

**B O O K S  
B U I L D  
B E T T E R  
B R A I N S**

HOW PROMOTING LITERACY IS KEY TO  
EARLY BRAIN AND CHILD DEVELOPMENT

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CHAIR, BOARD OF DIRECTORS, REACH OUT AND READ



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Live-tweeting encouraged!

# DISCLOSURE

I have **no** relevant financial relationships to disclose.

I will **not** discuss off-label use or investigational use in my presentation.

Although...



**I don't know if "mouthing" is an FDA-approved use of board books.**

“Oh, that’s so nice...”  
**CRITICAL**

# The Science The Result The Solution? The Call



# *Part One*

**A Stroll Through  
the Early Brain**



# EARLY BRAIN AND CHILD DEVELOPMENT

from *The Science of Early Childhood Development*  
National Scientific Council on the Developing Child, 2007

The mind is its own place,  
and can make a heaven of Hell; a Hell  
of Heaven, and a Paradise of Hell,  
and a Hell of Paradise, if it will.  
~ John Milton: "Paradise Lost"

# EARLY BRAIN AND CHILD DEVELOPMENT

1

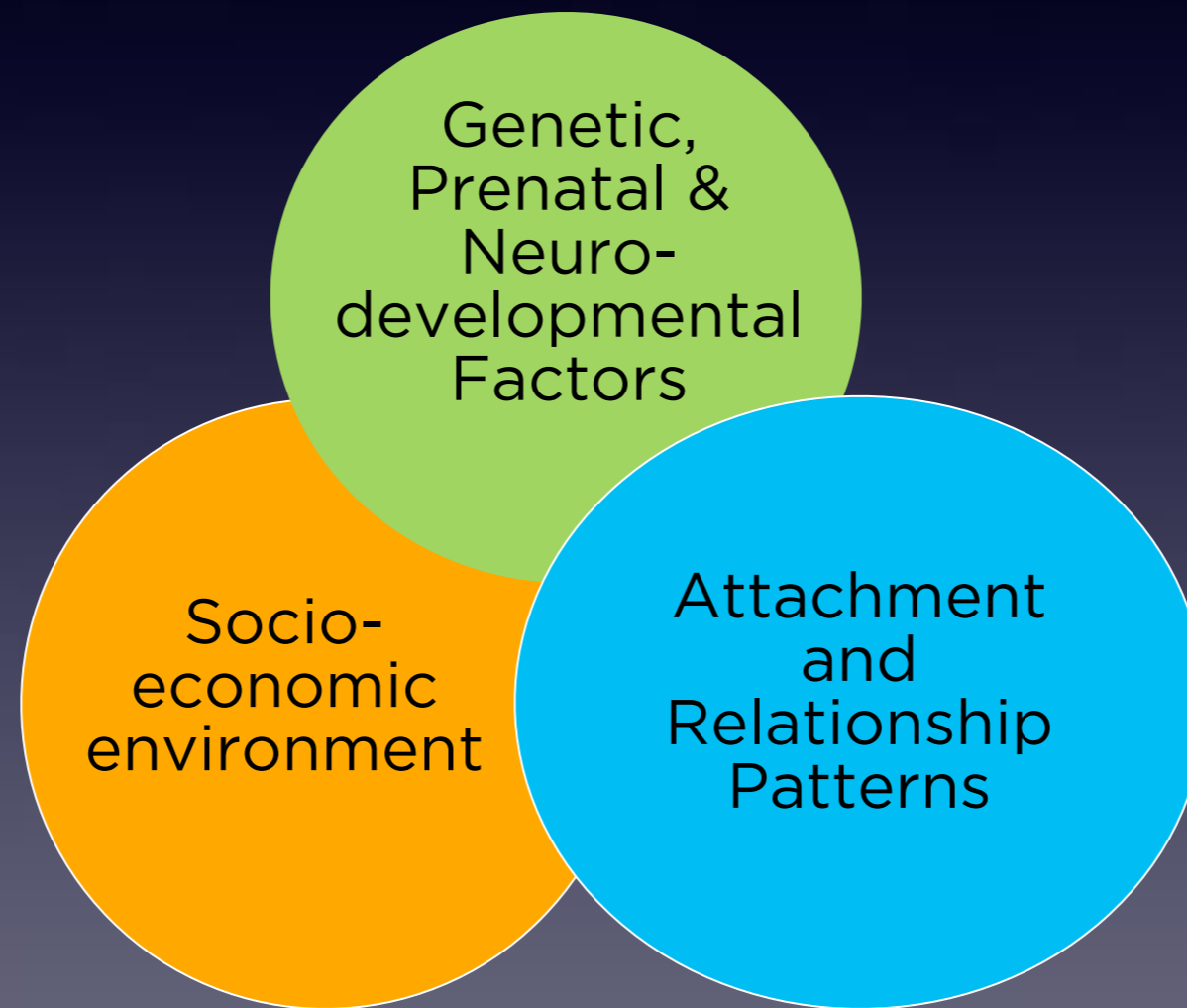
Child development is a foundation for **community** development and **economic** development, as capable children become the foundation of a prosperous and sustainable society.

