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STATE OF HAWAIʻI
BOARD OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAIʻI 96804

November 19, 2020

TO: Board of Education

FROM: Catherine Payne
Chairperson, Board of Education

AGENDA ITEM: Board Member report on 2020 National Association of State Boards of Education ("NASBE") virtual annual conference and New Member Institute

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The Hawaii State Board of Education ("Board") is a member of the National Association of State Boards of Education ("NASBE"), whose mission is to develop, support, and empower citizen leaders on state boards of education to strengthen public education systems so students of all backgrounds and circumstances are prepared to succeed in school, work, and life. For the first time, NASBE held its New Member Institute and its annual conference virtually. NASBE held the New Member Institute on October 20 and its annual conference from October 21 through 23, 2020.

Board Members Shanty Asher, Kaimana Barcarse, Lynn Fallin, and Kili Namauʻu attended the New Member Institute. I will ask these Board members to provide an oral report on the institute and their key takeaways.

I attended the NASBE annual conference as the Board's voting delegate, and Board Member Fallin attended as the alternate delegate. Board Members Margaret Cox and Namauʻu attended as well. The following sessions made up the main conference:

- Opening Conversation: The Role of Policy in Education Equity (plenary)
- Leading an Equity Agenda: Addressing Policy Actions, Access, Opportunity (breakout)
- Increasing Workforce Diversity to Benefit All Students (breakout)
- Assessment and Accountability Policy in a Pandemic (breakout)
- Advancing Equity in Digital Learning (breakout)
- Preparing our Earliest Learners for a Lifetime of Success (plenary)
- Shaping Policy through a Whole Child Lens (breakout)
- Literacy Instruction in an Online Environment (breakout)
- Elections in 2020 and Governing in 2021: Policy and Politics (plenary)

NASBE members also convened at the annual conference for NASBE's annual business meeting to conduct the organization's business, such as electing the 2021 NASBE Chair-elect, Janet Cannon.

I will ask attending Board members to provide an oral report on the NASBE annual conference and their key takeaways. I have also attached a supplemental report on my reflections on the sessions that I attended.

Report on the 2020 Conference of the National Association of State School Boards
Catherine Payne, Chairperson, Hawaii State Board of Education

October 21-23, 2020

Opening Conversation: The Role of Policy in Education Equity

The sessions were all excellent. I attended the keynote, which focused on equity through both access and systems. I was pleased to note that we are working hard on both, most recently through our updated policy on spending priorities for capital improvements. We have much more to do, however, and although this conversation with Professor Ibram Kendi (author of *How to be an Anti-Racist*) and Dr. John B. King who headed the USDOE during the later years of the Obama administration. While their data focused primarily on mainland school districts and reflected the segregation and equity issues that impact Black and Hispanic students, the broad concepts are applicable here when we consider the gaps in achievement among our populations. Professor Kendi talked about how school board policies have the potential to affect racism and that often an analysis will show that it is bad policies and not bad people that perpetuate racism. Examples include policies related to attendance, discipline, and access to the most rigorous courses. Dr. King, (now CEO of Education Trust) talked about how the opportunity gap is correlated with achievement gaps. His research has found many disparities with respect to Advanced Placement, Gifted and Talented and college counseling. He said that taking algebra in grade eight is positively linked to higher math in high school. There are many schools across the mainland U.S. where this course is not easily available to eighth grade students. He noted with some dismay that our current education system is not failing because it is producing the results it is designed to get. They recommend an audit of all policies through the lens of this question: "will this policy reduce, expand or maintain racial inequity?" School boards should seek to hear the voices of those not usually heard when conducting the audit.

They made a number of suggestions for state school boards, beyond a policy review, that look for the possible fostering of inequity. First, school boards should be asking about how the pending cuts related to COVID 19 may exacerbate the equity gap. Second, school boards should be asking whether our students are exposed to diversity, not just in the larger school, but in their classrooms. Third, school boards should be asking what our system is doing to prepare teachers for diversity and support a more diverse education staff. Nationally, 18% of teachers are non-white, while the latest census data reflect 40% of the population as non-white, with that expected to rise to 50% by 2045. They noted that the U.S. schools are more racially segregated now than they were following the efforts to desegregate in the 1960's and 1970's.

They also suggested disaggregating discipline and academic data by race, which we currently do, and strongly recommend moving away from exclusionary discipline to more widespread use of restorative justice.

At the conclusion of the session, the following rhetorical question was posed: "why can't we pour the resources into education that we pour into the military?" A marginally educated population is a threat to our security as a nation.

Leading an Equity Agenda: Addressing Policy Actions, Access, Opportunity

Another session led by Linda Darling-Hammond, Chair of the California State Board of Education and a Professor at Stanford, also focused on how school boards can lead states toward an equity agenda. The definition of "equitable education" is key and each state should develop that definition. In Illinois, "Equity" will be on each school report card. It was also shared that intentional development of empathy strategies for teachers to practice and teach to students has a positive link to equity in schools.

Assessment and Accountability Policy in a Pandemic

I also attended the session on Assessment and Accountability Policy in a Pandemic. This was led by Dr. Marty West, a professor at Harvard Graduate School of Education and Christy Horvanetz, a senior fellow at Excel in Education. They acknowledged that schools would not have summative data from last year and most are conducting assessments that provide information about where students are as they begin instruction this year. Dr. West stressed that all assessments done this year have a clear purpose and reflect what students need to know. This year the emphasis should be more on formative assessments **for** learning.

They provided several key takeaways: (1) guard against shortchanging students by narrowing standards and limiting curriculum; (2) do not let the pandemic be an excuse to disadvantage children; (3) be clear and thoughtful about how assessments will be used. Diagnostic and formative assessments should be used strategically. Assessments for learning should be used daily to guide instruction; (4) ask, "how will this positively or negatively affect students?" *(*5) assess student well-being through a whole-child lens; (6) ask, "how should accountability look different during a pandemic?;" (7) Departments of Education should include test vendors in a conversation about developing assessments that can be conducted remotely; (8) be transparent about how test data will be used.

Shaping Policy through a Whole Child Lens

The session that had the greatest impact on me, and which still has me losing sleep was conducted by **Dr. Bernard Dryer**, Director of Developmental Pediatrics at New York University Grossman School of Medicine. He spoke on how poverty affects students, their families, and schools. His research was specific to Black/African American, Hispanic, white and other. However, as with the data on equity, I believe we can apply this study to our population in Hawaii.

In 2016 the median net worth of white families in the United States was $171,000; Black/African American was $17,150; Hispanic was $20,720; other or multi-race families was $64,620. Children have the highest rate of poverty in the United States when compared to those 18-64 and those over 65.

There is a high correlation between poverty, with its many other layers of adverse factors, and student achievement. Poverty is the highest stressor affecting brain development in the child's first two years of life.

Brains are built over time and when development is suppressed during those first two years, the data show that the achievement gap persists through all years of school. The human brain does most of its growing in the first two years of life. Toxic stress affects brain development and poverty is ranked as the highest stressor. There are a number of Adverse Childhood Experiences ("ACE") indicators: poverty, divorce or separation of a parent, death or incarceration of a parent, witness to domestic or community violence, living with someone who is mentally ill or suicidal, living with someone who has an alcohol or drug problem, and being judged unfairly because of race or ethnicity. These are the layers of stressors that are often, though not exclusively, associated with poverty. When a child's brain is subject to toxic stress, it may lead to permanent changes in the structures of the brain associated with learning and memory.

Child poverty is associated with the ACEs described above and with environmental risk (e.g. The Flint Water crisis), food insecurity, and homelessness. In a 2012 study conducted by the U.S. Department of Health and Human Services, 34.9% of children living at less than 100% of the poverty income for a family of four ($23,050) had two or more of the ACE indicators. As family income increased the percentages lowered: 28.7% at 100-199% of the poverty income; 20.9% at 200-399%; and 9.7% at 400% or more of the poverty level.

Other studies show similar connections to poverty and the gap persists throughout all school years. Dr. Greyer conducted a study using MRIs to compare the differences in the brains of children subjected to toxic stress and those who were not. The mental

health and academic achievement data lag for these children throughout their school years. The changes to their brains are permanent.

He provides some hope through interventions when schools provide intensive supplemental supports, however, the most meaningful interventions will have to occur during the child's first two years of life. If we do not address this as priority for our nation, the current trend is like to persist. The pandemic has served to magnify the problems associated with poverty, but they were there for us to address long before the current crisis. We need a comprehensive strategy to address this issue beyond what we can do in schools.

I have attached the slides that he presented and have ordered the books that he cited.

How Poverty Affects Students, Their Families and Schools

National Association of State Boards of Education

Annual Conference

October 22, 2020

Benard P. Dreyer, MD, FAAP

Past President of the American Academy of Pediatrics

Director of Developmental-Behavioral Pediatrics,

Professor of Pediatrics, NYU Grossman School of Medicine & Hassenfeld Children's Hospital

Director of Pediatrics, NYC H+H Bellevue Hospital

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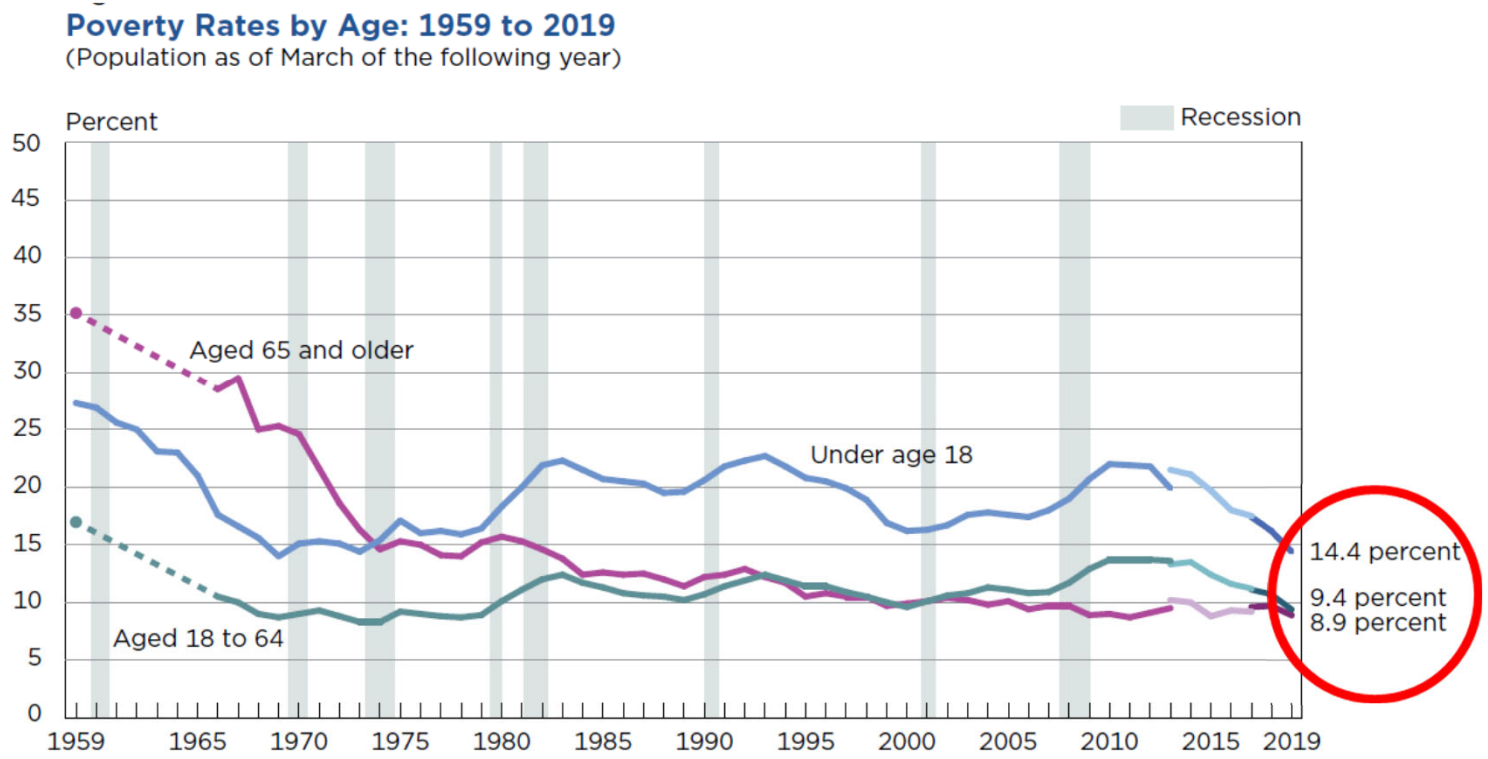
Child Poverty

