany) and were equivalent to between 1·1% (Sweden and Turkey) and 6·0% (Ukraine) of nations' gross domestic products.

Interpretation Availability of ACE data varies widely between countries and country-level estimates cannot be directly compared. However, findings suggest ACEs are associated with major health and financial costs across European countries. The cost of not investing to prevent ACEs must be recognised, particularly as countries look to recover from the COVID-19 pandemic, which interrupted services and education, and potentially increased risk factors for ACEs.

Lancet Public Health 2021; 6: e1848–57

See Comment page e1783

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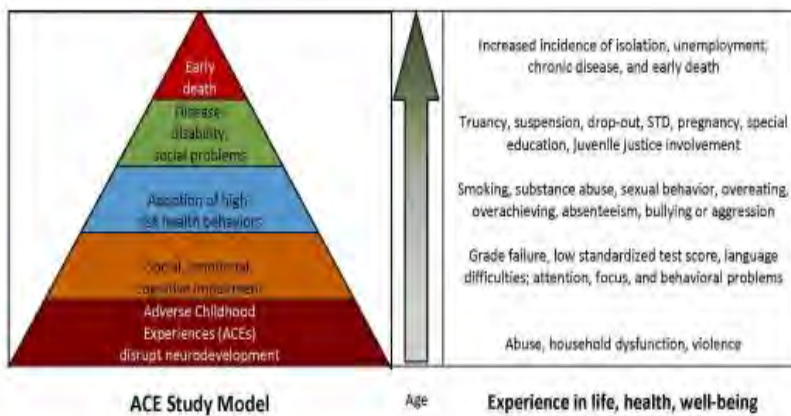
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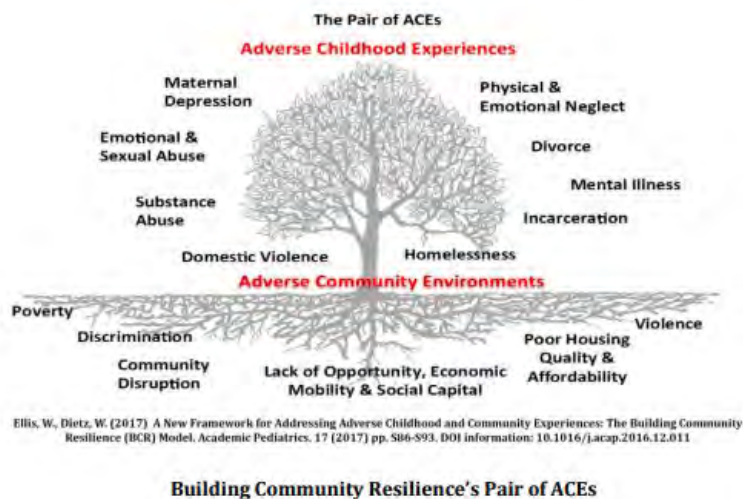


ACEs Diagram



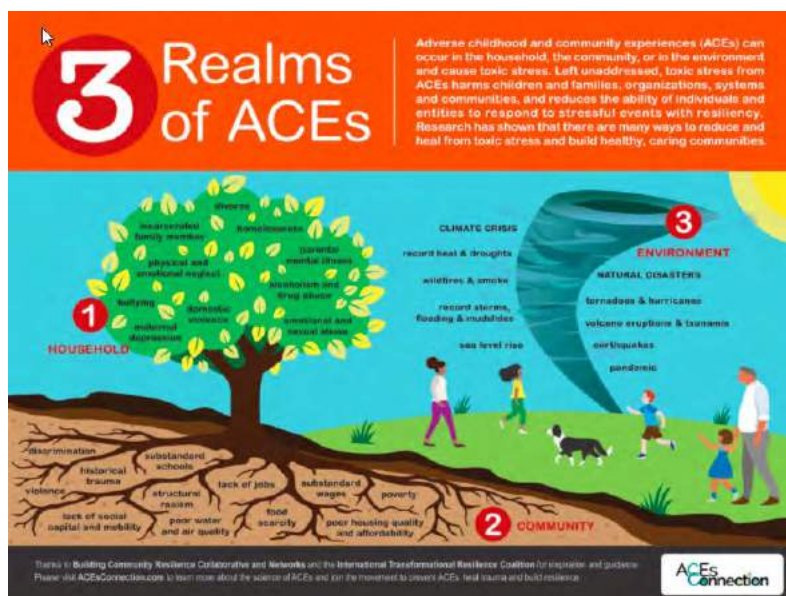
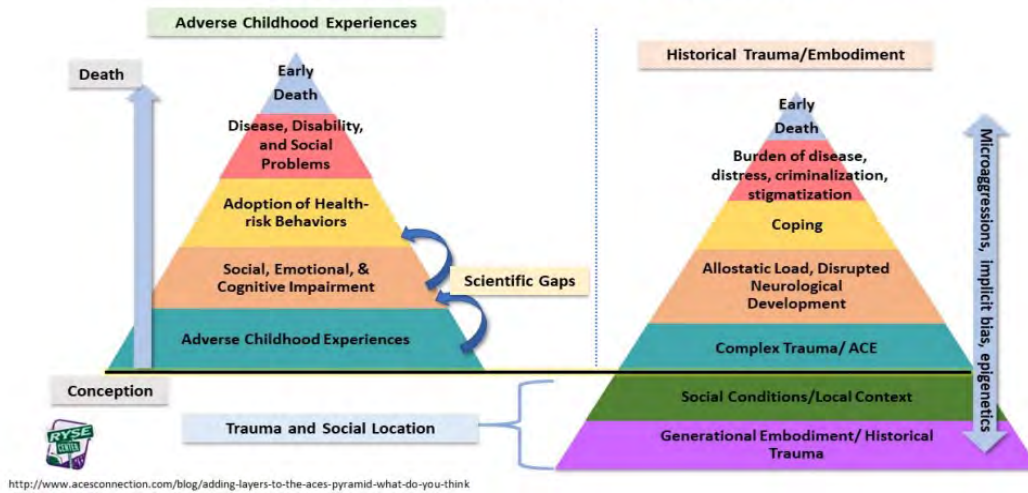
The Adverse Childhood Experiences study suggests that adverse events in childhood can demonstrate negative influences on key factors of health and well-being over an individual's lifespan.

Image: www.behavioral.net



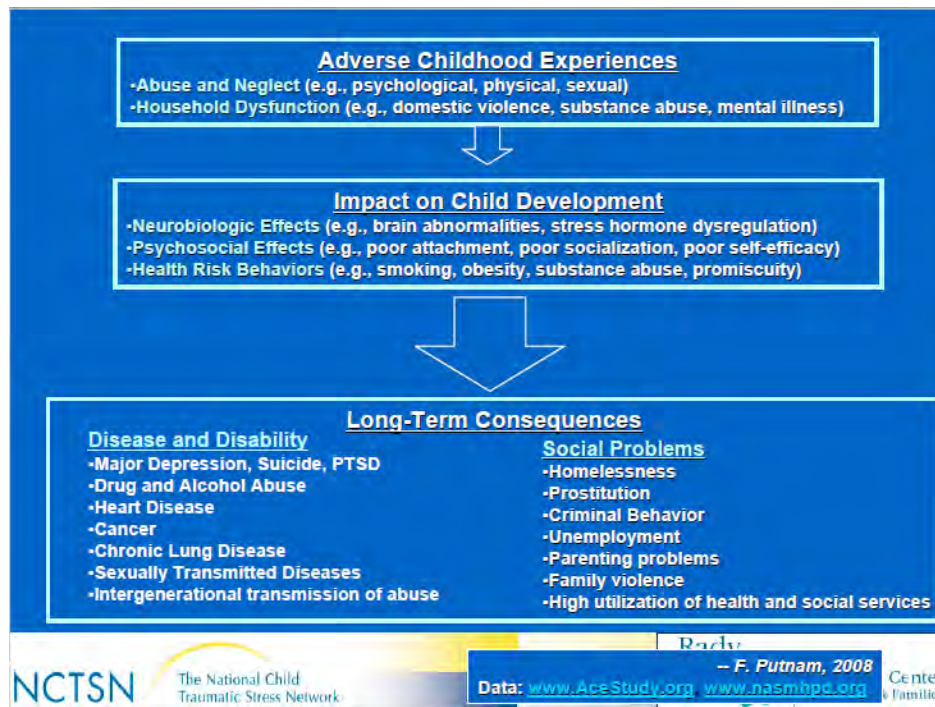
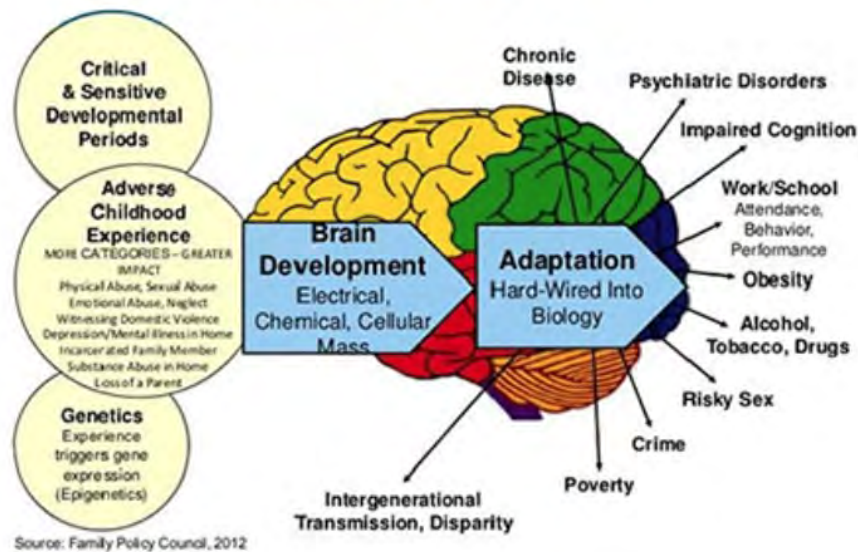


Trauma and Social Location





Lifespan Impacts of ACEs





What is Infant & Early Childhood Mental Health?

The developing capacity from birth to 6 “to experience, regulate, and express emotions; to form close relationships; and to explore the environment and learn”¹ — all in the context of family, community, and cultural expectations for young children.

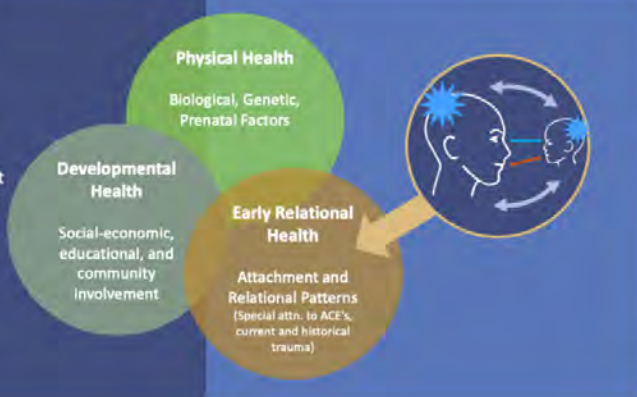
An infant, toddler and young child’s mental health is every part as important as their physical health. Mental health matters for the growth and maturity of the brain and body and for the social and emotional development of a person — now and for the whole lifetime.

¹ The Center on the Social Emotional Foundations for Early Learning. Infant Mental Health and Early Care and Education Providers. Vanderbilt University, retrieve from: http://csefel.vanderbilt.edu/documents/rs_infant_mental_health.pdf



Early Relational Health

Early Relational Health is a multi-dimensional and dyadic construct established by the caregiver-child interactions during the First 1000 Days of life that build lifelong health, early learning, social-emotional capacities, self-regulation and resiliency.



www.CSSP.org

David W. Willis, MD FAAP
Senior Fellow
June 12, 2019



What is Early Relational Health?

Early Relational Health is the state of emotional well-being that grows from the positive emotional connection between babies and toddlers and their parents/caregivers when they experience strong, positive, and nurturing relationships with each other. Early Relational Health is foundational to children's healthy growth and development and their parents'/caregivers' sense of competence, connection, and overall well-being. These resilient and enduring relationships also help to protect the family from the harmful effects of stress.



Suggested citation: Center for the Study of Social Policy (2022). *How to Communicate Effectively About Early Relational Health: What It Is and Why It Matters A Messaging Guide*. Retrieved from <https://cssp.org/>

Human development expects early caregiving

- Caregivers provide safety, security, and regulation
- Without expected caregiving, species develops to enable independent survival
 - short term adaptation with long-term costs



Image credit: Yamasaki, Getty

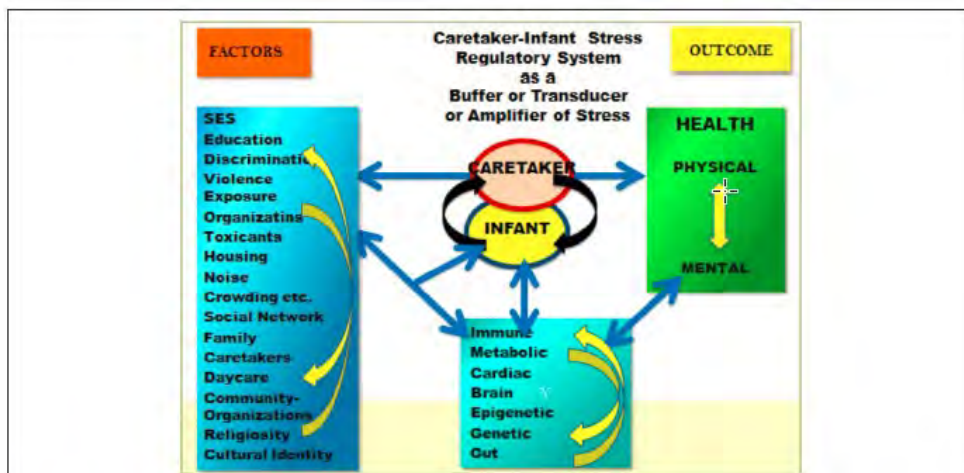


FIGURE 1 | On the left are some of the factors that affect physical and mental functioning to the right. In between are two distinct areas. The box at the bottom suggests some of the processes that mediate the effects of the factors on the left as they affect health outcomes. The figure in the middle is the caretaker-offspring interactive system that in humans and many other mammals regulates the state of the infant. In this model the caretaker-offspring system can either buffer the offspring from the effects of factors on the left or transduce the effects of those factors to the offspring.