2

Brains are built **over time**.



# The **3-legged stool** for developmental and health trajectories



# EARLY BRAIN AND CHILD DEVELOPMENT

3

The interactive influences of **genes** and **experience** literally shape the architecture of the developing brain and the active ingredient is the “**serve and return**” nature of children’s engagement in **relationships** with their parents and other caregivers in their family or community.



# The Face to Face Paradigm Edward Z Tronick





# EARLY BRAIN AND CHILD DEVELOPMENT

## 4

Both brain architecture and developing abilities are built “from the bottom up” with simple circuits and skills providing the **scaffolding** for more advanced circuits and skills over time.

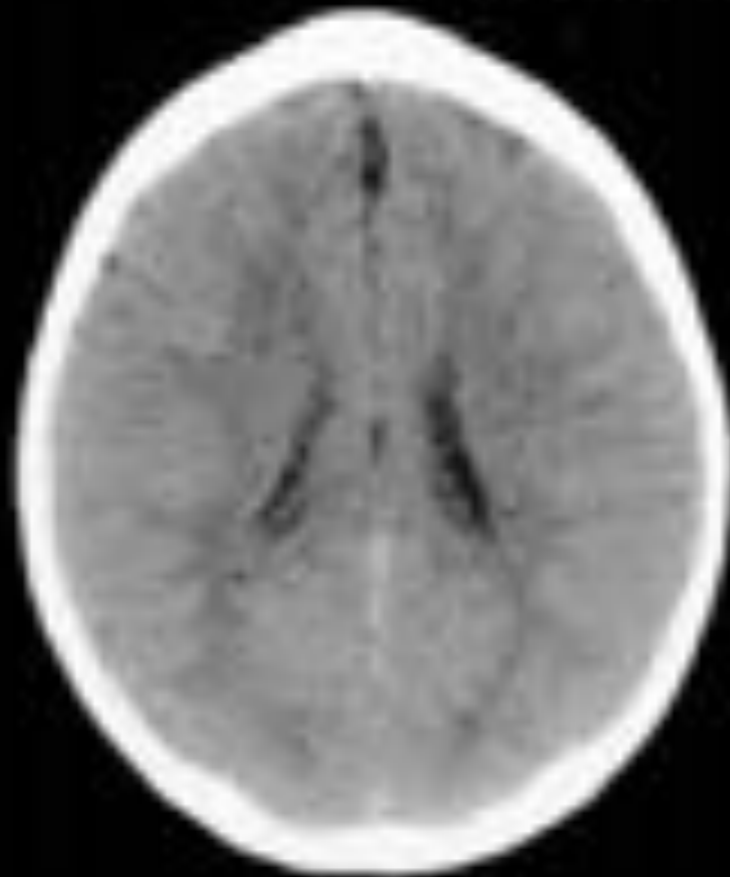
**“play is the work of infancy”**  
— T Berry Brazelton

# EARLY BRAIN AND CHILD DEVELOPMENT

## 5

Toxic stress in early childhood is associated with **persistent** effects on the nervous system and stress hormone systems that can **damage developing brain architecture** and lead to lifelong problems in learning, behavior and both physical and mental health.