Child Poverty in the US

Based on What People Ate in 1963! (multiplied by 3): The USDA Thrifty Food Budget- minimal level



[3] Income and Poverty in the United States: 2019, US Census Sept 2020

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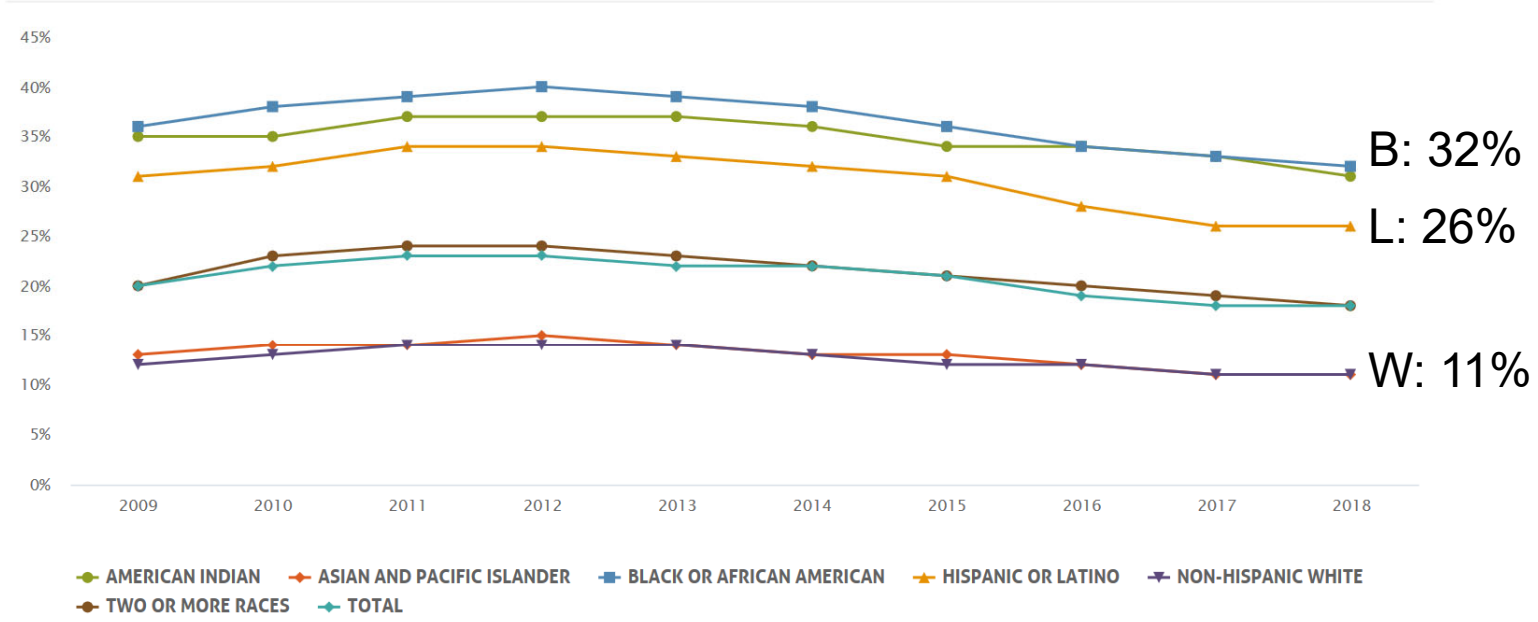
Child Poverty by Race/Ethnicity



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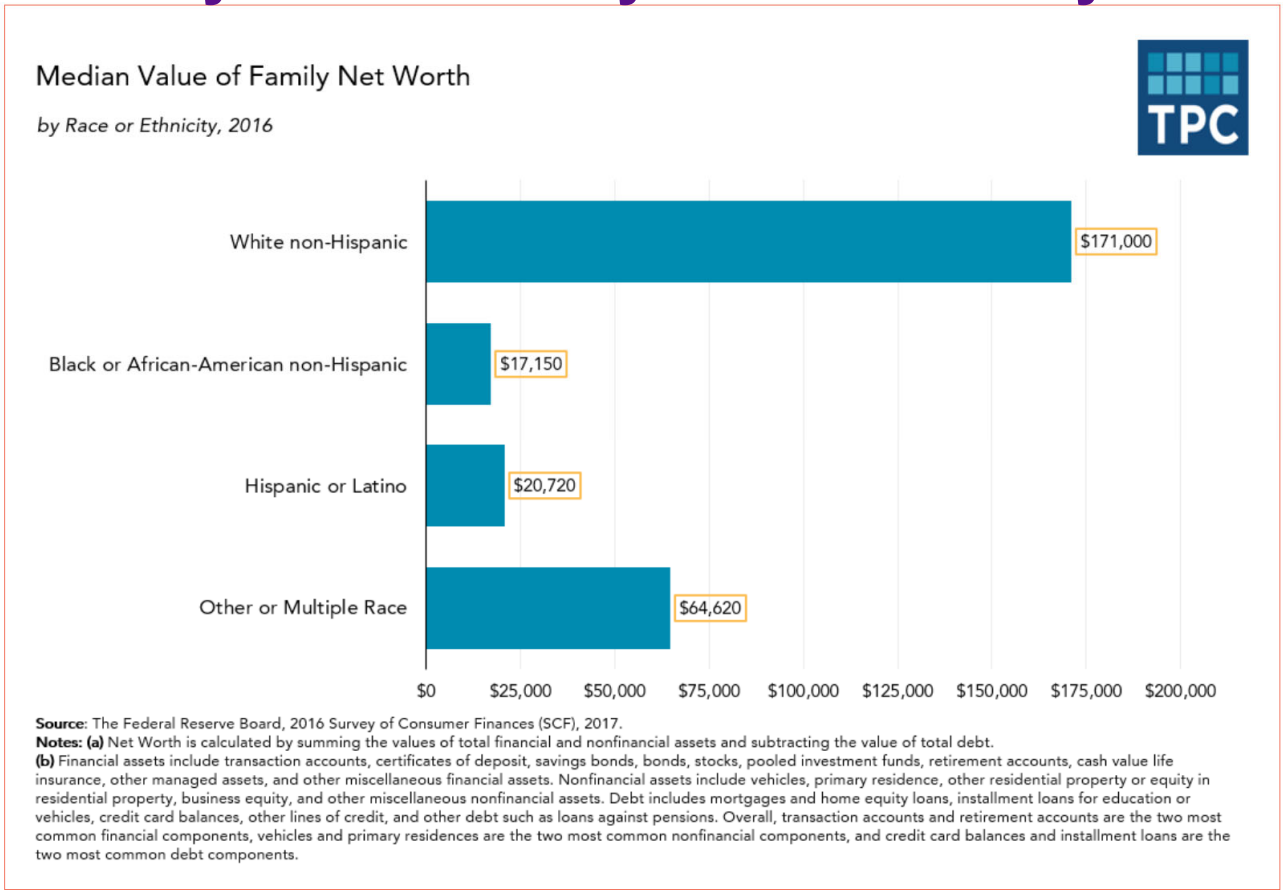
Gap is Family Net Worth by Race/Ethnicity



Source: The Federal Reserve Board, 2016 Survey of Consumer Finances (SCF), 2017.
Notes: (a) Net Worth is calculated by summing the values of total financial and nonfinancial assets and subtracting the value of total debt.
(b) Financial assets include transaction accounts, certificates of deposit, savings bonds, bonds, stocks, pooled investment funds, retirement accounts, cash value life insurance, other managed assets, and other miscellaneous financial assets. Nonfinancial assets include vehicles, primary residence, other residential property or equity in residential property, business equity, and other miscellaneous nonfinancial assets. Debt includes mortgages and home equity loans, installment loans for education or vehicles, credit card balances, other lines of credit, and other debt such as loans against pensions. Overall, transaction accounts and retirement accounts are the two most common financial components, vehicles and primary residences are the two most common nonfinancial components, and credit card balances and installment loans are the two most common debt components.

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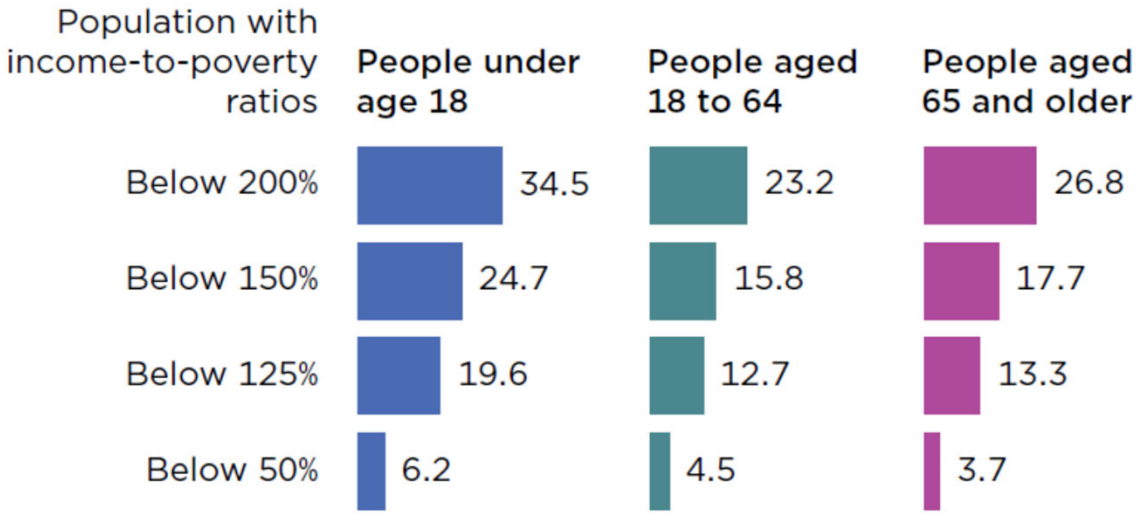
Range of Child Poverty

People With Income Below Specified Ratios of Their Poverty Thresholds by Age
(In percent. Population as of March of the following year)



[6] Income and Poverty in the United States: 2019, US Census Sept 2020

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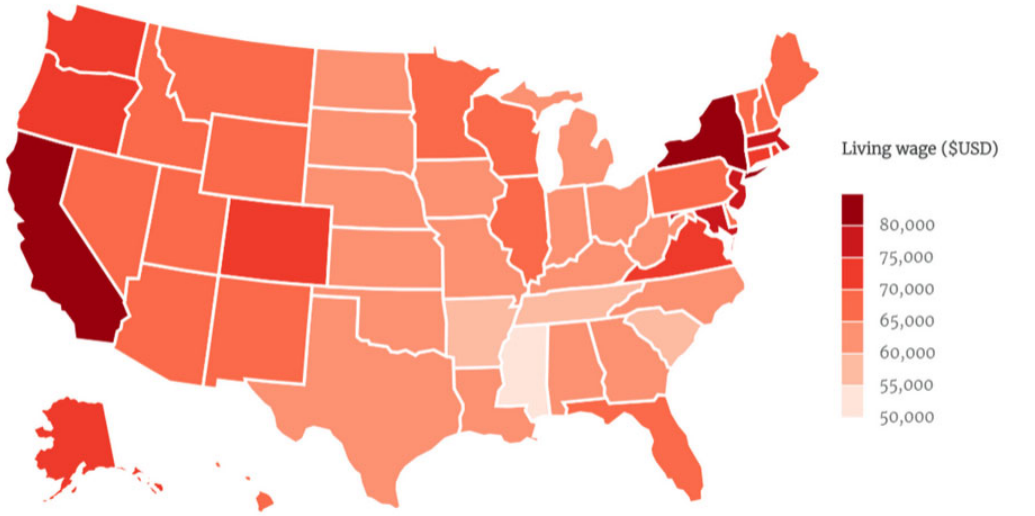
Basic Needs Budget for a Family of 4 (2019)



created with mapinseco

This map shows the minimum amount necessary to meet basic needs for a family of four without relying on outside help, including factors such as housing, food, child care and health insurance, in addition to other regular costs. All data from MIT's Living Wage calculator. CNBC Make It | MapInSeconds.com