Front. Behav. Neurosci., 10 June 2016
Sec. Pathological Conditions
Volume 10 - 2016 | <https://doi.org/10.3389/fnbeh.2016.00107>

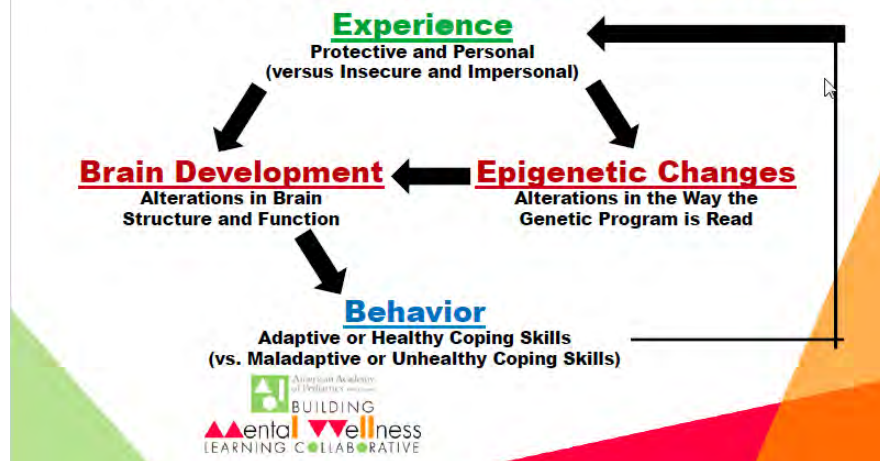
Experience Grows The Brain

- Brain development happens from the bottom up:
 - From primitive (basic survival)
 - To more complex (rational thought, planning, abstract thinking)
- The brain develops by forming connections.
- Interactions with caregivers are critical to brain development.
- The more an experience is repeated, the stronger the connections become.





Development results from an on-going, re-iterative, and cumulative dance between **nurture** and **nature**

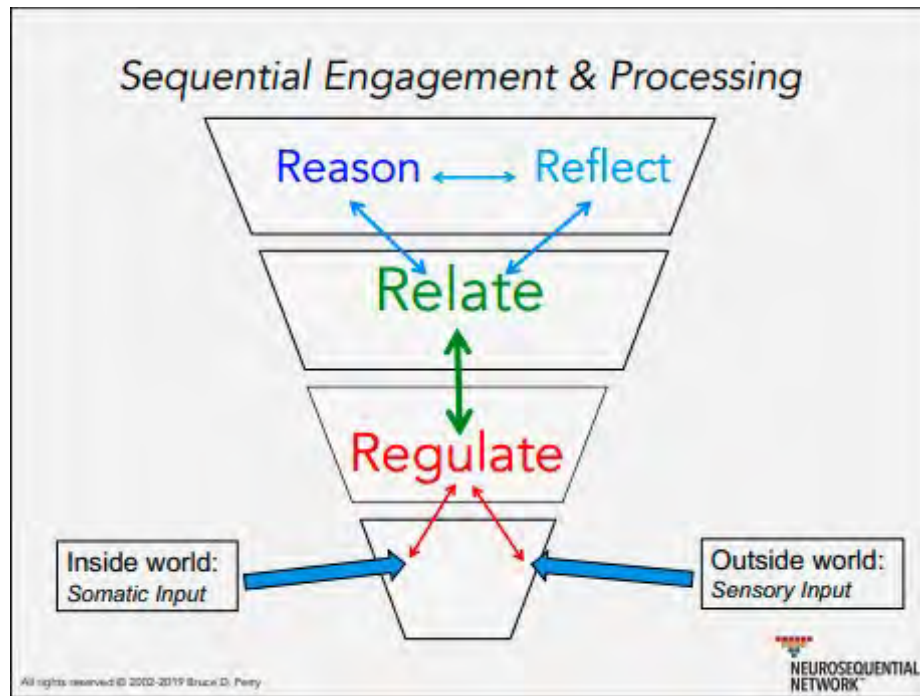


Rodovan Htibij, Jozef Hlastro, Peter Mindrik

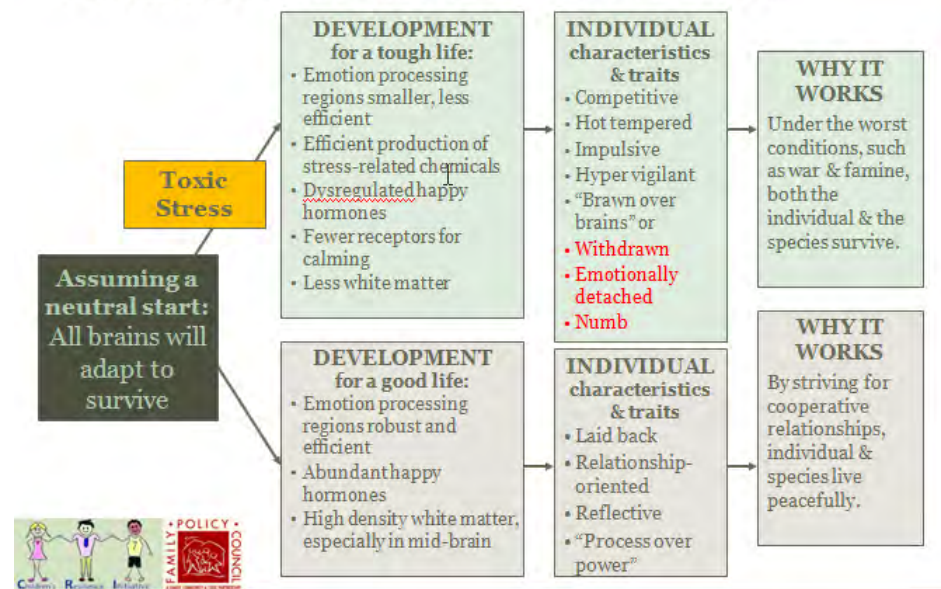


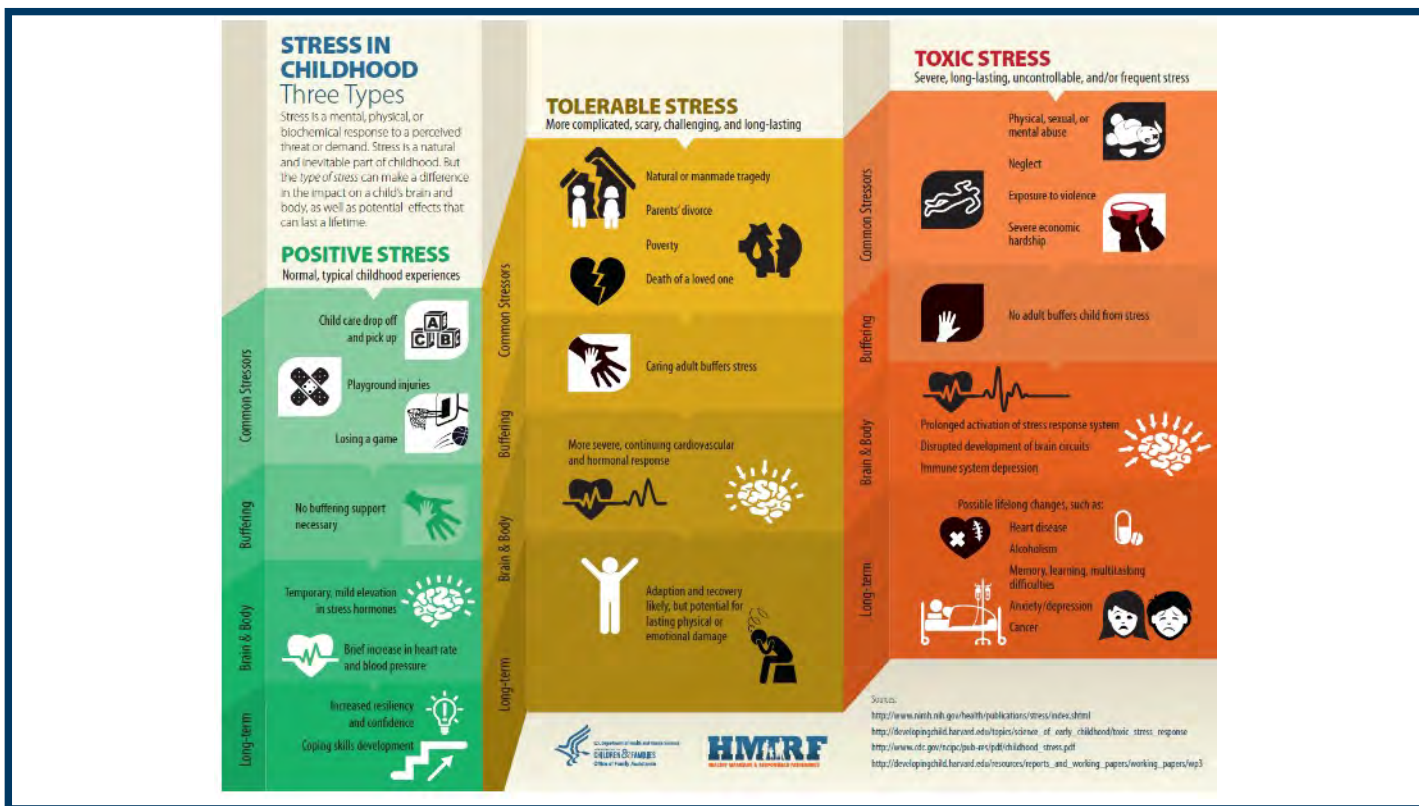
Fig. 1. Attachment and its importance for neurodevelopmental regulations

[Neuro Endocrinol Lett.](#) 2011;32(2):111-20.
Attachment in integrative neuroscientific perspective.
[Hruby R](#), [Hasto J](#), [Minarik P](#).



Brains to Fit the Life We'll Live

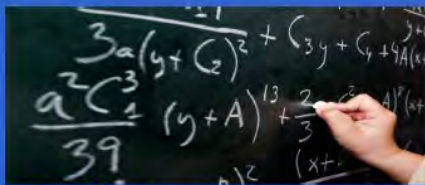




What Is Child Traumatic Stress?

- Child traumatic stress refers to the *physical and emotional responses* of a child to events that threaten the life or physical integrity of the child or of someone critically important to the child (such as a parent or sibling).
- Traumatic events overwhelm a child's capacity to cope and elicit feelings of terror, powerlessness, and out-of-control physiological arousal.

2



Types of Traumatic Stress, cont'd

- **Complex trauma** describes both exposure to chronic trauma—usually caused by adults entrusted with the child’s care—and the impact of such exposure on the child.
- Children who experienced complex trauma have endured multiple interpersonal traumatic events from a very young age.
- Complex trauma has profound effects on nearly every aspect of a child’s development and functioning.

Source: Cook et al. (2005). *Psychiatr Ann*, 35(5):390-398.



Variability

- The impact of a potentially traumatic event depends on several factors including:
 - The child’s age and developmental stage
 - The child’s perception of the danger faced
 - Whether the child was the victim or a witness
 - The child’s relationship to the victim or perpetrator
 - The child’s past experience with trauma
 - The adversities the child faces following the trauma
 - The presence/availability of adults who can offer help and protection





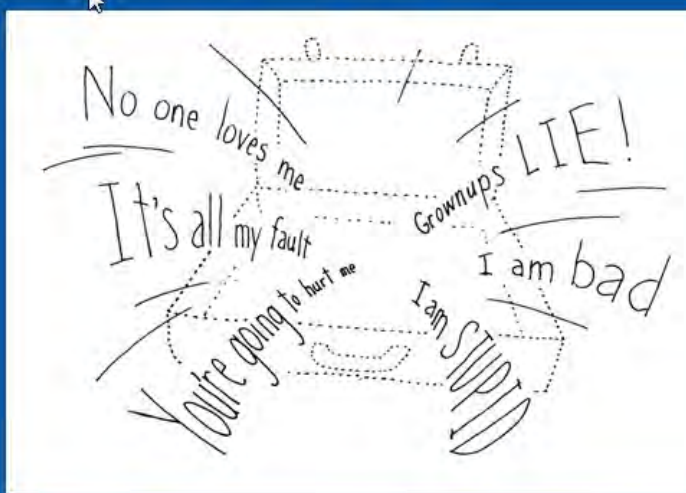
The Invisible Suitcase



Trauma shapes children's beliefs and expectations:

- About themselves
- About the adults who care for them
- About the world in general

The Invisible Suitcase



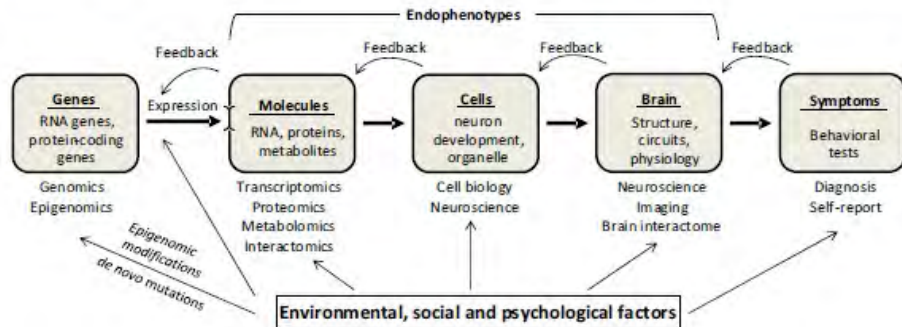
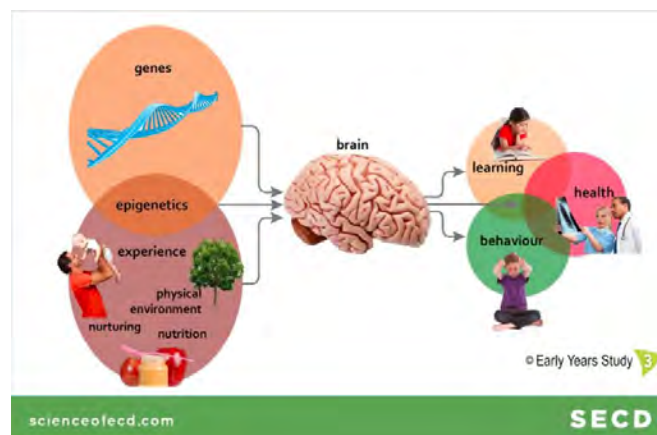


Figure 1 A simplified flow chart for psychiatric disorders: from genes to symptoms. In this flow chart, results from one level (gray box) can exert feedback regulation at several levels upstream although only one level immediately upstream is shown for simplicity. Environmental impacts on each level are indicated. The studies for understanding each level and consequently the corresponding data types are listed below each level





Trauma-Informed Primary Care: Fostering Resilience and Recovery



Typical Development

- I live in a predictable & benevolent world
- I am worthwhile
- I am hopeful & optimistic about my future
- I have the ability to impact & change my life

Trauma

- People want to hurt me
- I am not safe
- I am afraid
- No one will help me
- I am not good/smart/ worthy enough for people to care about me
- It will never get better
- I need to establish personal power & control

Communications@TheNationalCouncil.org
202.584.7457
1400 K St. NW, Suite 400, Washington, DC 20005

www.TheNationalCouncil.org

What Can Traumatized Youth Assume?