3 Year Old Children



Normal



Extreme Neglect

Normal

Extreme Neglect

# THE STRESS RESPONSE:

increases in cortisol and epinephrine



# Three Levels of Stress Response

What if it's worse?  
What if there's no supportive relationships?

Child abuse  
Parental substance abuse  
Homelessness

**TOXIC STRESS**

**CHILDHOOD STRESS**

**Hyper-responsive  
stress response**

**decreased  
calm/coping**

**Chronic “fight or flight”**

**increased  
cortisol / norepinephrine**

**Changes in Brain  
Architecture**

# EARLY BRAIN AND CHILD DEVELOPMENT

## **The Result**

# THE ADVERSE CHILDHOOD EXPERIENCES STUDY

The Most Important Study  
You've (Probably) Never Heard Of.

In 1985, Dr Vincent Felitti noticed many patients in his obesity treatment programs had prior history of abuse or trauma

The CDC worked with Kaiser Permanente and looked retrospectively at over 17,000 patients.

This was the first study to simultaneously assess childhood exposure to multiple types of abuse, neglect, domestic violence and serious household dysfunction.

# THE ADVERSE CHILDHOOD EXPERIENCES STUDY

Study participants were middle-class Americans from San Diego, 80% white, 74% attended college, average age of 57, split evenly between men and women.

**Not exactly an impoverished, “at-risk” population.**

# EARLY BRAIN AND CHILD DEVELOPMENT

6

Creating the right conditions for early childhood development is likely to be **more effective and less costly** than addressing problems at a later age.