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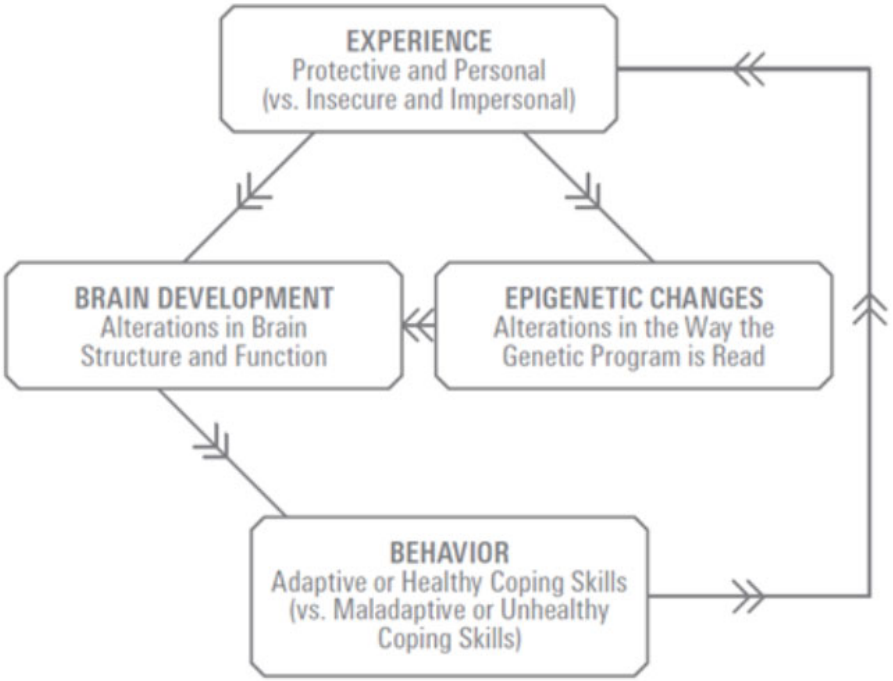
Neurodevelopment and Toxic Stress

Booter can go here

Neurodevelopment:

results from ongoing and cumulative interactions between experience, biology and behavior



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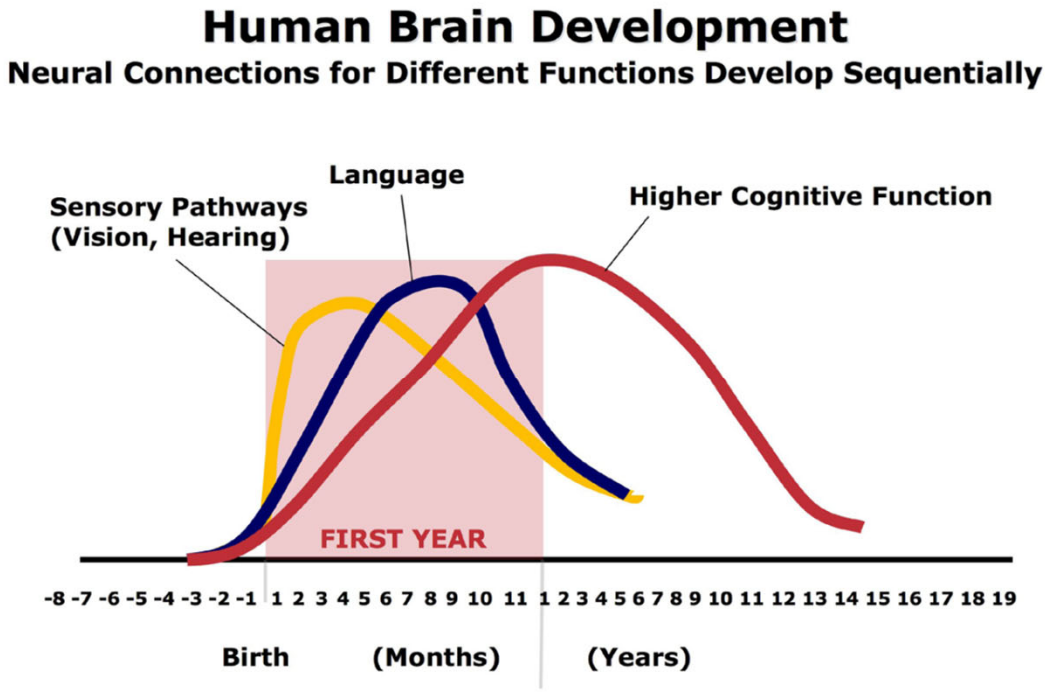
Brains are Built Over Time



Source: C.A. Nelson (2000)

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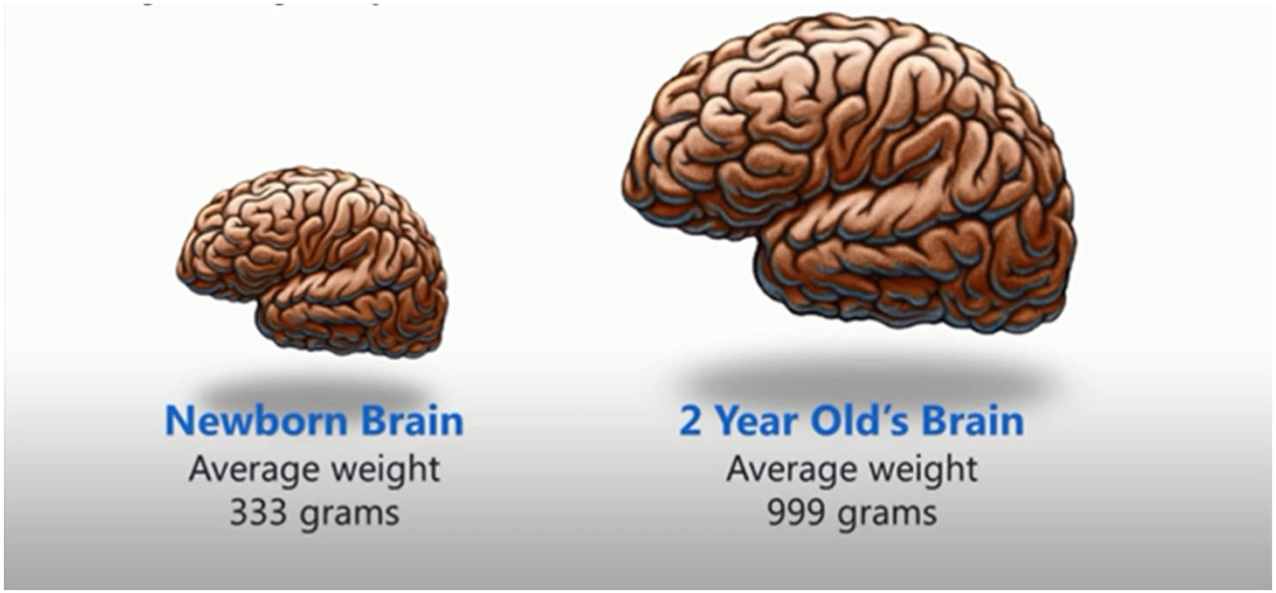
Why Early Experiences Matter



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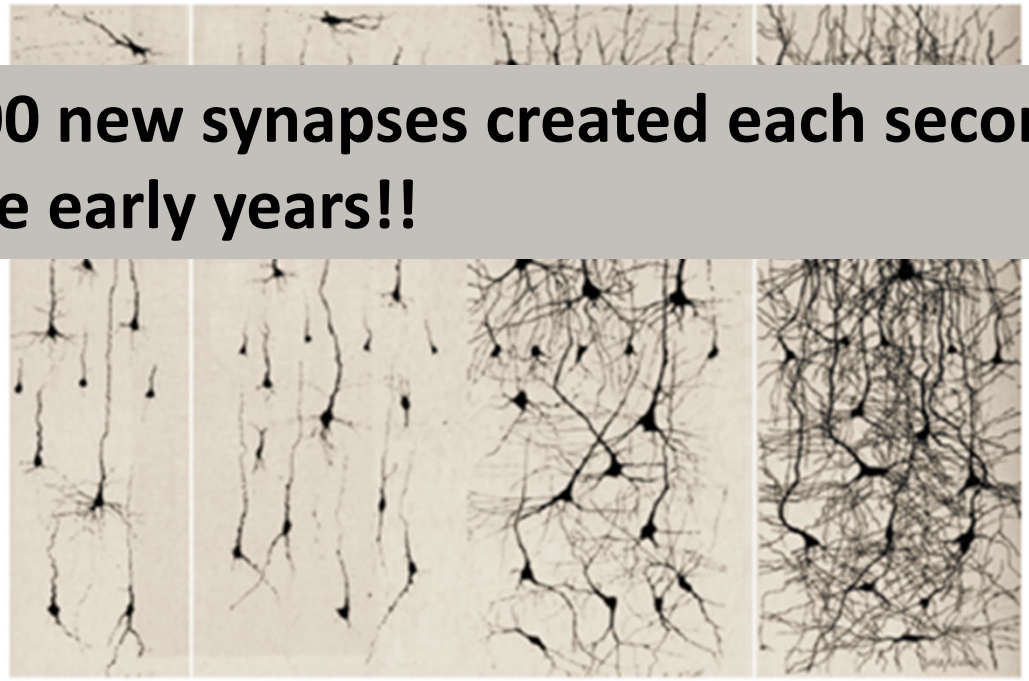
Dramatic Growth of Neuronal Architecture From Birth to 2 Years

700 new synapses created each second in the early years!!



Newborn 1 month 6 month 2 years

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Toxic Stress

- Strong, frequent, or prolonged activation of the body's stress response systems.