- Safety?
- That a consistent adult will love and care for them?
- Ability to control outcomes in their life?
- Motivations of adults?
- Their own essential goodness?
- Ownership of their bodies?
- Control over their own thoughts and actions?

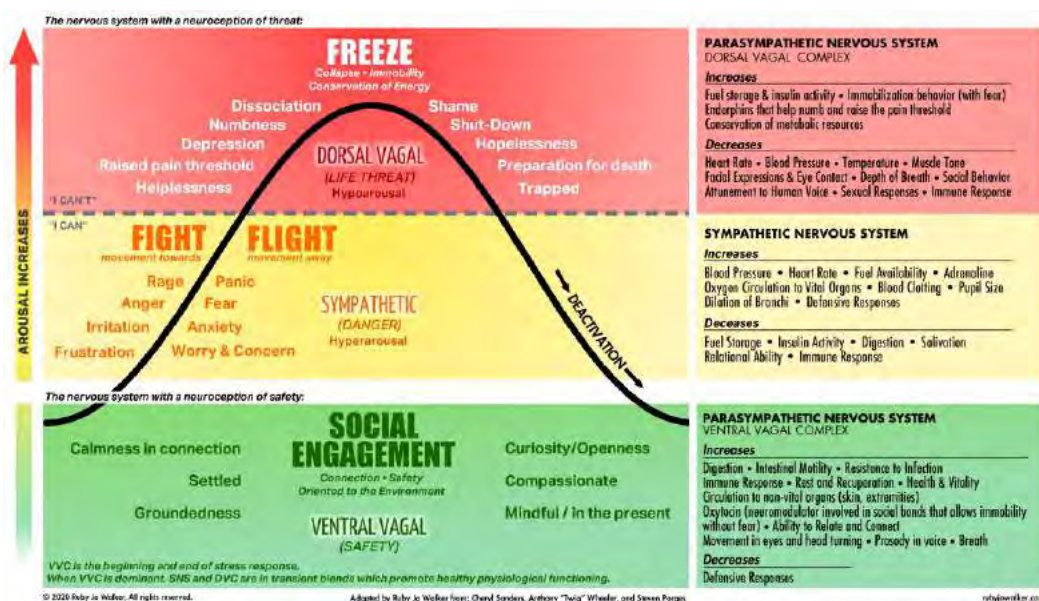




“Defensive phenotype”

- Harsh, unpredictable environments give rise to defensive phenotype—exaggerated behavioral and biological response to the environment
- Brains and stress response systems wired to be vigilant to threats, socially regulated
- Short term adaptation with long-term costs

Miller & Chen, *Psychol Sci*, 2010





Common Triggers for Traumatized Children

- Unpredictability or sudden change
- Transition from one setting/activity to another
- Loss of control
- Feelings of vulnerability or rejection
- Confrontation, authority, or limit setting
- Loneliness
- Sensory overload (too much stimulation from the environment)



Implications *for Learning and Behavior*

With these patterns of brain functioning, we might see...



May be **ADAPTIVE** in an unpredictable, dangerous environment!

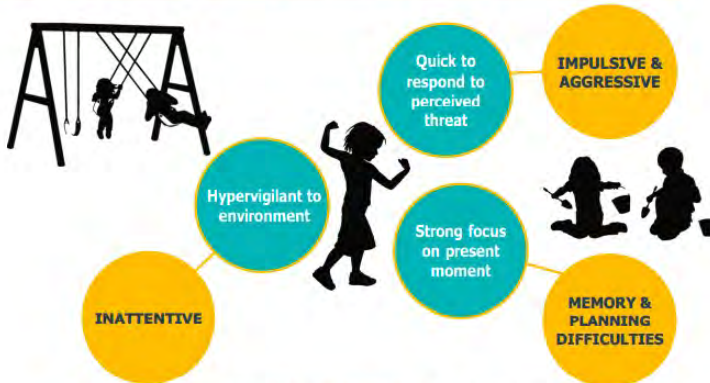
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TOXIC STRESS & RESILIENCE



Implications *for* Learning *and* Behavior



May be **MALADAPTIVE** in different contexts

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Behaviour Iceberg

Behavioural reactions of children who have or are experiencing trauma and/or crisis with self regulation and/or sensory issues.

What we may see in the classroom or at home - above the surface.



www.solvingbehaviour.com

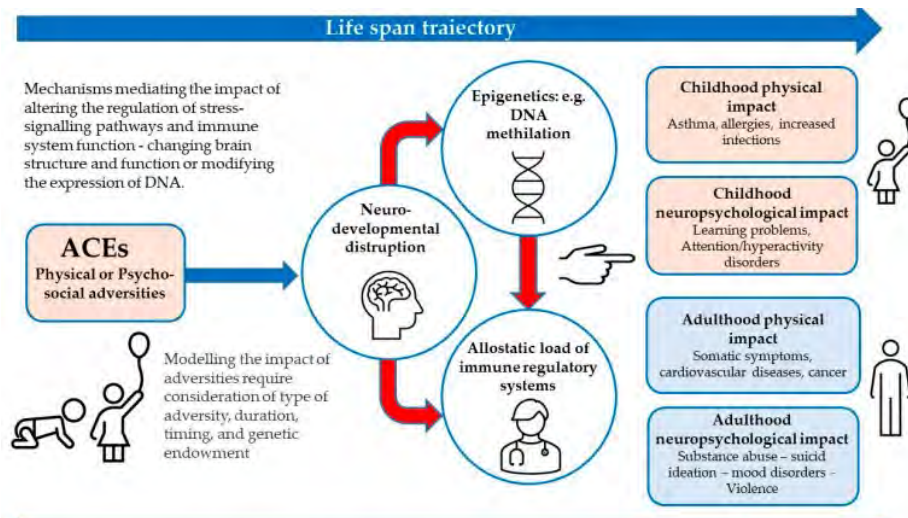
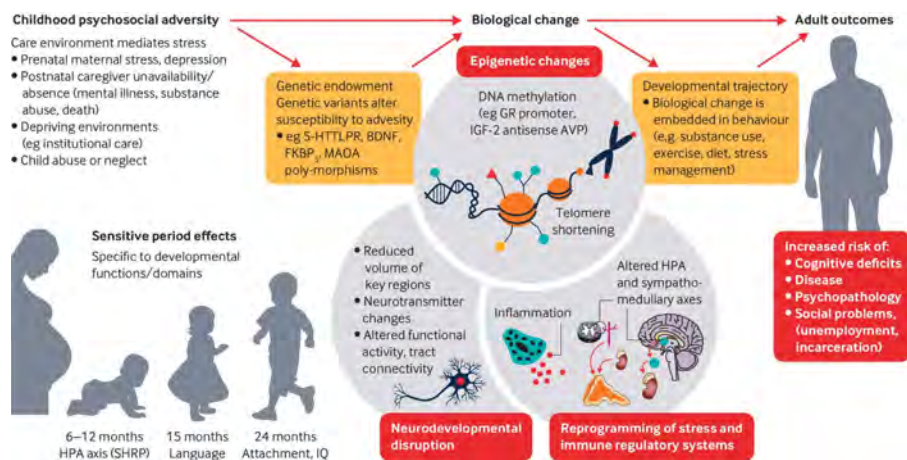


Figure 1. Impact of ACEs exposure and potential mechanisms for physical and/or neuro-psychological facets in childhood and adulthood.

Citation: Pino, O., Cadena, R.T., Po D. A Comprehensive Review on Multifaceted Mechanisms Involved in the Development of Breast Cancer Following Adverse Childhood Experiences (ACEs). *Int. J. Environ. Res. Public Health* 2022, 19, 12615. <https://doi.org/10.3390/ijerph191912615>

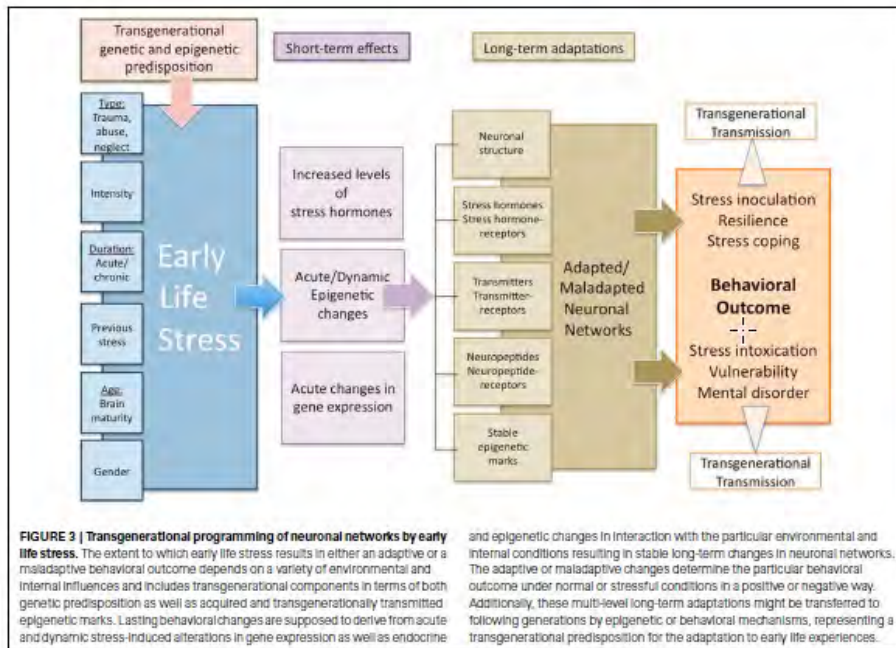
Some of the pathways that mediate exposure to early adversity and adult outcomes.



Charles A Nelson et al. *BMJ* 2020;371:bmj.m3048

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Contemporary Developments and Perspectives in International Health Security - Volume 1

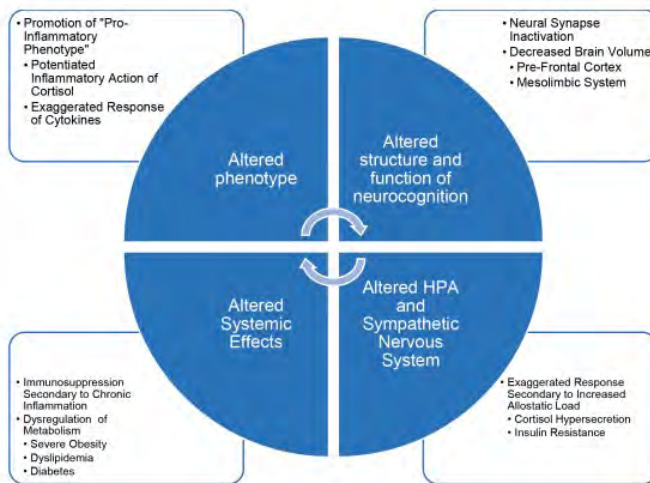


Figure 2. The biological embedding of childhood adversity model resultant of early exposure psychosocial stressors as adapted from Berens [12].

Holter, J., Marchionni, C., & Bhatt, B. (2021). The Relationship of Adulthood Chronic Disease and Adverse Childhood Experiences (ACEs): Implications Regarding Prevention and Promotion in International Health. IntechOpen. doi: 10.5772/intechopen.93520



Duffy *et al.*

Early life adversity and health-risk behaviors

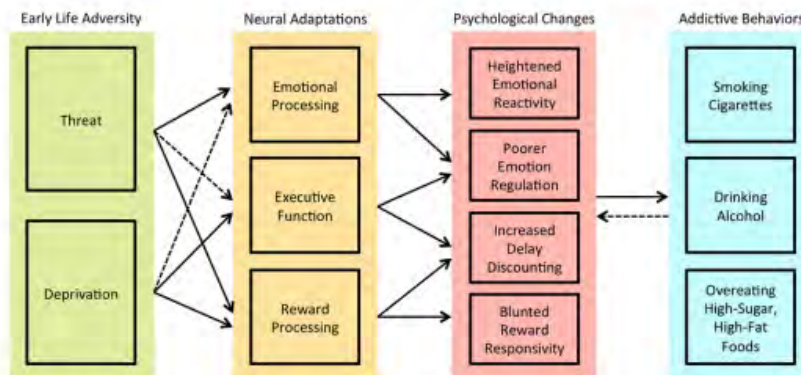
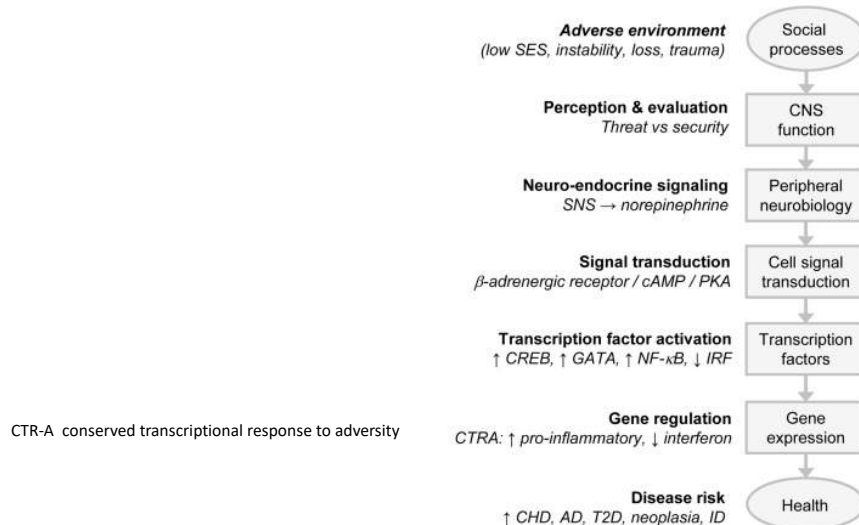


Figure 2. The effect of two dimensions of early life adversity (ELA)—threat and deprivation—on brain development. Neural adaptations to ELA affect emotion, reward, and cognitive networks. These neural adaptations affect four psychological processes that have downstream consequences for health-risk behaviors. Smoking cigarettes, drinking alcohol, and overeating highly palatable foods further heighten emotional reactivity, hinder emotion regulation, increase delay discounting, and blunt reward responsivity, leading to a positive feedback loop for addictive behaviors.