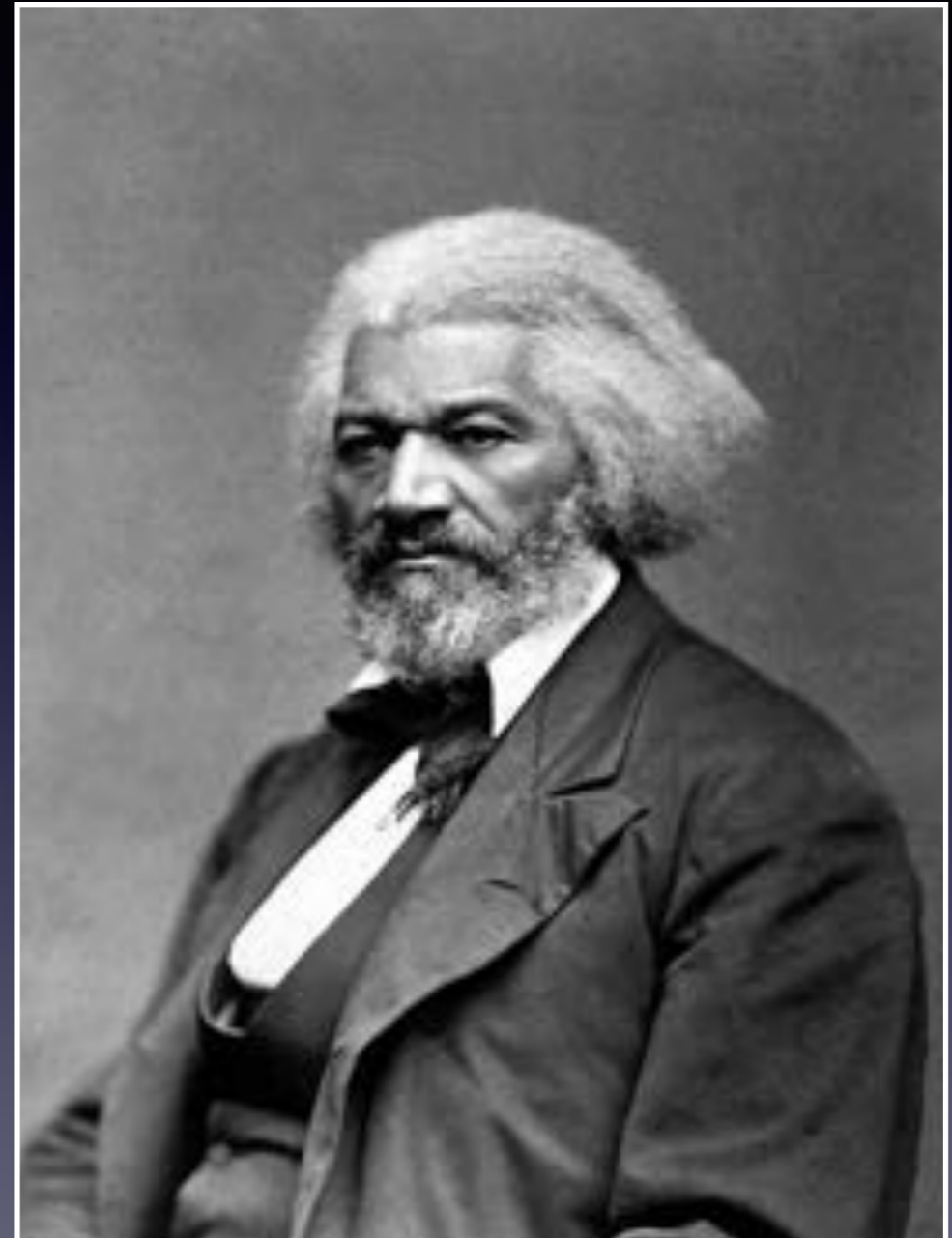
**\$4-\$9**

**in Returns for  
Every Dollar Invested  
in Early Childhood Programs**



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

**— Frederick Douglass  
(1817–1895)**



**POLICY STATEMENT** Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy  
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

# The Impact of Racism on Child and Adolescent Health

Marie Trent, MD, MPH, FAAP, FSAHM,<sup>a</sup> Danielle G. Dooley, MD, MPhil, FAAP,<sup>b</sup> Jacqueline Dougé, MD, MPH, FAAP,<sup>c</sup> SECTION ON ADOLESCENT HEALTH, COUNCIL ON COMMUNITY PEDIATRICS, COMMITTEE ON ADOLESCENCE

The American Academy of Pediatrics is committed to addressing the factors that affect child and adolescent health with a focus on issues that may leave some children more vulnerable than others. Racism is a social determinant of health that has a profound impact on the health status of children, adolescents, emerging adults, and their families. Although progress has been made toward racial equality and equity, the evidence to support the continued negative impact of racism on health and well-being through implicit and explicit biases, institutional structures, and interpersonal relationships is clear. The objective of this policy statement is to provide an evidence-based document focused on the role of racism in child and

## abstract

<sup>a</sup>Division of Adolescent and Young Adult Medicine, Department of Pediatrics, School of Medicine, Johns Hopkins University, Baltimore, Maryland; <sup>b</sup>Division of General Pediatrics and Community Health and Child Health Advocacy Institute, Children's National Health System, Washington, District of Columbia; and <sup>c</sup>Medical Director, Howard County Health Department, Columbia, Maryland

Drs Trent, Dooley, and Dougé worked together as a writing team to develop the manuscript outline, conduct the literature search, develop the stated policies, incorporate perspectives and feedback from American Academy of Pediatrics leadership, and draft the final version

evidence-based document focused on the role of racism in child and relationships is clear. The objective of this policy statement is to provide an implicit and explicit biases, institutional structures, and interpersonal