- Absence of buffering protection of a supportive, adult relationship

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Effects of Toxic Stress:

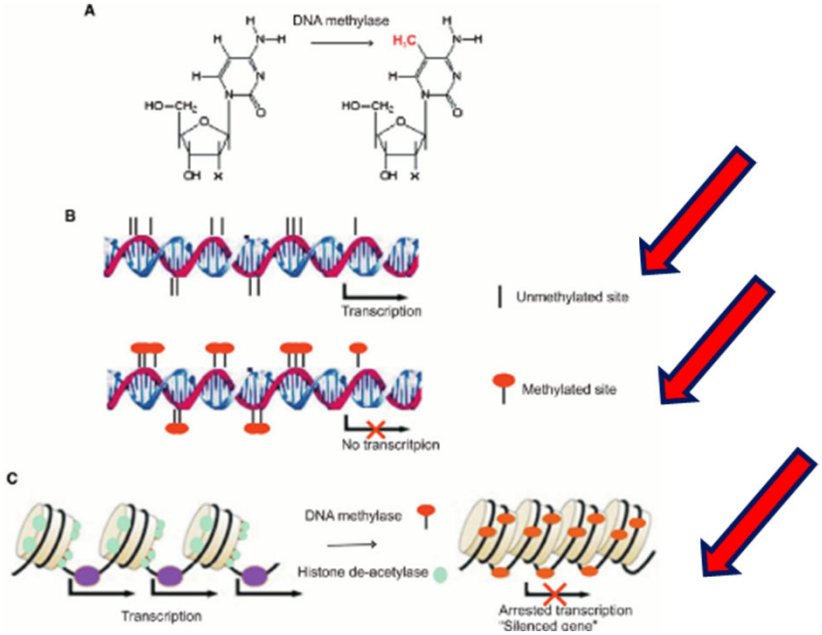
- Prenatal exposure to maternal stress influences later stress responsiveness in animals and humans, including in subsequent generations

- Early postnatal experiences with adversity also affect future reactivity to stress by altering neural circuits controlling neuroendocrine responses

- Epigenetic modifications of DNA are likely involved

- Toxic stress thus can lead to permanent changes in brain function and also have been shown to lead to permanent changes in brain structure

Gene Methylation
Turns Genes On or OFF



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Nurturing (or Lack) May Cause Lasting Epigenetic Changes

McGowan, Sasaki, et al.
Nature Neuroscience 2008

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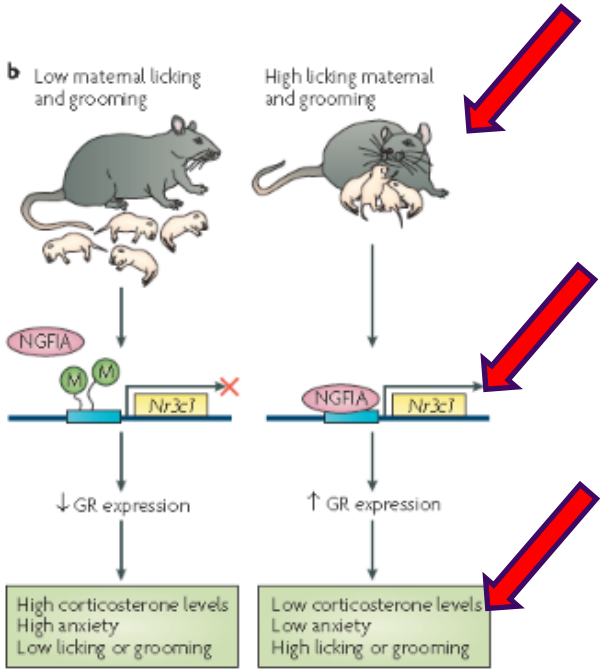
Nurturing (or Lack) May Cause Lasting Epigenetic Changes



High licking/grooming effects epigenetic regulation of glucocorticoid receptor gene expression

A cascade ultimately produces activation of NGFIA (nerve growth factor inducible A) leading to increased expression of GR and enhanced negative feedback sensitivity to glucocorticoids.

This is achieved by demethylation

Evidence that carried into future generations

Hackman, Farah, Meaney: SES and the Brain: Mechanistic Insights from Human and Animal Research. Nature Reviews/Neuroscience 11:2010

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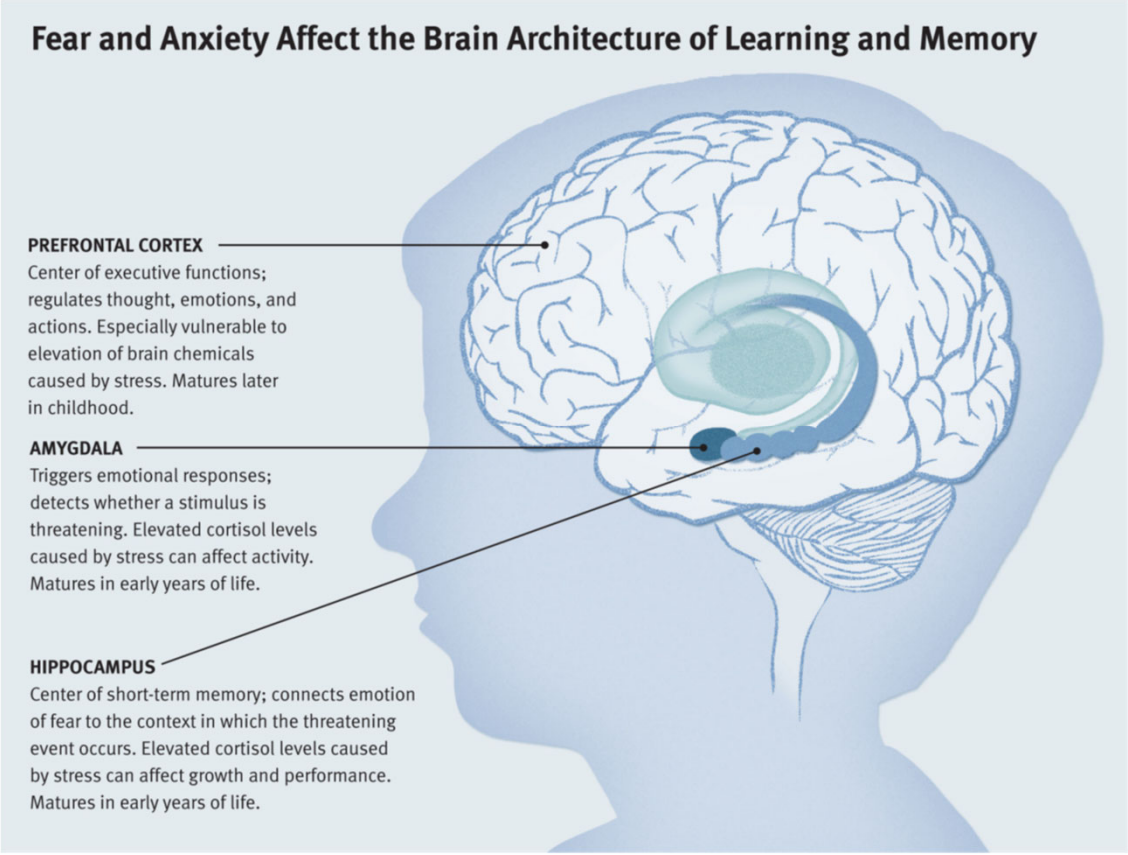
Toxic Stress May Lead to Permanent Changes in Brain Structure

Abundant GR Found in Prefrontal Cortex(PFC) , Amygdala & Hippocampus



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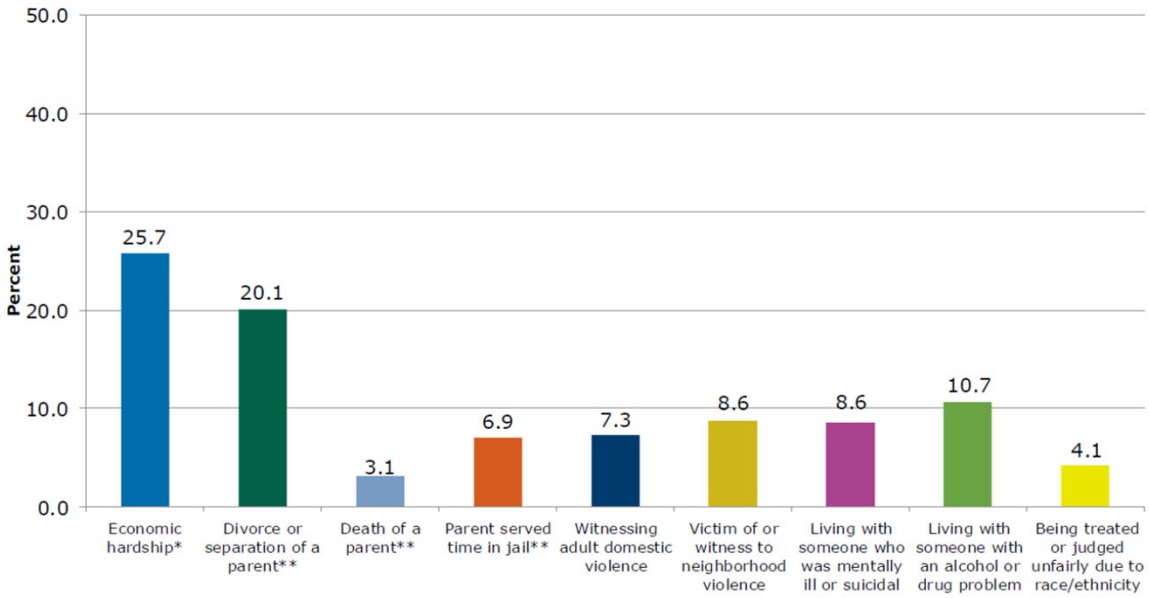
Child Poverty: Associated With ACEs, Environmental Risks, Food Insecurity and Homelessness

Poster can go here

ACEs: Adverse Childhood Experiences
ACEs Lead to Toxic Stress

Figure 1

Percentage of Children, Ages Birth to 17, with Specific Adverse Experiences: 2011/12



*Experienced "somewhat" or "very" often
**Parent refers to a parent the child lived with.
Source: Child Trends' original analyses of data from the National Survey of Children's Health.

Child Trends DATABANK

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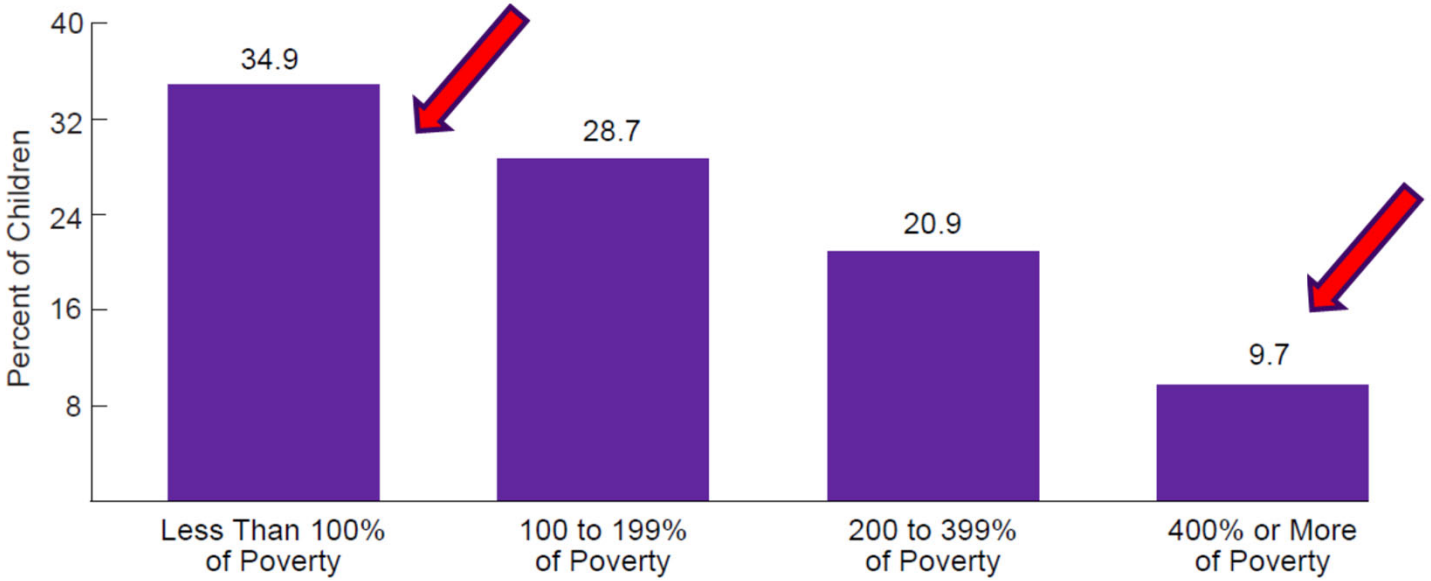
ACEs: Relationship to Poverty

Figure 2. Children Aged 0–17 Years Experiencing Two or More ACEs, by Poverty Status,* 2011–2012