Ann. N.Y. Acad. Sci. 1428 (2018) 151–169 © 2018 New York Academy of Sciences.

A Social signal transduction



Citation: Cole SW (2014) Human Social Genomics. *PLoS Genet* 10(8): e1004601. doi:10.1371/journal.pgen.1004601

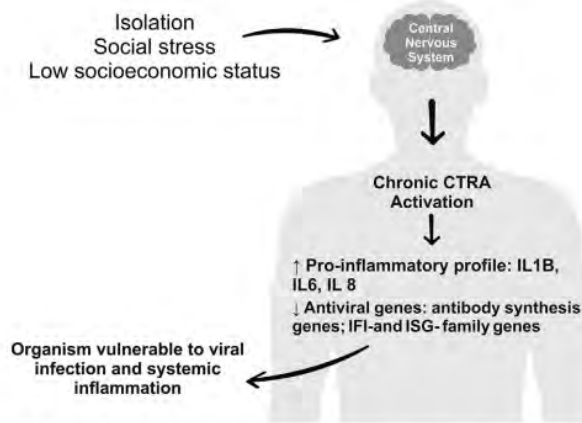


Fig. 1. Chronic CTRA stimulation (due to isolation, social stress or low socioeconomic status i.e.) may lead to stimulation of pro-inflammatory profile (such as IL1B, IL6, or IL8 gene expression) and inhibition of antiviral genes, such as Interferon inducible (IFI) and Interferon stimulated (ISG) gene families. This may leave organisms more vulnerable to viral infections due to insufficient antiviral immune response gene expression.

Isolation, social stress, low socioeconomic status and its relationship to immune response in Covid-19 pandemic context

<https://doi.org/10.1016/j.bbih.2020.100103>

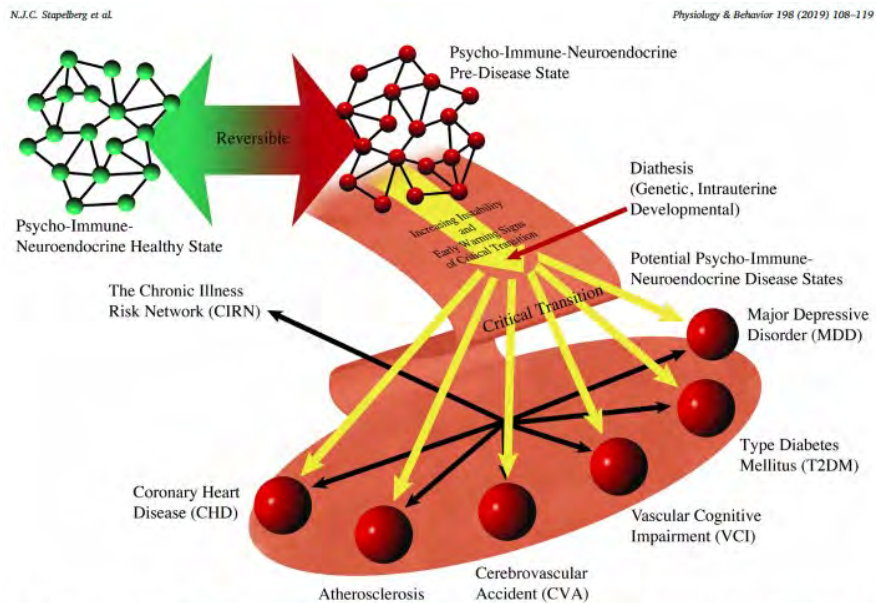


Fig. 3. The progression from the stable psycho-immune-neuroendocrine (PINE) network to the unstable PINE pre-disease state, via a critical transition to one of several possible stable non-communicable disease (NCD) states, including major depressive disorder (MDD), coronary heart disease (CHD), type diabetes mellitus (T2DM), cerebrovascular accident (CVA), atherosclerosis and vascular cognitive impairment (VCI). These NCDs, linked by PINE network physiology, form a chronic illness risk network (CIRN).



Intergenerational Transmission of Adversity

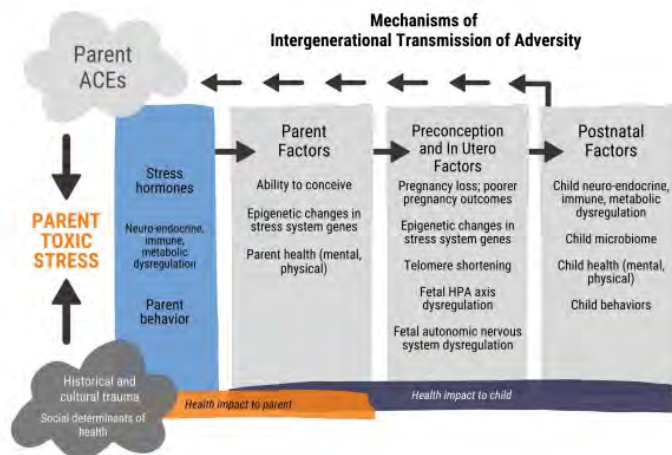


Figure 6. Parental ACEs and toxic stress lead to multiple biological changes that may impact the health of their children.

Bhushan D, Kotz K, McCall J, Wirtz S, Gilgoff R, Dube SR, Powers C, Olson-Morgan J, Galeste M, Patterson K, Harris L, Mills A, Bethell C, Burke Harris N. Office of the California Surgeon General. *Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health*. Office of the California Surgeon General, 2020. DOI: 10.48019/PEAM8812.

1114 MARTINEZ ET AL

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NOVEMBER 2021

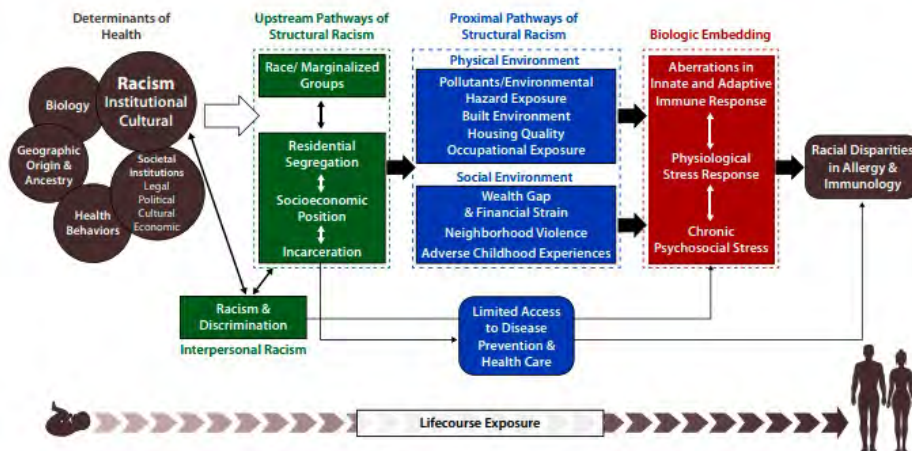


FIG 1. Structural racism as a root cause of allergy and immunology disparities. Conceptual framework of the upstream and proximal pathways of structural racism and its effect on health. Framework adapted from the work of Williams and Mohammed,²⁸ Williams et al,²⁹ Bailey et al,¹⁹ Bailey et al,²¹ and the World Health Organization's Commission on Social Determinants of Health framework.³¹

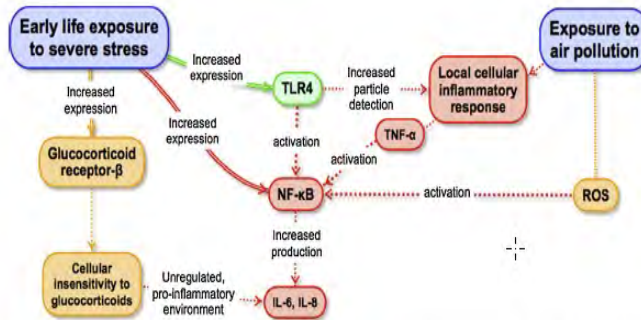
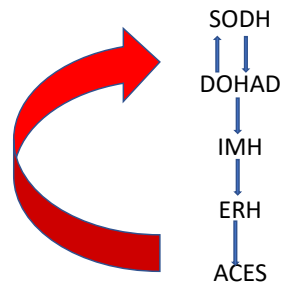


Fig. 1. An integrated multi-level model of early life stress, air pollution, and health. Depicted are the mechanisms through which early life stress exposure may affect the inflammatory response to air pollution exposure, leading in turn to poor lifespan health. Early life exposure to severe stress increases the expression of toll-like receptor 4 (TLR4), glucocorticoid receptor- β , and nuclear factor (NF)- κ B (Bennett et al., 2012; Fiordelisi et al., 2017; Miller et al., 2009). TLR4 is part of the air pollution recognition process that leads to the production of tumor necrosis factor alpha (TNF- α) and culminates in the activation of NF- κ B (Kampfrath et al., 2011; Kawai and Akira, 2007; Lund et al., 2011; Becker et al., 2002; Shoenfelt et al., 2009). Exposure to air pollution increases reactive oxygen species (ROS) generation in the heart and lung (Gurguiera et al., 2002), which in turn also activates NF- κ B. Activation of NF- κ B upregulates the expression of genes coding for cytokines, chemokines, and other pro-inflammatory mediators such as interleukin-6 (IL-6) and interleukin-8 (IL-8) (Gurguiera et al., 2002; Bennett et al., 2012). Finally, increased expression of glucocorticoid receptor- β leads to insensitivity to glucocorticoids that creates a pro-inflammatory environment, which culminates in increased production of IL-6 and IL-8 (Cain and Gidowski, 2015; Hamid et al., 1999).

Early life stress, air pollution, inflammation, and disease: An integrative review and immunologic model of social-environmental adversity and lifespan health

Hector A. Olvera Alvarez^{a,*}, Laura D. Kubzansky^b, Matthew J. Campen^c, George M. Slavich^d

Neuroscience and Biobehavioral Reviews 92 (2018) 226–242





TRAUMA INFORMED CARE

- “Such an approach has no downside, since children who have been **exposed to trauma require it**, and other, more fortunate children deserve and **can also benefit** from this fundamentally humanistic commitment.”



– Gordon R. Hodas MD . Pennsylvania Office of Mental Health and Substance Abuse Services , February 2006

29

NATIONAL COUNCIL FOR BEHAVIORAL HEALTH MENTAL HEALTH FIRST AID

What are the Benefits of Adopting Trauma-Informed Approaches?



- ✓ Increases safety for all
- ✓ Improves the social environment
- ✓ Cares for the caregivers
- ✓ Improves the quality of services
- ✓ Reduces negative encounters and events
- ✓ Creates a community of hope, healing and recovery
- ✓ Increases success and satisfaction at work
- ✓ Promotes organizational wellness
- ✓ Improves the bottom line

Contact: Communications@TheNationalCouncil.org
202.694.7457

RELIAS | LEARNING



Creating the Relational 'Space' for Optimal Development, Learning & Healing (or How do you like those P's?)

Present,
Parallel,
Patient &
Persistent *in* Providing
Patterned, Predictable, Positive *doses of*
Protected (safe) experience

www.ChildTrauma.org

Bruce D Perry, MD, PhD © 2010-2016

Growing Resilience

- Factors that can increase resilience include:
 - A strong relationship with at least one competent, caring adult
 - Feeling connected to a positive role model/mentor
 - Having talents/abilities nurtured and appreciated
 - Feeling some control over one's own life
 - Having a sense of belonging to a community, group, or cause larger than oneself



46

NCTSN

The National Child Traumatic Stress Network

Cal SWBC

CIMH

CFPIC

Rady Children's

See Oleg

Chadwick Center

for Children & Families



What Trauma-Informed Parenting Can Do



When we protect them from harm. . . .

. . . . children learn that the world is safe.

When we support, nurture, and respond to them. . . .

. . . . children learn that they are capable.

When we give them affection and love

. . . . children learn that they are lovable.

“What’s wrong with you?”

Blame
Shame
Punishment



“What happened to you?”

Understanding
Healing
Nurturing





Core elements of positive developmental, educational and therapeutic experiences:

- Relational (safe)
- Relevant (developmentally-matched)
- Repetitive (patterned)
- Rewarding (pleasurable)
- Rhythmic (resonant with neural patterns)
- Respectful (child, family, culture)

Changing the Question:

From “What is wrong with you?” to “What is going on? How are you feeling?”

Behavior	Feeling it is Masking
Oppositional Behavior	Fear of Rejection/Abandonment
Outbursts	Overwhelmed
Anger	Hurt
Depression	Lack of Self Worth
Withdrawal/Absences	Avoidance of Emotions
Argumentativeness	Testing Relationship
Escalation	Triggered Trauma Memories
Defiance of Authority	Need for Control





Behaviour	What might be happening?
Distant, disengaged, shut-off	'freeze' survival mode
Defiant, angry, aggressive	Fight' survival mode experiencing threat
Looking for attention	Wanting to be connected
Withdrawn	Fearful cautious
Rude	Self-protective, rejecting before being rejected
Not engaging	Not feeling safe yet
Self-harm	Coping strategy for emotional pain

Building Resilience

Resilience can be built by improving skills to work through challenges. The resilience of an individual depends on their relationships and community. It is the systems around us that influence the ability of both children and adults to be resilient.