American Academy of Pediatrics leadership, and draft the final version the stated policies, incorporate perspectives and feedback from develop the manuscript outline, conduct the literature search, develop Drs Trent, Dooley, and Dougé worked together as a writing team to

**What can we do about it?**

# Principles of ~~The~~ Solutions

**POLICY STATEMENT** Organizational Principles to Guide and Define the Child Health Care System and/  
or Improve the Health of all Children

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of Pediatrics



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# Preventing Childhood Toxic Stress: Partnering With Families and Communities to Promote Relational Health

Andrew Garner, MD, PhD, FAAP<sup>a,b</sup> Michael Yogman, MD, FAAP<sup>c,d</sup>  
COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH, SECTION ON DEVELOPMENTAL AND BEHAVIORAL  
PEDIATRICS, COUNCIL ON EARLY CHILDHOOD

Toxic stress defines the problem. Toxic stress explains how many of our society's most intractable problems (disparities in health, education, and economic stability) are rooted in our shared biology but divergent experiences and opportunities.

Relational health defines the solution. Relational health explains how the individual, family, and community capacities that support the development and maintenance of SSNRs also buffer adversity and build resilience across the life course.

# **SSNRs** (not SSRIs)

## *SSNRs*

Acronym for safe, stable, and nurturing relationships; these allow the child to feel protected, connected, and competent.

connected, and competent.



“In order to develop normally, a child requires progressively more complex joint activity with one or more adults who have an irrational emotional relationship with the child. **Somebody’s got to be crazy about that kid.** That’s number one. First, last, and always.”

— Urie Bronfenbrenner

**A word on “resilience”**

We **need** solutions which...

Build capabilities

Build capacities

Are based in homes  
& communities

Address root causes

Have long-term effects

Address prevention

Leverage the  
first 1000 days

Are evidence-guided

Are scalable



# *Part Two*

## **Reading Reality**

**Successful, fluent readers**



**High-quality reading instruction and support**



**No or appropriately-addressed learning disabilities**



**No physical (vision, hearing, etc) impediments**



**Access to a ready supply of diverse, high-quality books**



**Adults who are comfortable, confident, and capable of sharing books well with young children**



**Families who have their basic needs well met**



**Programs, policies, and advice**

**Developmental Progress**

Children from low-income families hear as many as **30 million fewer** words than their more affluent peers before the age of 4.