**Based on the U.S. Department of Health and Human Services poverty guidelines, poverty was $23,050 for a family of four in 2012.*

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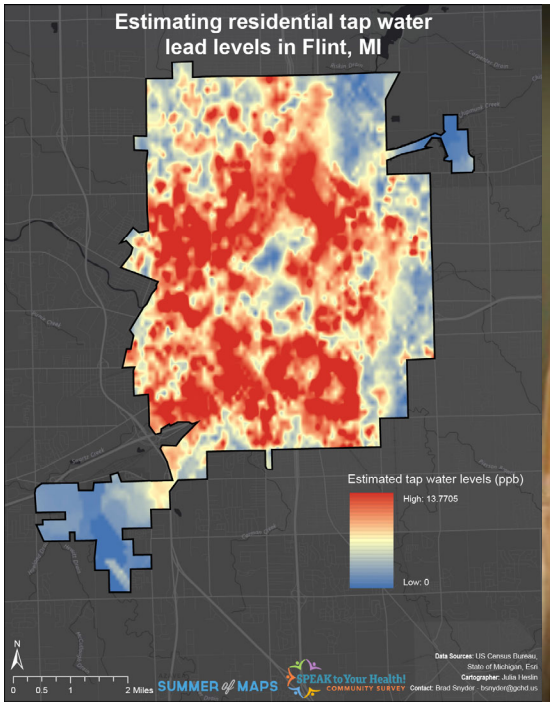
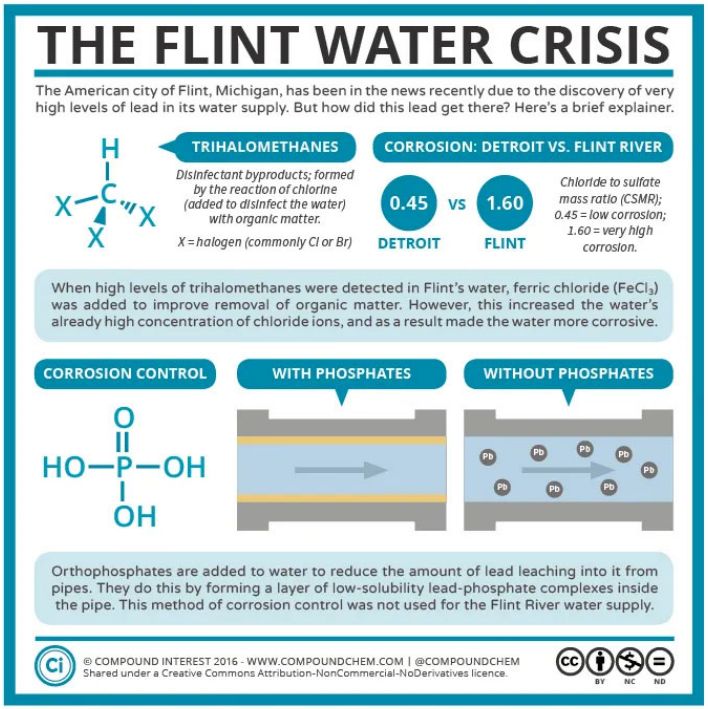
Poverty: Increased Exposure to Environmental Toxins*





*increased iron deficiency in poor children leads to increased absorption of lead

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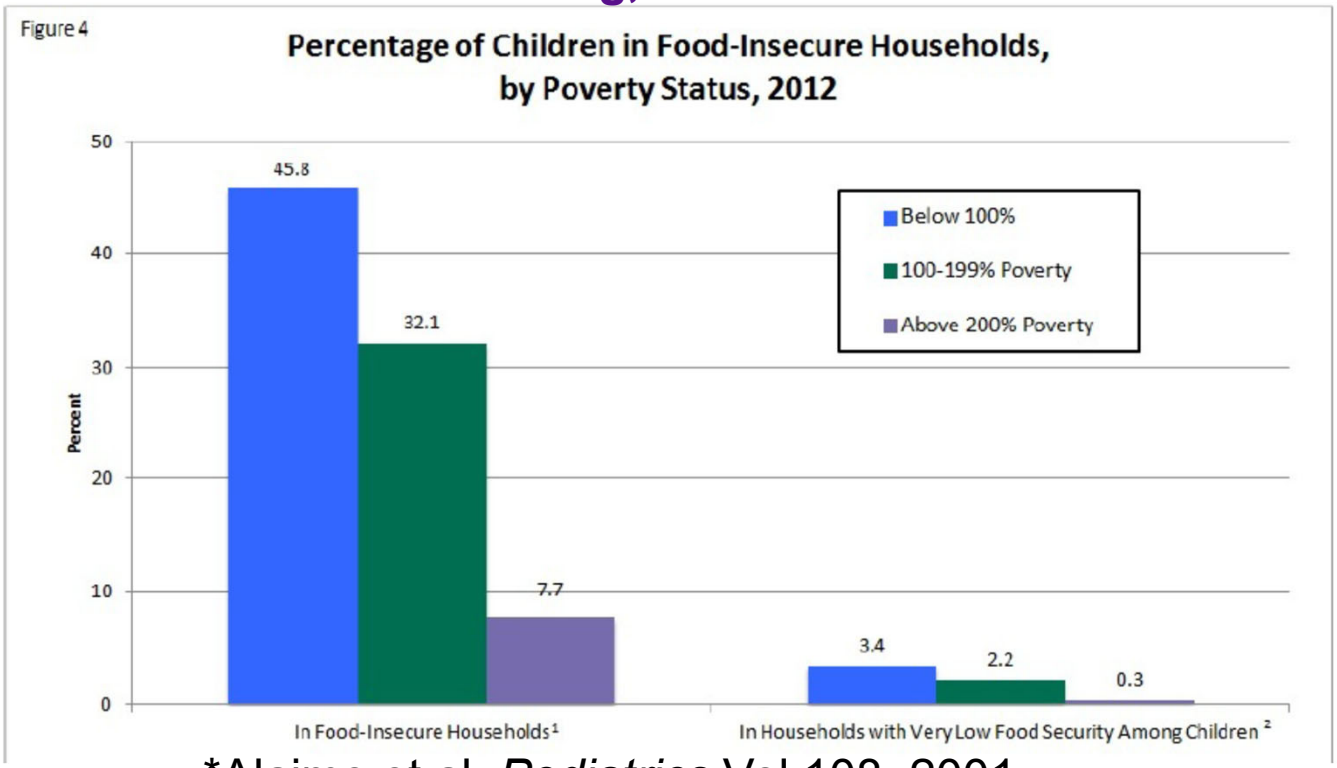
Higher Food Insecurity in Poverty is Associated with Academic and Psychosocial Problems*

Childtrends.org, based on USDA data



*Alaimo et al. *Pediatrics* Vol 108. 2001

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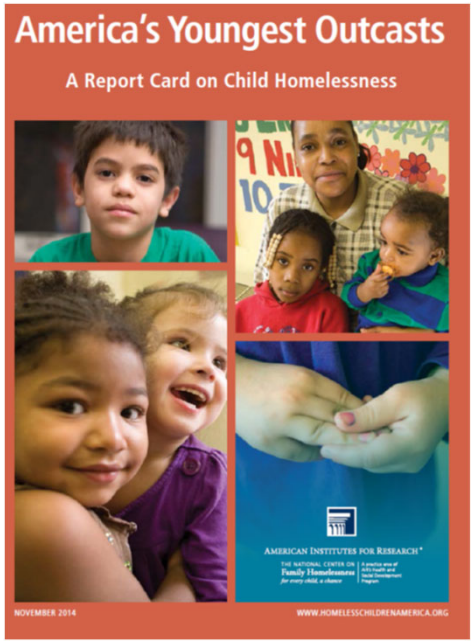
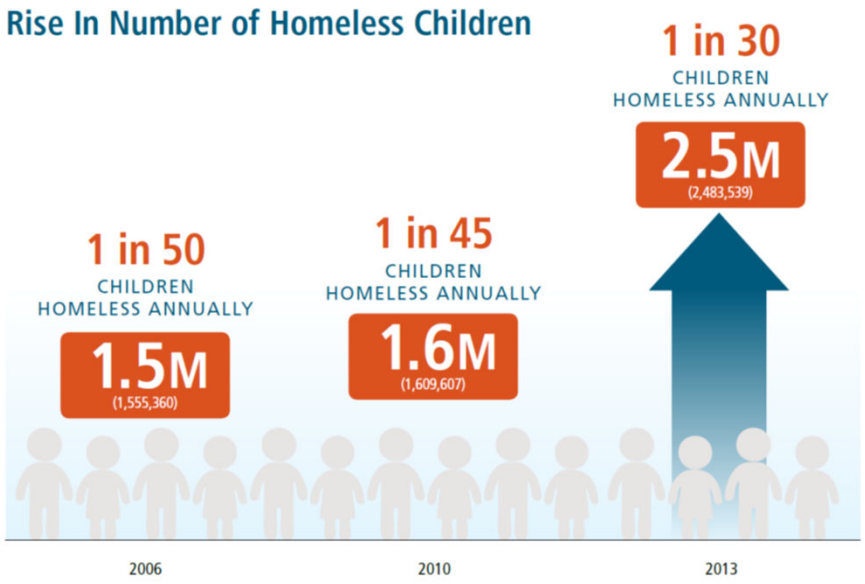
Family Homelessness: Intersection of Poverty and ACEs





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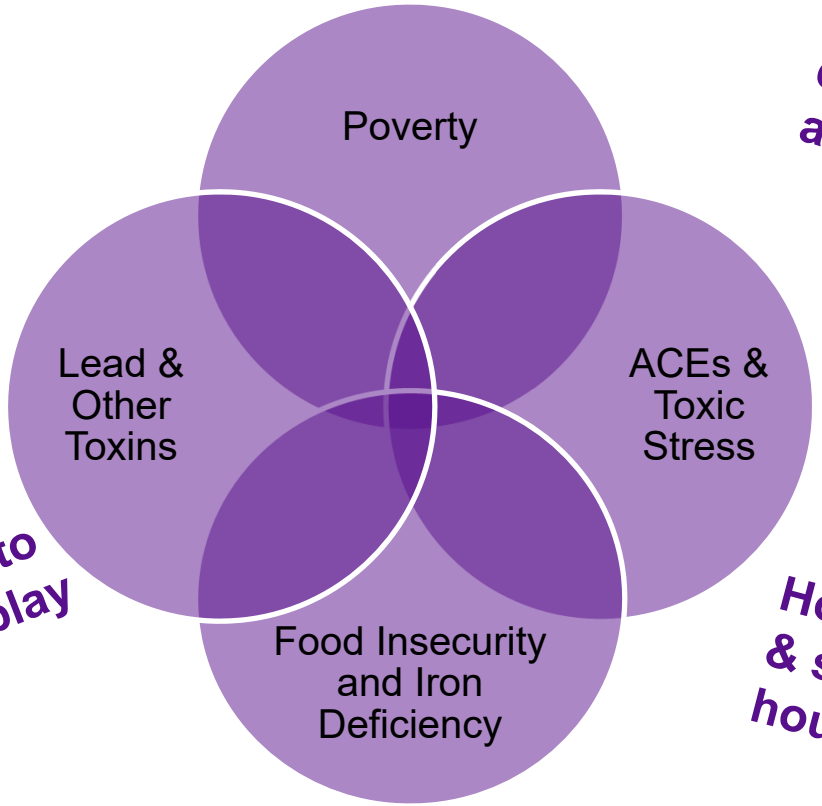
“Double Jeopardy” is Actually A Pile on of Multiple Jeopardies



Increased low birthweight impacting neurodevelopment

Increased chronic diseases such as asthma

Govt neglect & incompetence

Increased accidental injury

Homelessness & substandard housing

Poorer access to healthy foods and to safe and healthy play environments

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Impact of Poverty on Neurodevelopment and Child's Academic Success

Family income, parental education and brain structure in children and adolescents

Kimberly G Noble[1,2,32], Suzanne M Houston[3–5,32], Natalie H Brito[6], Hauke Bartsch[7], Eric Kan[4,5], Joshua M Kuperman[8–10], Natacha Akshoomoff[10–12], David G Amaral[10,13], Cinnamon S Bloss[10,14], Ondrej Libiger[15], Nicholas J Schork[16], Sarah S Murray[10,17], B J Casey[10,18], Linda Chang[10,19], Thomas M Ernst[10,19], Jean A Frazier[10,20], Jeffrey R Gruen[10,21–25], David N Kennedy[10,26], Peter Van Zijl[10,24,25], Stewart Mostofsky[10,25], Walter E Kaufmann[10,26,27], Tal Kenet[10,27,28], Anders M Dale[8–10,29–31], Terry L Jernigan[10–12,29] & Elizabeth R Sowell[4,5,10]

Socioeconomic disparities are associated with differences in cognitive development. The extent to whi disparities in brain structure is unclear. We investigated relationships between socioeconomic factors independently of genetic ancestry, among a cohort of 1,099 typically developing individuals between Income was logarithmically associated with brain surface area. Among children from lower income fan income were associated with relatively large differences in surface area, whereas, among children fron similar income increments were associated with smaller differences in surface area. These relationshi regions supporting language, reading, executive functions and spatial skills; surface area mediated so in certain neurocognitive abilities. These data imply that income relates most strongly to brain structu disadvantaged children.