<https://www.resilientga.org/aces>



Social and Emotional Competence
Children's early experiences of being nurtured and developing a *positive relationship* with caring adult *affects all aspects* of behavior and development.

Knowledge of Parenting & Child Development
Children *thrive* when parents provide *not only affection*, but *also respectful communication* and listening, consistent rules and expectations, and *safe opportunities* that promote independence.

5 Protective Factors

Social Connections
Parents with a social network of *emotionally supportive friends, family, and neighbors* often find that it is *easier to care* for their children and themselves.

Resilience
Parents who can cope with the *stresses of everyday life*, as well as an occasional crisis, have *resilience*; they have the flexibility and inner strength necessary to *bounce back* when things are not going well.

Concrete Support
Families who can meet their own *basic needs* for food, clothing, housing, and transportation—and who know how to access essential services such as childcare, health care, and mental health services to address family-specific needs—are *better able to ensure the safety and well-being* of their children.

ACEs can have devastating impacts on long term health
When a child experiences adverse childhood experiences (ACEs), it can have life long consequences for physical and mental health that, one caring adult can make a difference. That's why we know building protective factors in parents, communities and businesses is important.

For more information
Please call 919-829-8009 or email
info@preventchildabuse.org
PreventChildAbuseNC.org
f t in

Prevent Child Abuse North Carolina

Protective and Compensatory Experiences (PACEs)

Hays-Grudo and Morris (2019) describe the research supporting experiences and environments that buffer children from the effects of ACEs and help adults with a history of ACEs recover and improve their own developmental trajectories. The relationship factors identified as PACEs include: (1) unconditional love from a parent (or other primary caregiver); (2) having a best friend; (3) volunteering/helping others in the community; (4) belonging to a social group; and (5) having the support of an adult outside of the family (e.g., coach, mentor). The Resource PACEs include: (6) living in a clean and safe home with enough food; (7) having the resources and opportunities to learn; (8) having an engaging hobby, a creative or intellectual pursuit; (9) engaging in physical activity or sports; and (10) living in a home with routines and consistent rules. The PACEs experiences and environments summa-



Figure 7. Employing the evidence-based strategies for toxic stress regulation can help patients reduce stress and build resilience. Reproduced with permission from ACEs Aware.²⁶

Bhushan D, Kotz K, McCall J, Wirtz S, Gilgoff R, Dube SR, Powers C, Olson-Morgan J, Galeste M, Patterson K, Harris L, Mills A, Bethell C, Burke Harris N, Office of the California Surgeon General. *Roadmap for Resilience: The California Surgeon General's Report on Adverse Childhood Experiences, Toxic Stress, and Health*. Office of the California Surgeon General. 2020. DOI: 10.48019/PEAM8812.

The Power of Relationships



toxic stress (n.)

the experience of strong, frequent, and/or prolonged adversity... **without adequate adult support.**



Interventions that support positive caregiving relationships can actually **reverse some of the physiological effects** of chronic stress.



Children's relationships with adults can serve as either **resources or demands** with social and biological implications.



The single most common factor among children who do well **despite** experiencing adversity is the presence of at least **one supportive, responsive adult in their life.**





Be a trauma-informed care champion!



[Psychol Bull. 2014 Jan; 140\(1\): 10.1037/a0032671](https://doi.org/10.1037/a0032671)

Published online 2013 Apr 22. doi: [10.1037/a0032671](https://doi.org/10.1037/a0032671)

PMCID: PMC3844011

NIHMSID: NIHMS484499

Psychobiological Mechanisms Underlying the Social Buffering of the HPA Axis: A Review of Animal Models and Human Studies across Development

[Camelia E. Hostinar](#), [Regina M. Sullivan](#), and [Megan R. Gunnar](#)

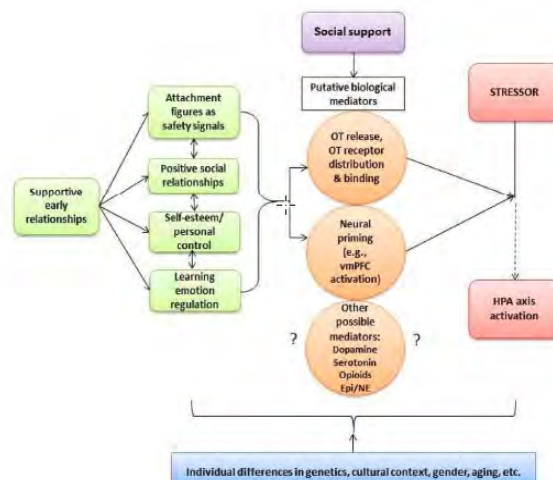
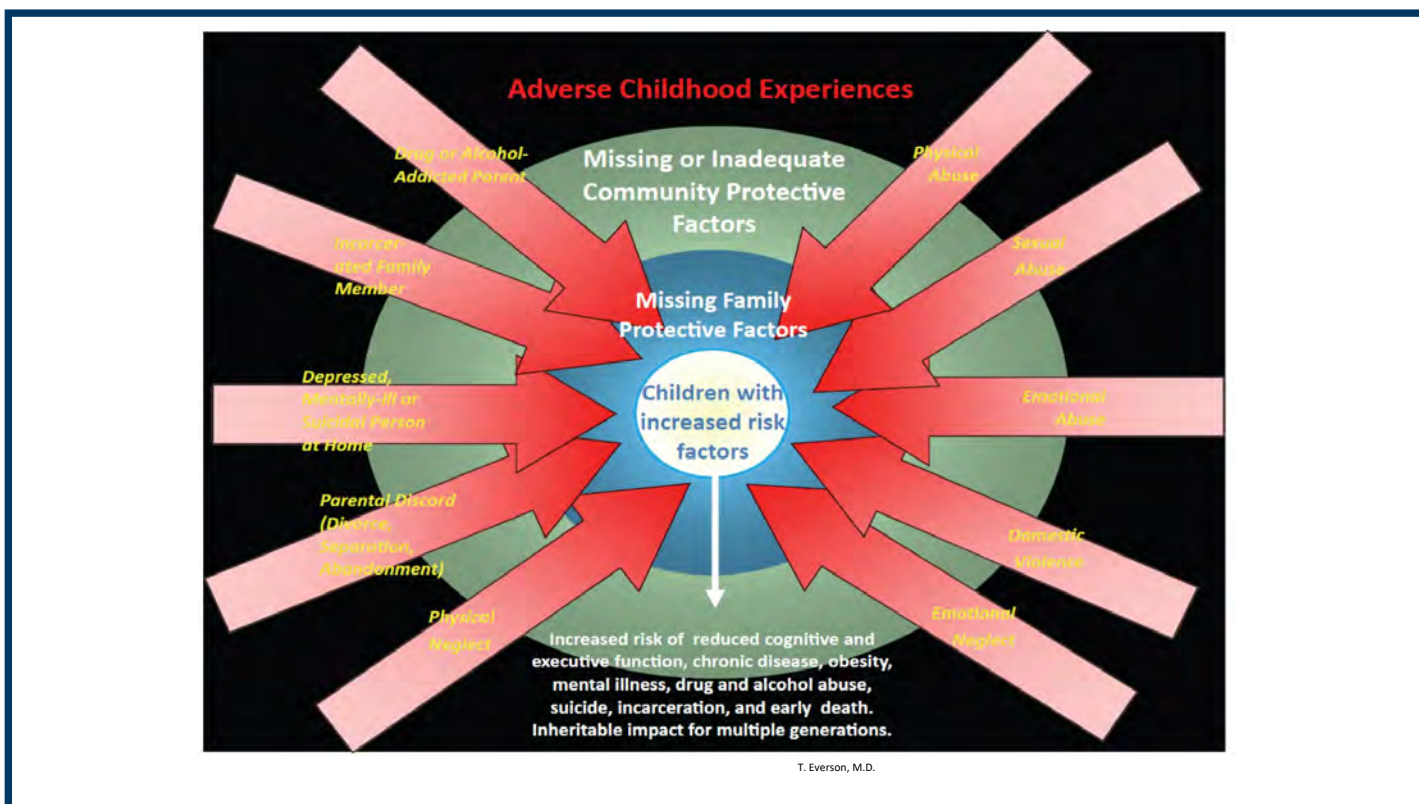
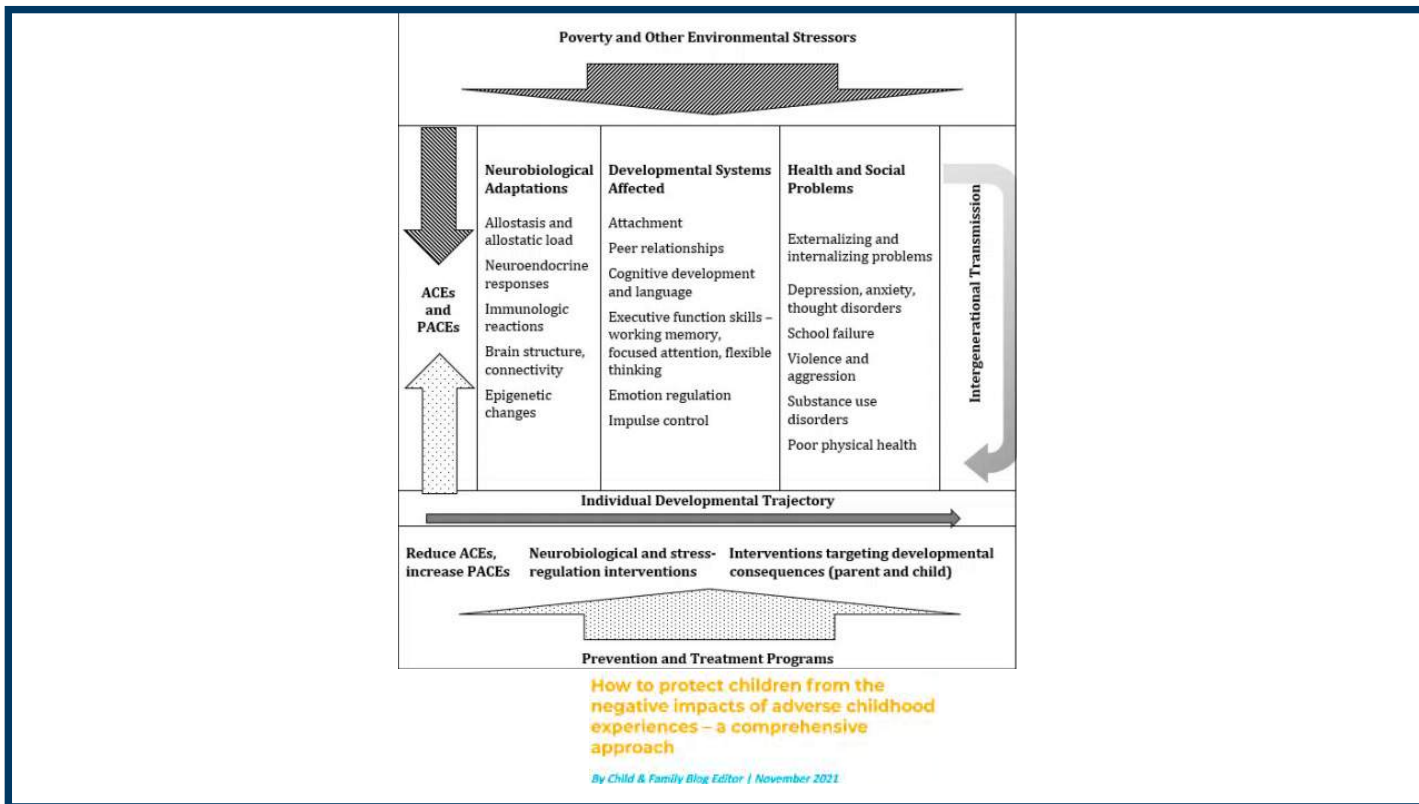
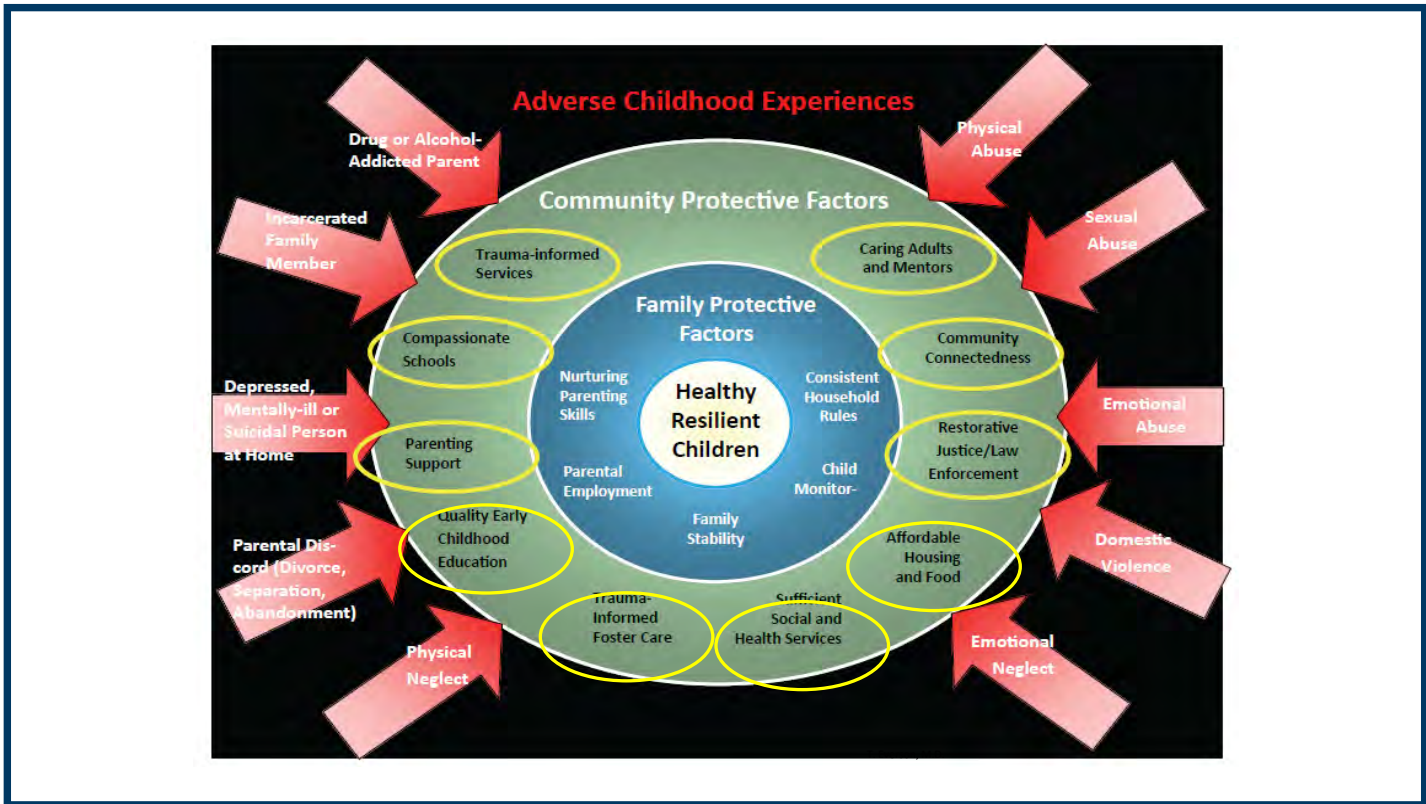


Figure 1. A Developmental Working Model of Social Buffering of the HPA Axis in Humans
OT = oxytocin, vmPFC = ventro-medial prefrontal cortex. Epi = epinephrine, NE = norepinephrine.





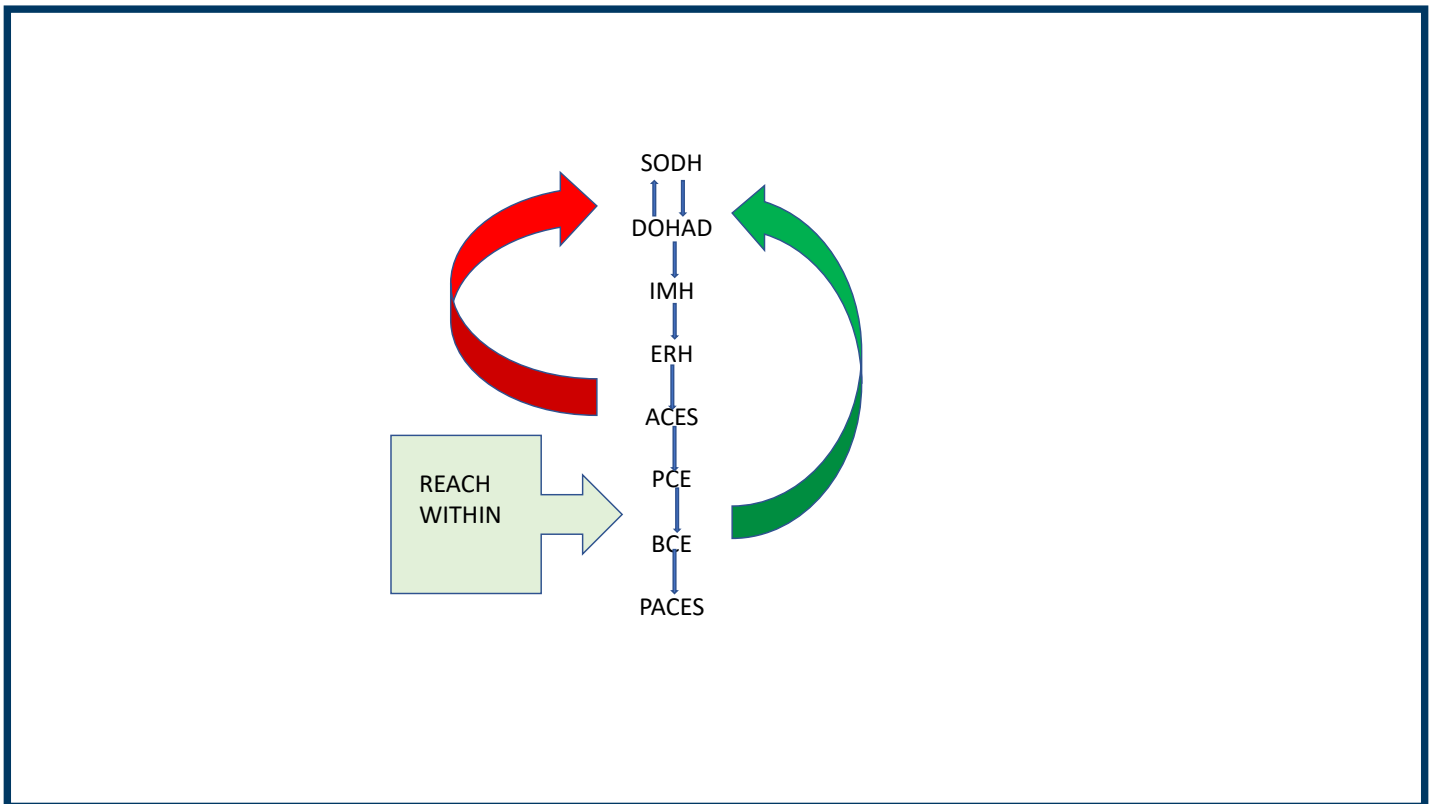
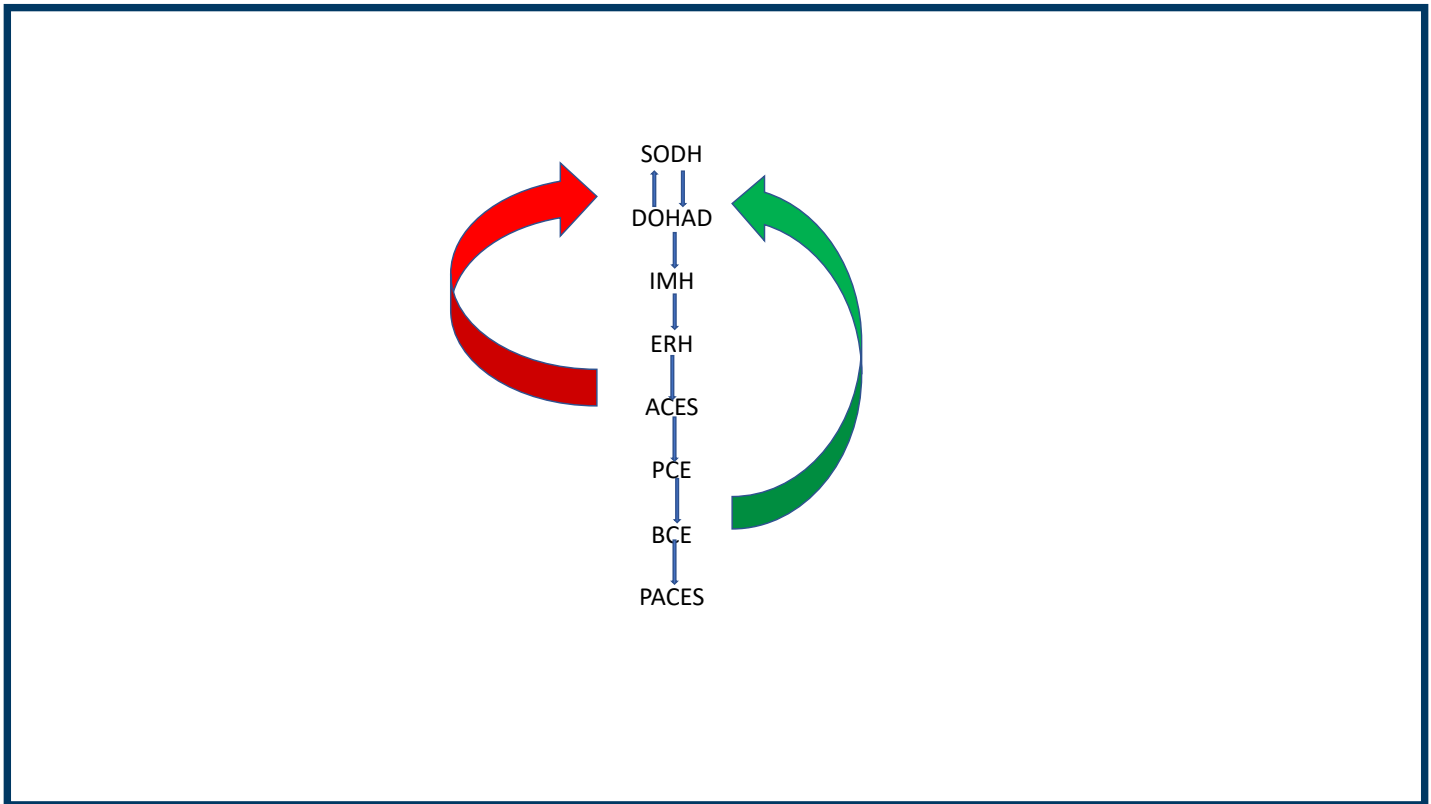
Things to Remember



- Underlying question =** "What happened to you?"
- Symptoms =** Adaptations to traumatic events
- Healing happens** in relationships

Slide 5







2006 - 2009

REACH Grenada forms. Announced at Prime Minister Mitchell's Birthday Party in Brooklyn, 2006 in honour of his commitment to promoting opportunities for all Grenadians "to reach new heights." The REACH program worked in 14 schools in St. Andrews Parish with deliverables in 5 key areas:

- **Recreation:** installed playgrounds, shade trees, and benches
- **Education:** delivered standardized literacy training for teachers; trainings also included material donations of books, printers, ink to be used for literacy programs
- **Agriculture:** installed grow boxes and chicken coops to supplement the school feeding program and promote love of agriculture in children
- **Community Building:** conducted focus groups to better understand how to prioritise children's needs
- **Healthcare:** delivered widespread program of diagnosis and treatment of intestinal parasites and rheumatic fever

Founded in 2008, Reach Grenada works with all of these residential care centres to improve the emotional and social well-being of child victims of abuse and neglect. They provide training, support services and wellness programmes to the children and their caregivers. They also offer summer camp services for the children.



Sixth Annual World Health Continuing Medical Education Conference



PRESENTERS

Dr. Ed Tronick
Ed has developmental and clinical psychology and is recognized internationally as a researcher of infants, children and caregivers. Dr. Tronick is University Distinguished Professor of Psychology and the University of Massachusetts, Boston and Director of the Child Development Lab at Children's Hospital. He is also a past-president of the American Psychological Association and an Academic Professor at MIT. He is the School of Education and the School of Public Health at Harvard. He is a faculty member of the Harvard Medical School, a member of the Boston Psychoanalytic Society and Institute, and a past member of the Harvard School of Public Health. With Dr. Paula Brock, he is co-director of the Early Parent Infant Learning Relationship Program, which has a focus on the development of the program. With Dr. Ed Tronick he co-developed the Parent Assessment Scale. Dr. Tronick developed the Self-Report Questionnaire for the Infant-Toddler Interaction Assessment Scale. He continues to research on the effects of maternal depression and other affective disorders on infants and child social emotional development and on the effects of social interaction on children, and the effects of stress on health outcomes.

Dr. Janet Herman
Janet has worked in the field of early child development for over 35 years. After 10 years working with children and families in the field of child development, she worked in the field of child development at Harvard University and the Center for Early Childhood Education. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager.

Martha R. Douvan
Martha R. Douvan, a Licensed Clinical Social Worker, has worked with infants, children and families in the field of child development for over 20 years. She has worked as a research assistant, a research coordinator, and a research manager. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager.

Dr. Judith S. Liben
Judith S. Liben, PhD, is a Psychologist and is currently the Co-Director of the Center for Early Childhood Education at Harvard University. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager.

Dr. St. Louis
Dr. St. Louis is an Early Childhood Education Officer at the Ministry of Education and Human Resource Development (MHRD). She is also a New York State Licensed and Certified Special Education Teacher at the University of the South Florida. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager.

Tracy R. Heath-Elms
Tracy R. Heath-Elms, PhD, is a Professor of Education and Human Resource Development at the University of the South Florida. She has worked in the field of child development in various capacities including as a research assistant, a research coordinator, and a research manager.



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Children and Caregivers
"The importance of their relationships"

A two day conference on the importance of relationships in supporting positive childhood outcomes.

June 26-27, 2014

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Ministry of Youth, Empowerment & Sports
For more information about our programs please go to www.reachwith.org.

THURSDAY - JUNE 26, 2014	WORKSHOPS	FRIDAY - JUNE 27, 2014
8:00am-8:45am Registration	Dr. Ed Tronick "Child Development" Q&A 2:00PM only	8:00am-8:45am Registration
8:45am-9:00am Greetings Dr. Karen Lawson Dr. Richard Hoogman	Dr. John Homanin "Putting the Concepts to Work"	8:45am-9:00am Greetings
9:00am-9:30am Opening Salutations National Anthem <i>Long live the stars and stripes from the Great Star Spangled Banner!</i> <i>Made real alive by the US Navy Personnel</i> <i>Deplored by others from the US Navy Personnel</i>	Miriam Daville-LICSW "Now You Feeded Me"	9:00am-9:30am Salutations
9:30am-10:30am How do Infants Make Sense of the World Dr. Ed Tronick	Dr. Hovi Dalbec "Sense out of Nonsense"	9:30am-10:30am How Messy Social Interactions Lead to Positive Infant and Child Development Dr. Ed Tronick
10:30am-11:00am Morning Break	Chris St. Louis MA and Tracy R. Heath-Elms, PhD "Attachment, Speech and Language Development of Children"	10:30am-11:00am Morning Break
11:00am-12:00pm The Developing Child in Relationships Dr. John Homanin		11:00am-12:00pm Working With the Child/Family System Dr. John Homanin
12:00pm-12:30pm Panel Discussion		12:00pm-12:30pm Panel Discussion
12:30pm-2:00pm Lunch		12:30pm-2:00pm Lunch
2:00pm-3:00pm Choice of Workshop		2:00pm-3:00pm Choice of Workshop
3:00pm-3:30pm Afternoon Break		3:00pm-3:30pm Afternoon Break
3:30pm-4:30pm Choice of Workshop		3:30pm-4:30pm Choice of Workshop
		4:30pm-5:00pm Panel Discussion/Closing Comments



PRESENTERS

Dr. Joseph B. Boyce, MD
Dr. Joseph B. Boyce is a professor of pediatrics at the University of California, Los Angeles. He is also the director of the Center for the Study of Early Childhood Experiences. He has published numerous articles on the importance of early childhood experiences on later life outcomes. He is also the author of the book "The Science of Early Childhood Development: A Comprehensive Text for Professionals and Parents." He is currently serving as the President of the American Academy of Pediatrics.