Early experiences are critical for shaping brain development[1]. In humans, maturation of the brain regions responsible for higher cognitive functioning continues throughout childhood and adolescence, and thus the window for experience-dependent plasticity is long[2].

Childhood socioeconomic status (SES), characterized by parental educational attainment, occupation and income[3], is associated with early experiences that are important for cognitive development[4]. A burgeoning field has emerged at the intersection of the neural and social sciences, investigating associations between childhood SES and brain function[5]. SES is linked to children's neurocognitive func-

Neurostructural changes are the l neural plasticity[12]. Recent research between SES and structural brain devel to date have focused on cortical volum a composite of cortical surface area an phenomenic properties of the brain that and developmentally distinct[13].

Cortical thickness decreases rapidly cence, followed by a more gradual thin in early adulthood[2,13–15]. This cortica to synaptic pruning and increases in n

Research

Original Investigation

Association of Child Poverty, Brain Development, and Academic Achievement

Nicole L. Hair PhD; Jamie L. Hanson PhD; Barbara L. Wolfe PhD; Seth D. Pollak, PhD

IMPORTANCE Children living in poverty generally perform poorly in school, with markedly lower standardized test scores and lower educational attainment. The longer children live in poverty, the greater their academic deficits. These patterns persist to adulthood, contributing to lifetime reduced occupational attainment.

OBJECTIVE To determine whether atypical patterns of structural brain development mediate the relationship between household poverty and impaired academic performance.

DESIGN, SETTING, AND PARTICIPANTS Longitudinal cohort study analyzing 323 magnetic resonance imaging scans of 389 typically developing children and adolescents aged 4 to 22 years from the National Institutes of Health Magnetic Resonance Imaging Study of Normal Brain Development. Twin-complete sociodemographic and neuroimaging data. Data collection began in November 2001 and ended in August 2007. Participants were screened for a variety of factors suspected to adversely affect brain development, recruited at 6 data collection sites across the United States, assessed at baseline, and followed up at 24-month intervals for a total of 3 periods. Each study center used community-based sampling to reflect regional and overall U.S. demographics of income, race, and ethnicity based on the U.S. Department of Housing and Urban Development definitions of area income. One quarter of sample households ignored the total family income below 200% of the federal poverty level

Editorial

Supplem
amined

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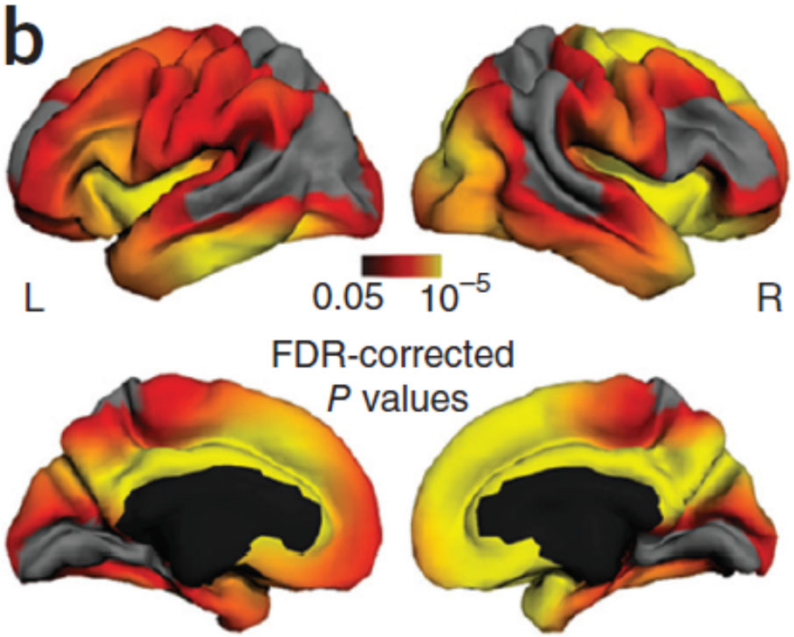
Differences in Surface Area in Many Brain Areas

Including Temporal, Frontal Lobes, and Prefrontal Cortex



- Of course poverty is more than toxic stress
  - Lack of resources for learning
  - Parental stress leading to generally less effective parenting

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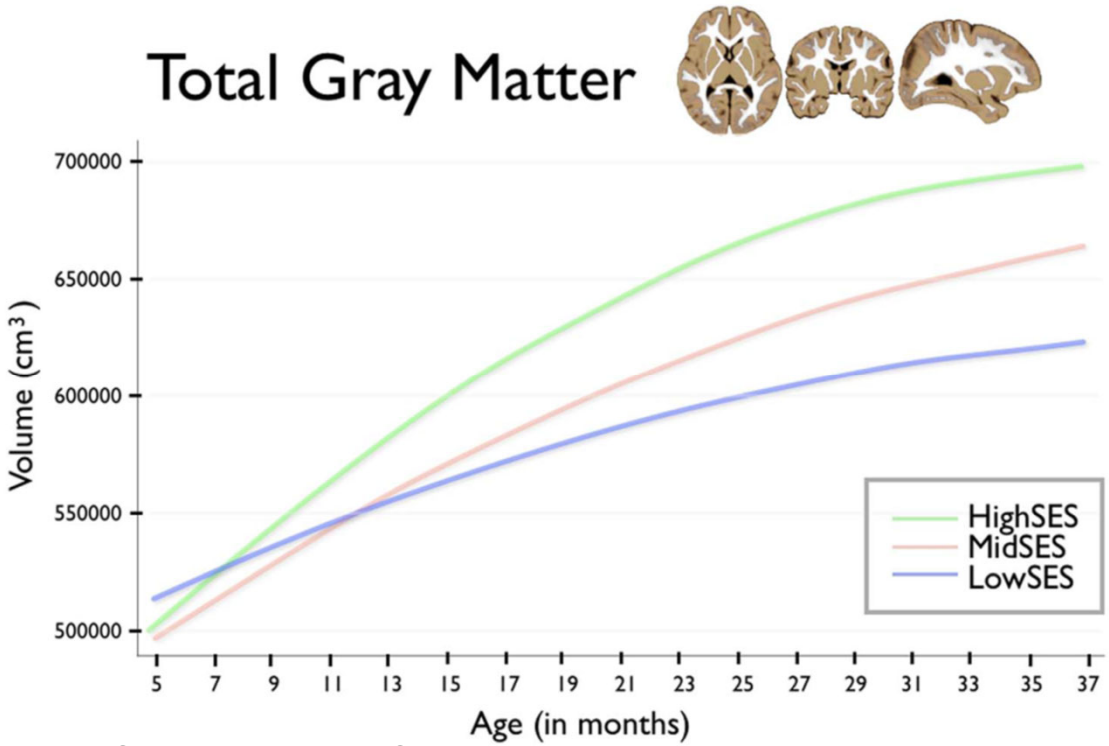
Grey Matter Differences with Poverty from 4 m – 4 Y

Volumetric differences Associated with Disruptive Behavior Problems



Similar findings with frontal and parietal gray matter

Hanson et al. 2013

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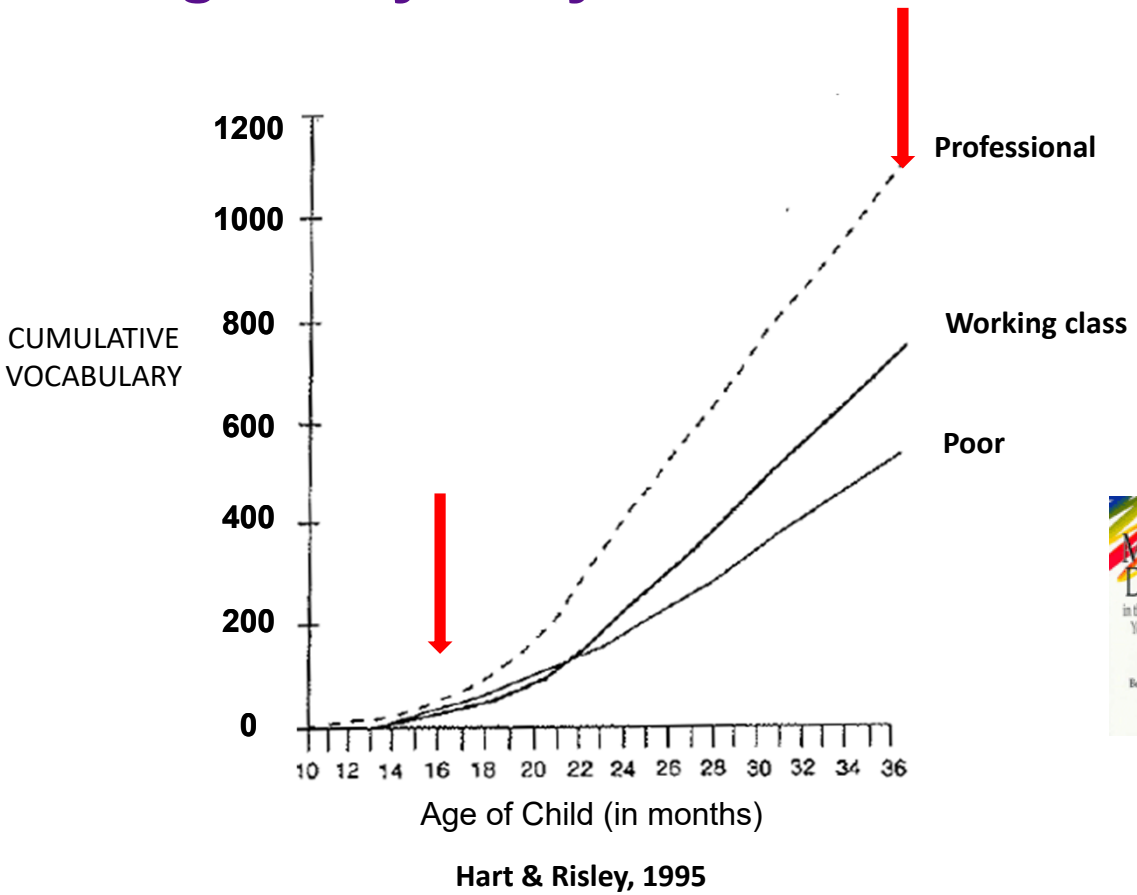
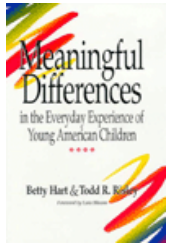
Disparities Begin Very Early