Dr. Robert L. Taylor, MD
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In conjunction with

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THURSDAY - JULY 2, 2015	WORKSHOPS	FRIDAY - JULY 3, 2015
8:00am-8:45am Registration	Dr. Stephen Pogger Porting the Concepts to Work/Q&A Film Sections only	8:00am-8:45am Registration
8:45am-9:00am Greetings Dr. Richard Hoggins	Dr. C. Sue Carter Porting the Concepts to Work/Q&A Second Section only	8:45am-9:00am Greetings
9:00am-9:15am Opening Prayer Ms. Diana Cera, Raising Children Programs	Dr. John Horowitz Porting the Concepts to Work/Q&A	9:00am-9:30am Prayer
9:15am-10:15am Opening Session National Anthem <i>Performed by Mr. Jerry Reynolds and Mr. Michael Hagan</i>	Dr. Heidi Dahlberg Vocals as Therapy Bending Your Body to Straighten Out Your Mind	9:30am-10:30am Sponsorship, SDHHS, Advancing African Developmental Effects Dr. Stephen Pogger
10:15am-10:30am Morning Break	Sera Leigh Ghourald Best Practices for Classroom Management and Children's Behavior	10:30am-10:45am Breakfast
10:30am-11:35am <i>The Healing Power of Love</i> An Integrative Hypnosis Dr. C. Sue Carter	Gayle P. Feltz, CEIS/Adult Subramanian, LMHC, CEIS, R. DMT The Power of Play (ages 0-5 years) First Session The Power of Play (ages 4 and older) Second Session	11:00am-12:00pm Biblical and Christian Workshops Dr. John Horowitz
11:35am-12:00pm <i>The Dying Child</i> A Family Experience and Reflection Dr. John Horowitz		12:00pm-12:30pm Food Discussion
12:00pm-1pm Prayer Discussion		12:30pm-2:00pm Lunch
1pm-2:15pm Lunch		2:00pm-3:00pm Classroom Workshop
2:15pm-3:15pm Class of Workshops		3:00pm-5:30pm Afternoon Break
3:15pm-3:30pm Afternoon Prayer		5:30pm-6:30pm Class of Workshops
3:30pm-4:30pm Class of Workshops		6:30pm-8:00pm Panel Discussion Closing Comments

**Thanks To
Program Administrator
Dr. Ed Tronick,
UMASS, Boston**





Dr. Alexandra Harrison, a noted child psychiatrist led the course. Dr. Harrison in addition to being a core faculty member of the University of Massachusetts Boston Infant Mental Health Post-Graduate Certificate Program is a Training and Supervising Analyst in Adult and Child Psychiatry at the Boston Psychoanalytic Institute, an Assistant Professor Part Time in Psychiatry at Harvard Medical School and co-founder of a non-profit Supporting Child Caregivers dedicated to furthering her efforts to disseminate knowledge about the importance of early relationships in the life and health of infants and their caregivers. The lecture material was organised around the tasks of the parent: To Protect, to nurture, and to enjoy, and also included demonstration of the "Newborn Behavioural Observation" tool used to build healthy relationships between the newborn infant and its parents.





The CPA Buzz July to September 2017
Local Child Care Professionals learn from the Best

Noted Child Psychiatrist and core faculty member of the Infant Mental Health Post-Graduate Certificate Program at the University of Massachusetts, Dr. Alexandra Harrison - the infant, gets for the first time in her career - graced the tale of Spice and deliver lectures on the growing field of Infant Mental Health. The three-day training, held in September was facilitated by the New York/Grenada-based non-governmental organization ReachwithIn in conjunction with St. George's University, it targeted the University's School of Nursing as well as members of the GrenCase Caregiver Programme and the Child Protection Authority. "The aim was to increase awareness of the concepts of infant-parent mental health, so that the relationship, starting at birth, between the parent and mental and social illnesses can be tied to long-term childhood adversity situations," Dr. Honigman said. He also stated that early-life adverse circumstances and environmental stressors such as poverty, domestic violence and substance abuse and grasp the concept of infant mental health and help mothers get the most joy and pleasure out of their children - from birth - children will feel safe, secure and contented enough to go out and explore the positive things the world has to offer.



Infant Mental Health session at the SGU. Photo by ReachwithIn.



Infant Mental Health Session Group Shot. Photo by ReachwithIn.

Dr. Honigman said, "The infant gets for the first time in her career - graced the tale of Spice and deliver lectures on the growing field of Infant Mental Health. The three-day training, held in September was facilitated by the New York/Grenada-based non-governmental organization ReachwithIn in conjunction with St. George's University, it targeted the University's School of Nursing as well as members of the GrenCase Caregiver Programme and the Child Protection Authority. "The aim was to increase awareness of the concepts of infant-parent mental health, so that the relationship, starting at birth, between the parent and mental and social illnesses can be tied to long-term childhood adversity situations," Dr. Honigman said. He also stated that early-life adverse circumstances and environmental stressors such as poverty, domestic violence and substance abuse and grasp the concept of infant mental health and help mothers get the most joy and pleasure out of their children - from birth - children will feel safe, secure and contented enough to go out and explore the positive things the world has to offer.

He says the benefits of an enhanced infant-parent relationship can include better performance in school, better degrees of self-regulation, better social interaction, improved social stability, as well as less chronic diseases and less substance dependence - all of which will augur well for the Grenadian society. "At this takes time. It should happen little by little, but you would be able to measure real improvements for years, because the child is still formative, even in their teen years," Dr. Honigman assured.





My Spiritual Life

reachwithin launches "My Spiritual Life" Program specifically for children, youth and adolescents who have experienced abuse, abandonment or adversity.

Spiritual and religious practices, part of any culture, have also been identified through scientific research, as a cornerstone of resiliency. According to research, a key factor in developing resiliency and minimizing the risk of Post Traumatic Stress Disorder is the way a person perceives and processes the experience. Spiritual and religious practices offer another lens from which to make sense of adverse life events. Spirituality can often be a framework to find hope versus despair in the aftermath of trauma.

reachwithin seeks to provide the necessary resources for children who have experienced adversity, to go forth and lead healthy, happy lives. We also believe children and youth should have the opportunity to explore these specific themes and personal experiences through a spiritual lens. Using a train-the-trainer approach, the program will focus first on staff caregivers who work in residential care homes, and who provide the most consistent relationships for children. Once the caregivers have engaged in the experience, together we will create opportunities for children, youth and adolescents to explore their life stories through a spiritual lens.

reachwithin would like to extend a very big thank you to Mr. James Stewart for spearheading this initiative. We would also like to extend our gratitude to Mrs. Lorna Douglas, reachwithin's trainer, who will oversee the implementation of the "My Spiritual Life" program. As with all reachwithin programs, participation is optional. This program also supports efforts to understand religious diversity and the practice of tolerance for different opinions. reachwithin not only hopes to provide children with the tools for resiliency, but also the tools for creating a more peaceful world.



ACTIVATE TALKS

For Every Child, Early Moments Matter

Keith B Taylor Hall (East), St. Georges University
True Blue, Grenada
7 October 2016





Conference Programme & Agenda

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REGIONAL RESEARCH CONFERENCE

ANTIGUA AND BARBUDA
13 - 15 FEBRUARY 2018

Nurturing Care in the Early Years
Ensures that Individuals and
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Self-Regulation Program

Reach Within focuses on promoting resilience, establishing appropriate personal boundaries, and developing skills in self-regulation. When children have experienced trauma, traditional "talk therapy" is not always effective or even readily available; some children are not developmentally ready to respond to such an approach, and others are harmed by revisiting their trauma. We bring alternative clinically proven interventions to abused and neglected children, including the Reach Within Educational Manual, rhythm-based activities such as yoga and drumming and mindful breathing exercises. These sessions are also offered virtually through the Reach Within digital library.

www.reachwithin.org



Group Drumming

Through our weekly drumming sessions, we have found that the collaborative and interactive process of drumming can help children and teens to develop valuable skills such as taking turns and sharing. It can help to improve both verbal and non-verbal communication skills as well as encourage team building and increase community spirit.

Further, since rhythmic activity such as drumming, which is patterned and repetitive, is essential to healing developmental trauma in a non-verbal manner, we encourage full participation, regardless of physical limitations.

Over time, the children and teens are found to feel safe in a drumming group and, within that setting of security, use the banging of drums to release their pent up emotions.



"Music expresses that which cannot be put into words, and that which cannot remain silent."

Walter D. Mignolo

11 October 2016

reachwithin stages soccer clinics for children living in care homes



reachwithin, a grenada based organization, dedicated to improving the quality of life of teens and children who have experienced adversity, hosted two special soccer clinics at Tempe Playing Field on Sunday and Monday, 9-10 October 2016. A lively group of children, aged 4-16 from the Queen Elizabeth Home in Tempe, attended each session.

Jesse Jacob, a member of the prestigious BW Gottschee soccer club in New York City, led the clinics; BW Gottschee also donated the soccer equipment which will remain with reachwithin in Grenada. Also supporting the clinics were Jerry Bascombe, reachwithin Youth Program Coordinator and Mackenzie Lawson, who plays for Loyola High School in New York City. Mackenzie first introduced Jesse to reachwithin in June when they spent two weeks in Grenada, working alongside Jerry, on a house building project for youth transitioning out of the care system.

"I am so happy reachwithin allowed me to come back to introduce the values and benefits of soccer," said Jesse. "It was fantastic to see how the kids responded to the training over these past two days. Not only did they have a lot of fun playing soccer and mastering basic skills, but they also learned some important life lessons about teamwork, trust and commitment."



Youth Life Skills & Yoga Program

Our Youth Life Skills & Yoga Program helps to develop character building, emotional literacy, and self-regulation.

Since the program's inception, we have witnessed a significant increase in behavioral modulation including pro-social behaviour such as improved empathy and listening skills, as well as an overall reduction of disruptive behaviour. Using basic yoga postures, physical exercises, breathing and deep relaxation techniques, yoga has been shown to reduce impulsive behaviour and enhance focus and awareness. In addition to our Yoga Program, our Life Skills Program includes counseling, rhythmic drumming, sports, and art. The approach focuses on lowering stress and increasing mental and physical vitality, and in so doing have proven to open the children's minds to realize their true potential.

We are excited to have to just released our very own reachyoga kid-friendly deck of yoga cards that teaches challenging poses and breathing exercises... Amazing cards for a great cause!



Caregiver Certification Program

Our caregiver training program is strengths-based and wellness-oriented, as we believe that caring for others begins with caring for oneself. Using multiple learning approaches, caregivers increase their knowledge base and competency in trauma-informed care practice, learn about brain changes that cause challenging behaviors and techniques for defusing them, as well as simple ways to create a harmonious environment. Caregivers are taught to reframe stressful events and use healing techniques to help children regulate and re-pattern experiences in order to support resilience and recovery. Caregivers are also provided with support groups and retreats so that they may regularly recharge.

www.reachwithin.org



Training and educating caregivers in understanding the behaviours of children who have experienced abuse and neglect is paramount to the work of reachwithin. Aside from ongoing training sessions at residential care homes, reachwithin now offers one-day retreats for caregivers and staff working in four residential homes in Grenada. reachwithin believes staff caregivers provide the most consistent relationship for children who have experienced abuse or abandonment and it is highly important to replenish resources in order to prevent burnout.

Caregiver Education

The Caregiver Education program trains and empowers caregivers to create happier, healthier, and safer environments for the children and themselves. Caregivers are taught principles of positive parenting such as Touchpoints (T. Berry Brazelton), Conscious Discipline (Becky Bailey), and Empowering Parents (James Lehman) all of which aim to change the lives of caregivers first to better change the lives of children. Further, reachwithin provides instruction in self-care as we recognize that children are best served by healthy and happy caregivers who exhibit stamina and enthusiasm.





07 March 2013

REACH Launches Conscious Discipline Training for Child Protection Authority in 2013



Following its agreement with Mr. Kellan Simon, Child Protection Authority Director, in spring 2012, REACH Grenada at St. Georges University is proud to be delivering caregiver education for Child Protection Authority (CPA) personnel in 2013. This training series, part of the reachwithin model of care, is built around the world-renowned program Conscious Discipline®, developed by Dr. Becky Bailey, and adapted for caregivers of children in institutional and foster care settings. The year-long trainings will be facilitated by REACH Grenada's Program Director, Dr. Barbara Landon of SGU, who has worked with Dr. Bailey and taught Conscious Discipline for 15 years.

Launched in March 2012, REACH Grenada's Caregiver Training Program is both didactic and experiential, offering trainees ample opportunities to practice the new skills in each session. Moreover, each training consists of an accompanying coaching session, wherein RQ coaches make monthly site visits to ensure lesson comprehension and implementation. RQ's lead coaches for this program are Ms. Lorne Douglas, who will focus on Father Mallagan Home for Boys, and Ms. Lauren Orlando, who will focus on the Emergency Shelter.

REACH Grenada's Caregiver Training sessions will be held on Monday mornings, 9:30-AM to noon at St. George's University. The training sessions will cover topics such as "Becoming Brain Smart," "Composure," "Encouragement," and "Assertiveness." All materials, including a workbook, child-appropriate storybooks, and Conscious Discipline® materials will be provided to care homes by REACH Grenada.