Hart & Risley, 1995

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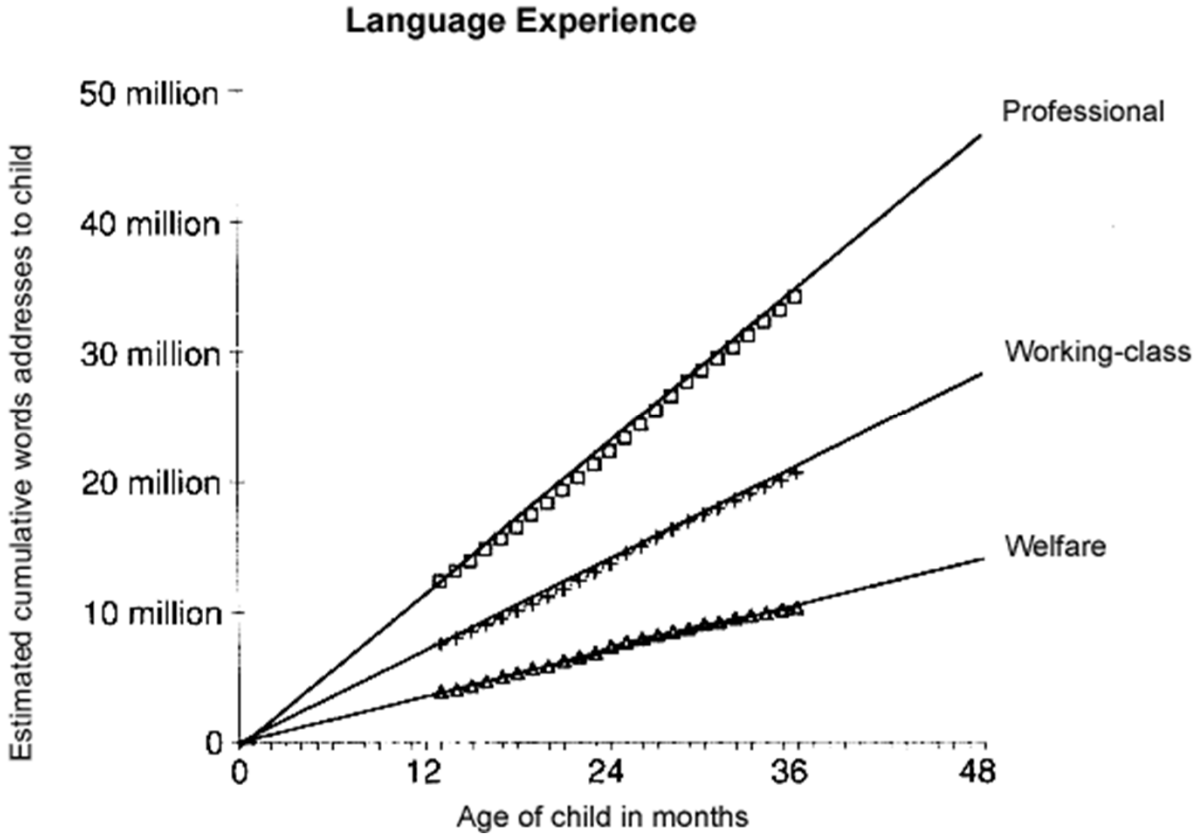
30 Million Word Gap



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Most Academic Disparities are Present at School Entry

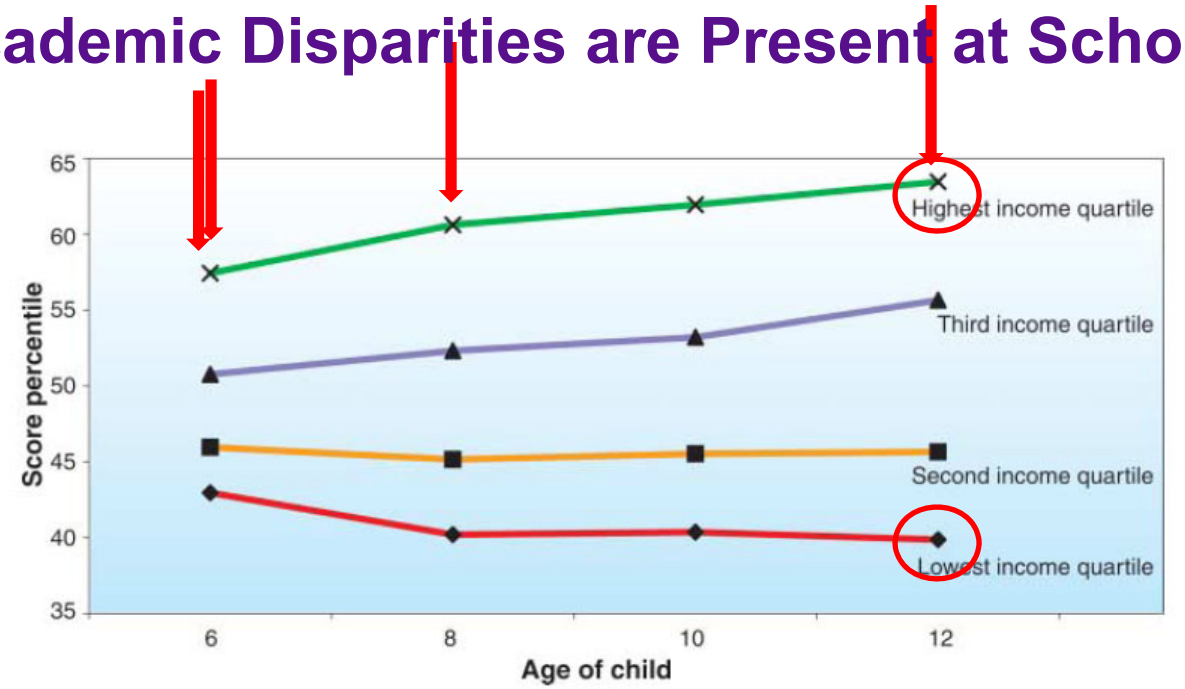

Fig. 1. Average percentile rank on Peabody Individual Achievement Test–Math score by age and income quartile. Income quartiles are computed from average family income between the ages of 6 and 10. Adapted from (*3*) with permission from MIT Press.

Heckman JJ. Skill formation and the economics of investing in disadvantaged children. Science. 2006;312:1900
Carneiro P, Heckman JJ. In *Inequality in America: What Role for Human Capital Policies?* Heckman jj, Krueger AB, MIT Press 2003, chapter 2, pp 77-237.

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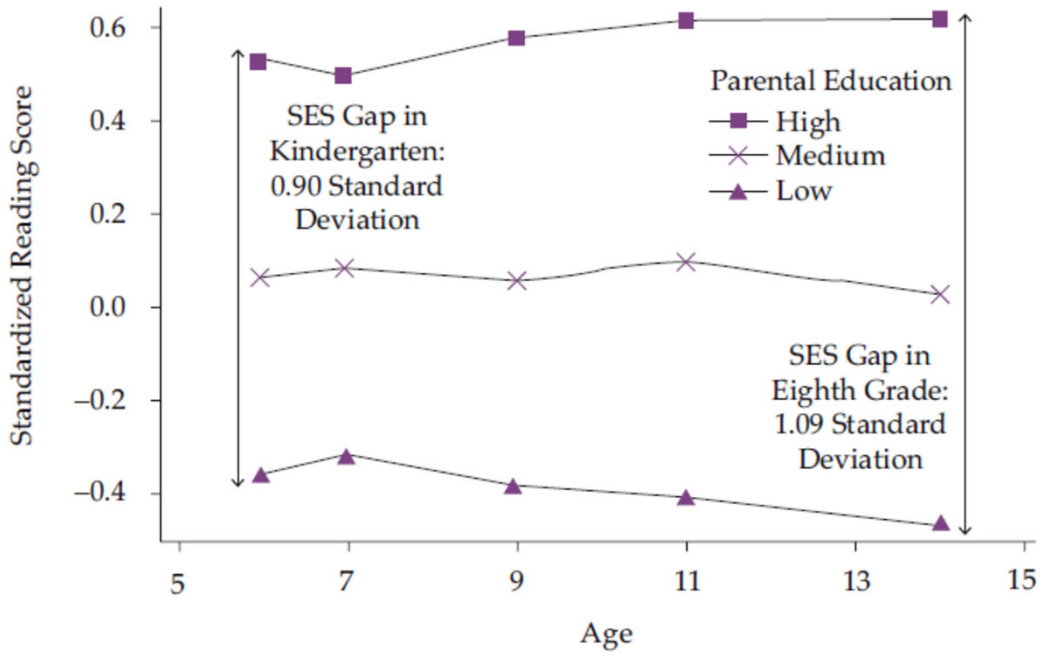
Figure 6.1 Average reading scores of children from different SES groups—and the gaps between them—change relatively little between kindergarten and eighth grade.



Source: Authors' calculations using the ECLS-K.

Too Many Children Left Behind. Bradbury, Corak, Waldfogel, Washbrook. 2015

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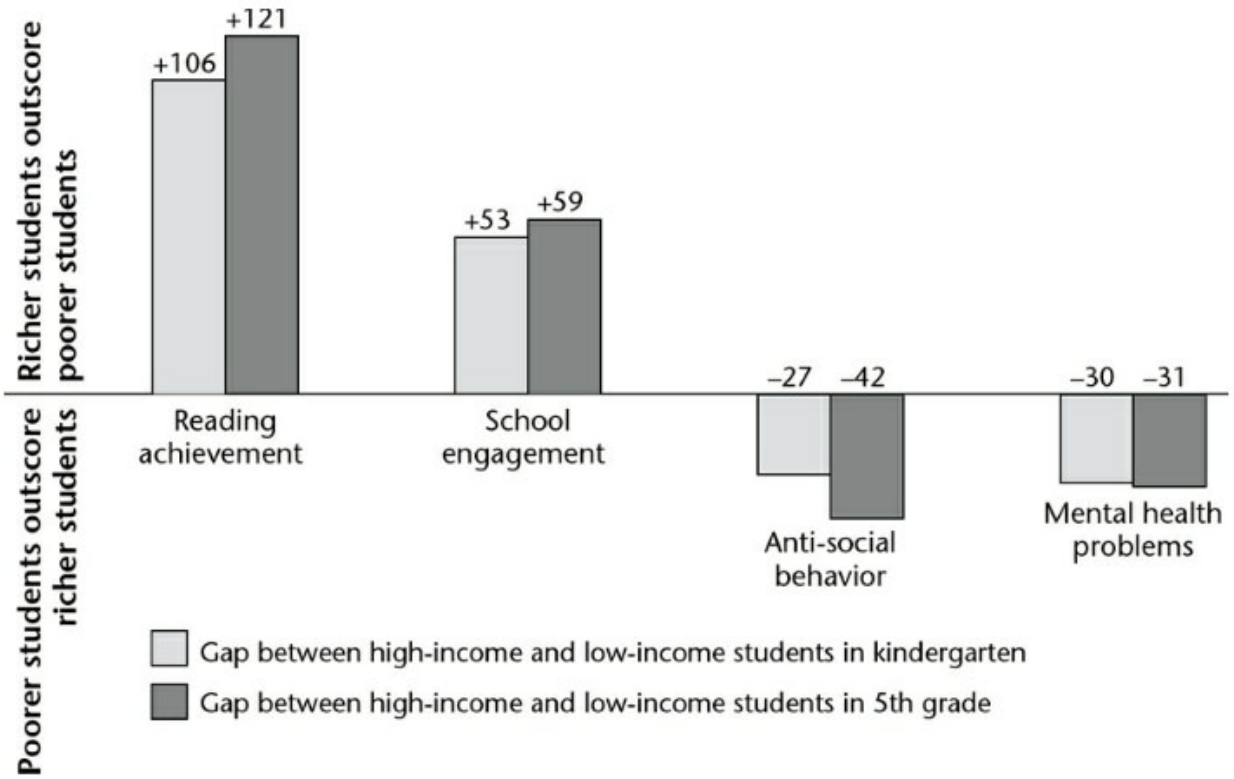
Gaps Persist and Increase