REACH Grenada is proud to extend its training series to CPA personnel. We look forward to partnering with CPA in our collective efforts to improve the lives of the children in the custody of CPA, as well as their caregivers, counselors, caseworkers, and other members of the Grenadian community.



Transitional Living Program

In order to stop the cycle of abuse and/or abandonment, Reach Within works closely with youth who are aging out of a residential care system or those living on the streets. Through our drop-in centre and community outreach model, Reach Within provides life skills and mentoring programs for youth seeking further educational opportunities, employment, housing, and emotional support. Our Transitional Living Program ensures continuity of care and healing through the developmental years of young adulthood. This program builds a cadre of mentors who become role models for the younger generation, informing their behavior in school, work, relationships, and the world at large.

www.reachwithin.org



01 August 2017

reachwithin Opens Drop-In Center for Youth



August 1, 2017 reachwithin opened its first drop-in center for youth who are aging out of residential care homes and trying to find their way as young adults. The center is run by reachwithin's Transitional Living Coordinator, Mr. Troy Clarke, who facilitates job training and life skills programs for youth seeking further education opportunities, employment, housing and emotional support. The drop-in center works with individuals, facilitates groups sessions and welcomes the involvement of local businesses as mentors for this initiative. The goal, according to Mr. Clarke is to provide the steps to help vulnerable youth transition and thrive as valuable members of their community.

01 December 2016

Inspirational Grenada teen continues to overcome adversity with a Marathon win



Nineteen year old Willan George, who is from Gouyave on the West coast of Grenada, beat all the odds when he finished first in the 2016 Run De Spioe Marathon, in a time of 4:41:25, on Saturday, 26 November 2016. Not only was he up against more experienced runners from Trinidad & Tobago, British Virgin Islands and Germany but, incredibly, he had not trained for this particular occasion and had received his first pair of running shoes that very morning!

Willan has faced many adversities in his short life but with support from local children's charity, reachwithin.org, who encouraged him to participate in Run De Spioe, the plan is for Willan to transition into adulthood as an employable, productive and happy member of the community.

"Willan is clearly a natural talent and he truly loves running" says reachwithin founder, Dr. Karen Lawson, "but I believe that his inner resolve to prove his self-worth propelled him to win this race and we will most certainly be encouraging him to keep up the running."

"Willan was given his first pair of real running shoes on the day of the race because he was intent on taking part. It is a big deal for a teenage boy whose life is a lot more challenging than most. He spent years in a care home for abused and abandoned boys. His birth mother and adoptive mother both died while he was a child. He is the perfect example of the kind of youth that reachwithin aims to motivate to be the best that they can be physically, mentally and holistically."

"Willan is part of our Transitional Living Program" continues Dr. Lawson, "which is for youth leaving the care system. We provide them with life skills such as writing a resume, job hunting and healthy life choices. We also include them in physical activities, such as soccer clinics and running, to help keep them healthy, teach them about team work, to de-stress and clear their minds and to help raise their self-esteem."



Island Innovation Awards honors Reach Within with the COVID-19 Response Award!

KAREN LAWSON - APRIL 29, 2022

Reach Within was honored to receive the COVID-19 Response Award at the Island Innovation awards. The esteemed jury included the former Presidents of the Seychelles and Kiribati, the former UN High Representative, the Head of Crisis Response and Humanitarian Aid at Google, as well as President Joe Biden's COVID-19 Equity Taskforce Chair.

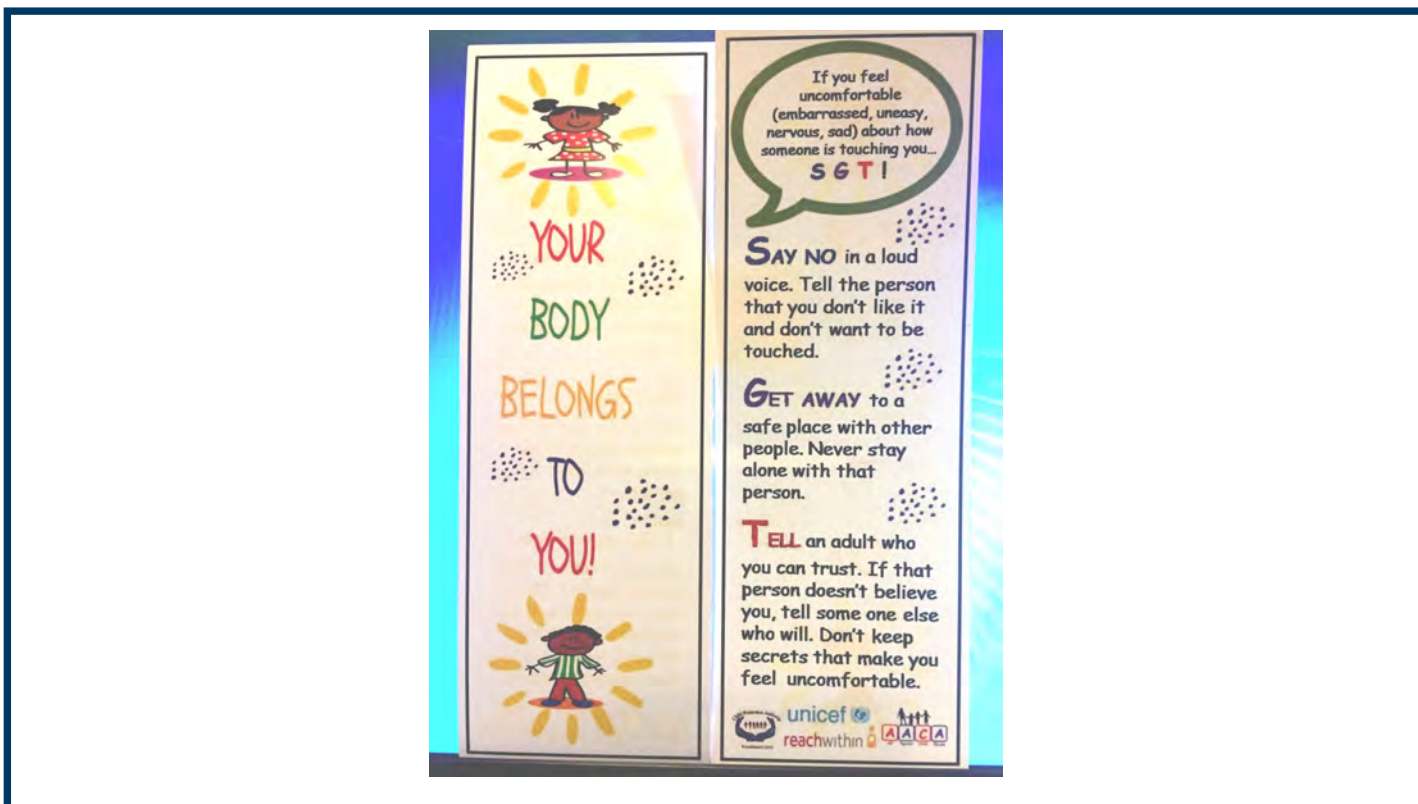
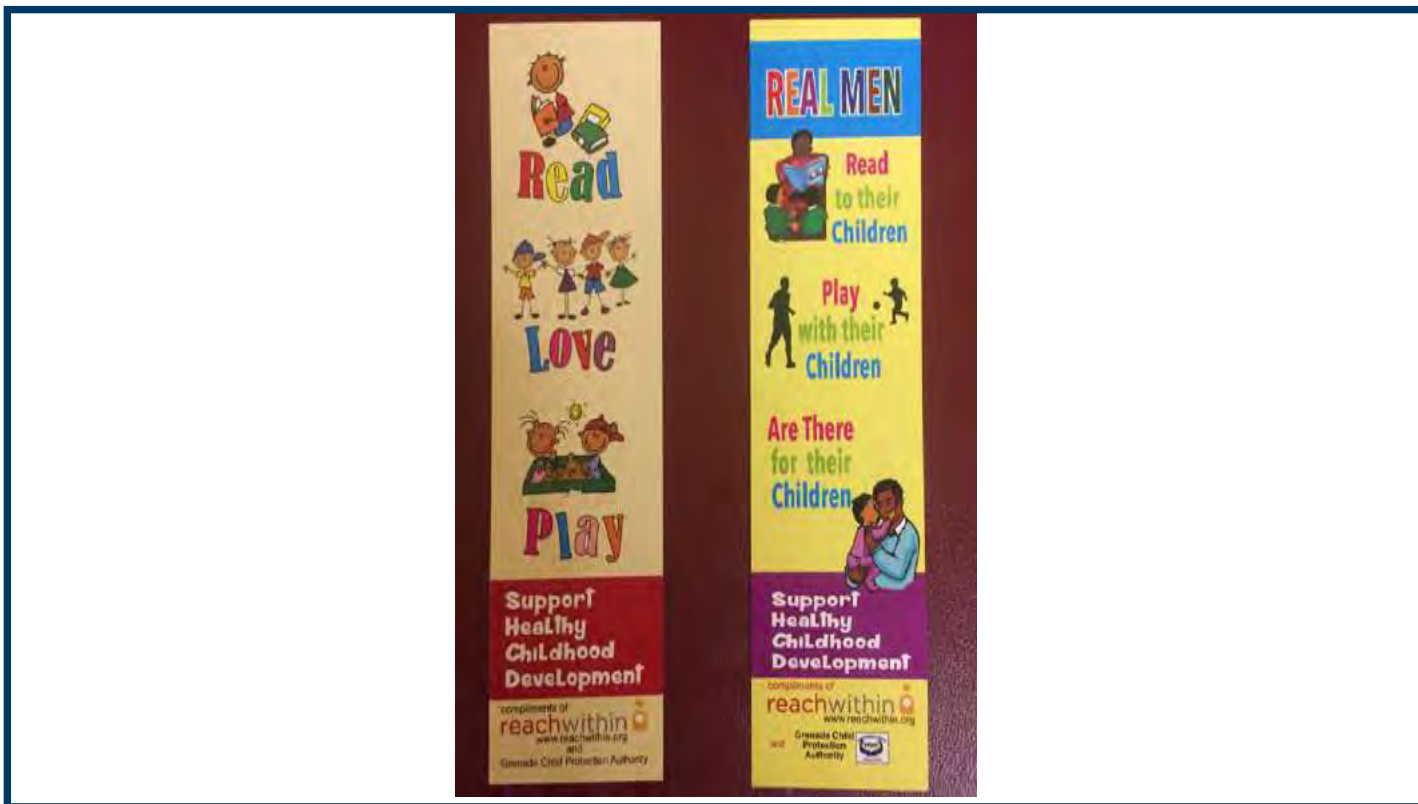
Reach Within was recognized for our success in adapting to the changing needs of our community when the COVID-19 crisis came to Grenada. Many of the residential care homes that relied on supplemental food donations from hotels and restaurants were quickly reduced to minimal food resources. Young adults in the Reach Within community also experienced an immediate loss of income and food scarcity.

Reach Within was able to step in and support our community with sustainable solutions:

- Reach Within has been cultivating the land on the site of our new Child Developmental Centre and has been able to provide weekly deliveries of locally grown fruit, vegetables, chickens and eggs to our population.
- Reach Within has also mobilized to create food gardens and build chicken coops in each of the residential homes. Children and teens are now actively involved in gardening and learning how to become sustainable members of their community.
- Reach Within is committed to incorporating the rhythms of gardening into our therapeutic programs so children and teens can access the regulatory and rhythmic benefits of nature.

Reach Within Additional Ongoing Collaborations

- Central Michigan University Health Child Psychiatry
- University of Denver Graduate School of Psychology
- St. George's University (Grenada)
- Windward Islands Research & Education Foundation (Grenada)
- Ministry of Social Development (Grenada)
- Child Protection Authority (Grenada)

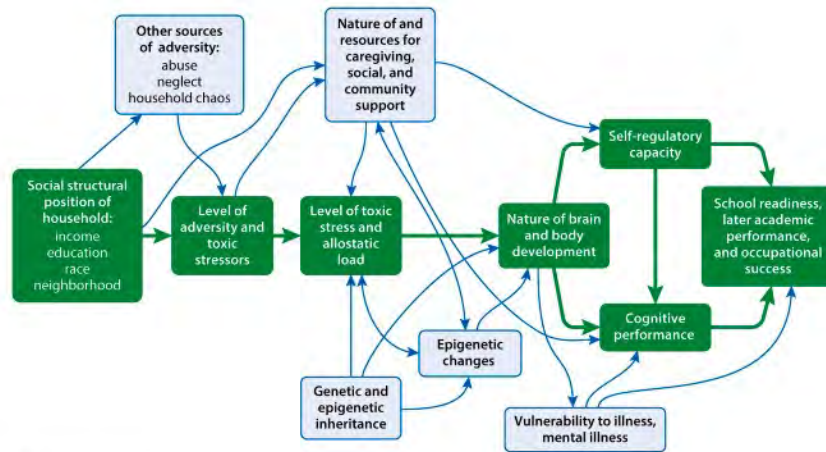






On October 27, 2017, reachwithin collaborated with the Child Protection Agency (CPA) to launch the All Against Child Abuse campaign in Grenada. As part of the partnership, reachwithin co-designed public health materials for the march and procured a child friendly mascot to promote the message, "It's safe to tell." Over 80 people marched through the streets of St. George's. reachwithin will continue to work with the Child Protection Agency as the initiative spreads to other parishes.





McEwen CA, McEwen BS. 2017. *Annu. Rev. Sociol.* 43:43-72

Fig. 1. A model of social structure, social supports, adversity, toxic stress and brain/body development in early childhood. Social circumstances (economic, neighborhood, household, and other) affect levels of adversity, which in turn cause toxic stress that results in allostatic load if strong, positive social supports are unavailable. Toxic stress and resulting allostatic load affect brain and body development and function in childhood, partially through epigenetic changes mediated in part by the neuroendocrine system. Genetic and epigenetic factors also affect the degree of individual sensitivity to toxic stress. The effects on brain and body development diminish emerging self-regulatory capacity and cognitive performance and increase vulnerability to physical and mental illness. Together, these effects reduce school readiness and later academic performance. Given the plasticity of the developing brain, many of these effects are reversible through social intervention.

THANK YOU!