Duncan and Murnane. Restoring Opportunity. 2014

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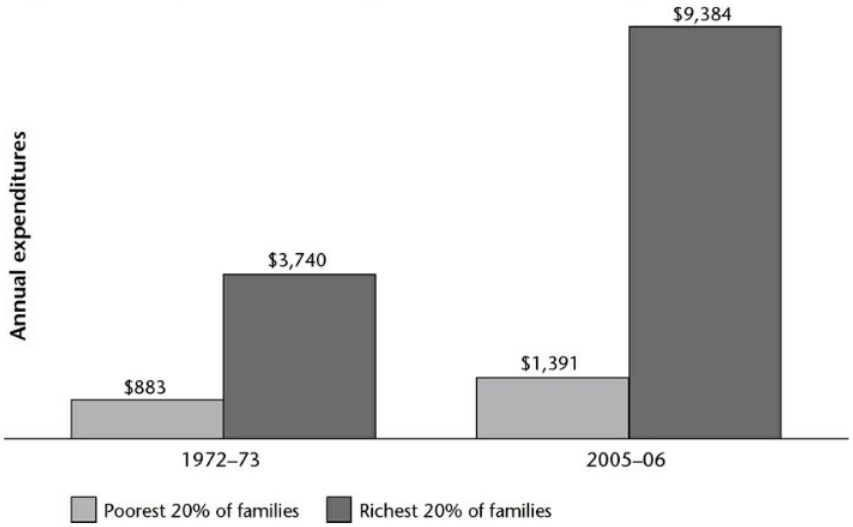
Family Expenditures

Figure 3.2 Family enrichment expenditures on children by income level

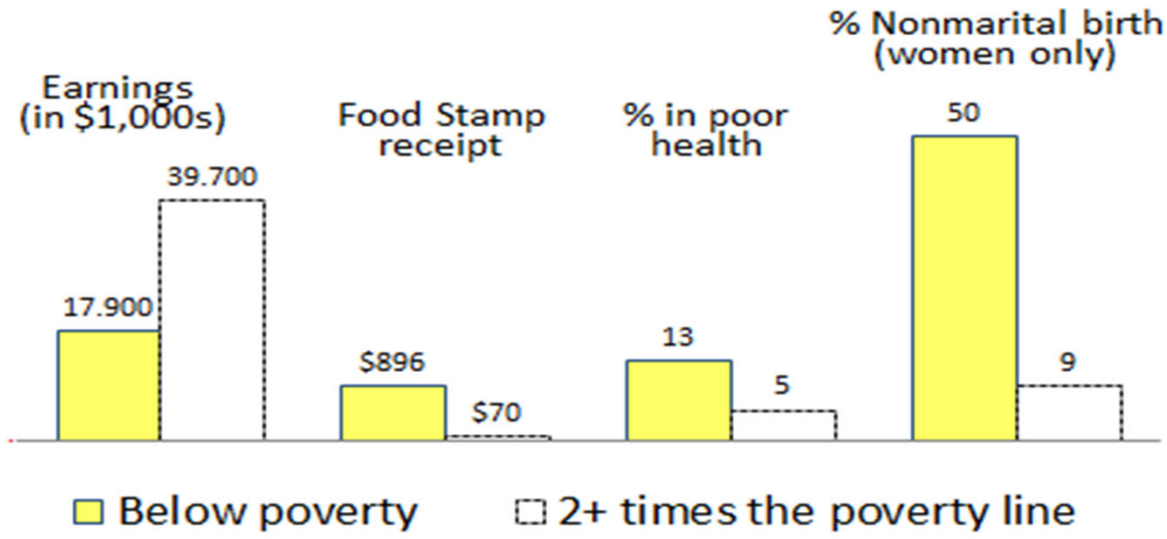


Source: Authors' calculations based on data from the Consumer Expenditure Surveys. Amounts are in 2012$.

Duncan and Murnane. Restoring Opportunity. 2014

Impacts Last Into Adulthood and Are Intergenerational

Figure 1: Adult outcomes for children with low and higher levels of early childhood income



Source: Duncan et al. (2010)

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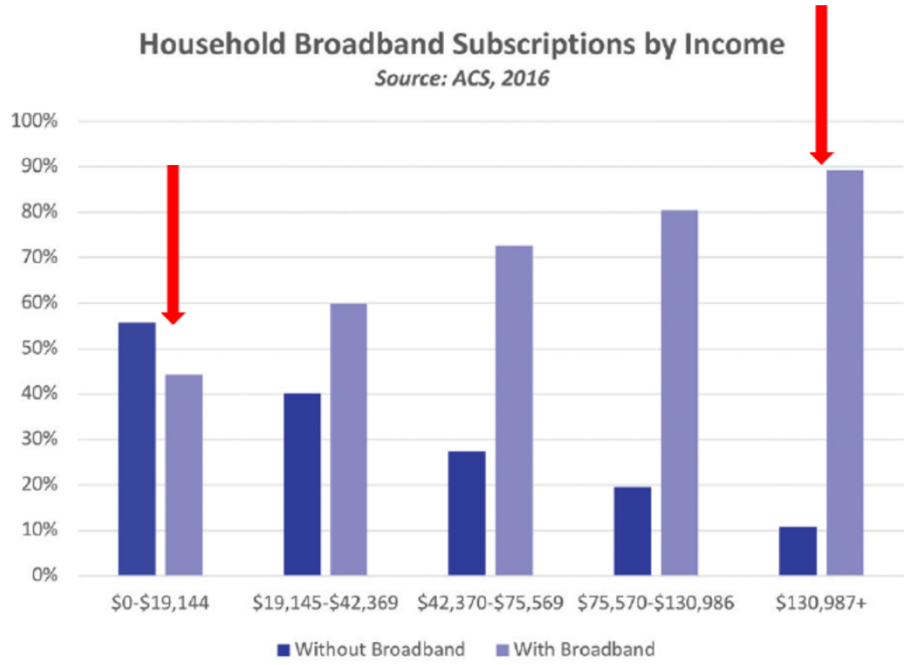
COVID-19 Pandemic: Lost educational opportunity and impacts on health care as well

- Reliance on Zoom and other videoconference methods assumes access to broadband
  - 31% of households in NYC do not have broadband (https://tech.cityofnewyork.us/wp-content/uploads/2018/04/NYC-Connected-Broadband-Report-2018.pdf);
  - 56% in lowest income group
- Crowed noisy home environment without private space to focus;
- Educational disparities may increase



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Promising School Interventions

Poster can go here

FIRST: Interventions in Early Childhood Before School Begins!

Reach Out and Read®

Video Interaction Project
play • read • grow • together

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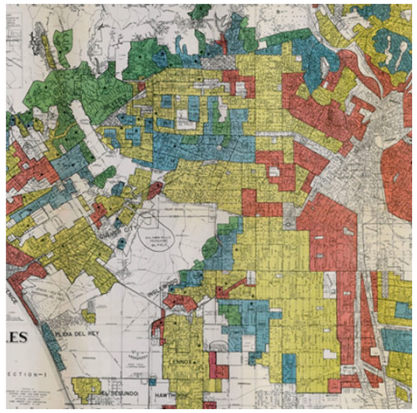
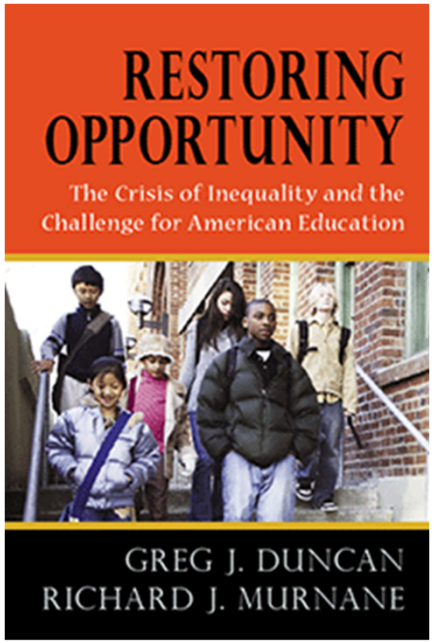
Bridging the digital divide

- Make broadband internet access a national priority
- Develop or support a “digital health equity” team similar to that created by the Greenlining Institute in California.
- Target FCC $200 million in COVID stimulus package for telemedicine to improve computer ownership in low-income communities
- Reinstate Department of Education Community Technology Centers program that created and expanded spaces for greater access to information technology and the training to use it in low-income communities
- Health systems can leverage community health workers to help low digital literacy families with the basics of using a computer or smartphone device



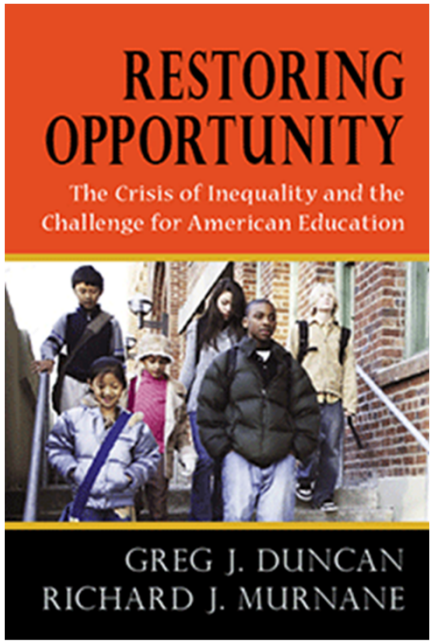
https://www.healthaffairs.org/do/10.1377/hblog20200505.591306/full/

The Educational System



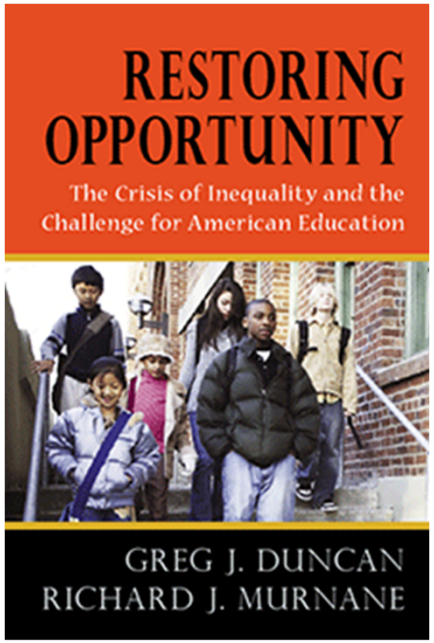
- Promising preschool programs: The Boston Public Schools
  - Chose strong curricula
  - Teacher training and support
  - Expectations
  - Measurement
  - Play and fun!

The Educational System

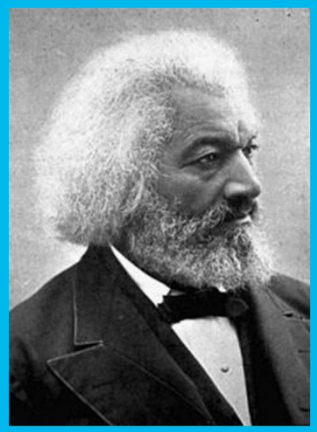


- Promising elementary school programs: Chicago Charter Schools
  - Coordinated focus on literacy across grades
  - Regular assessments of student skills
  - Use of results to guide improvement and remediation

The Educational System



- Promising high school programs: NYC Small HS program
  - Literacy across the grades
  - Expectations for success and support to make up for family and social problems
  - Attention to adolescent development
  - Community partners
  - Acculturation to college attendance



“It is easier to build strong children than to repair broken men.”

Questions and Discussion

Frederick Douglass

American Abolitionist

1818-1895

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