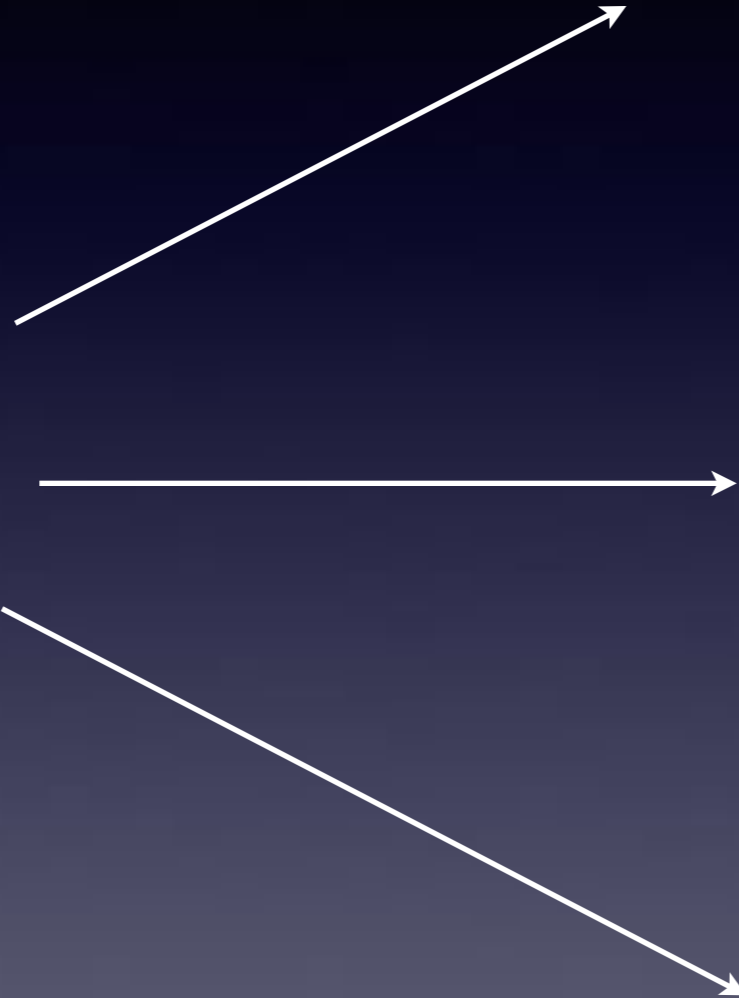
**Why Reading?**



Reading is **the**  
fundamental skill  
for learning

Awareness  
of books

Understanding of printed  
words and what they  
**represent**



# Emergent Literacy:

the early display of an awareness by children that **print conveys information.**

It is an amalgamation of children's oral language development and their initial attempts at reading and writing. Such attempts include "reading" the pictures of a book, or scribbling. Emergent literacy, **if supported** by meaningful interaction in oral and written language, evolves into full literacy skills. (Teale & Sulzby, 1986)

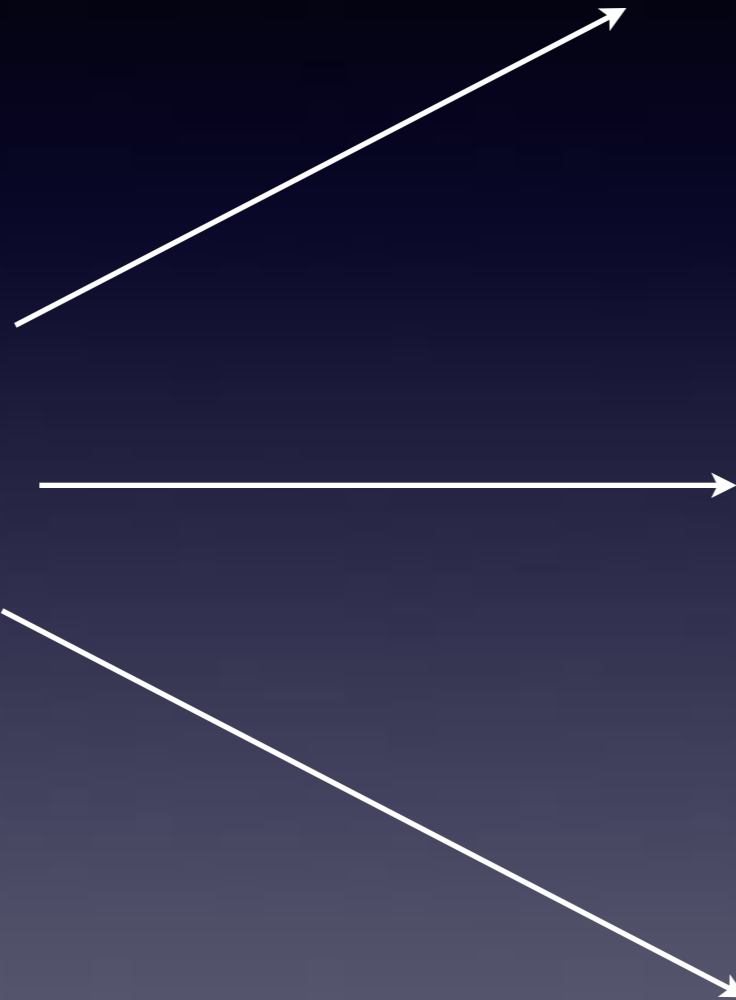


**“Middle Kingdom” or... China!**

**Awareness  
of books**

Understanding of printed  
words and what they  
**represent**

Using background  
knowledge and  
strategies to obtain  
**meaning** from print





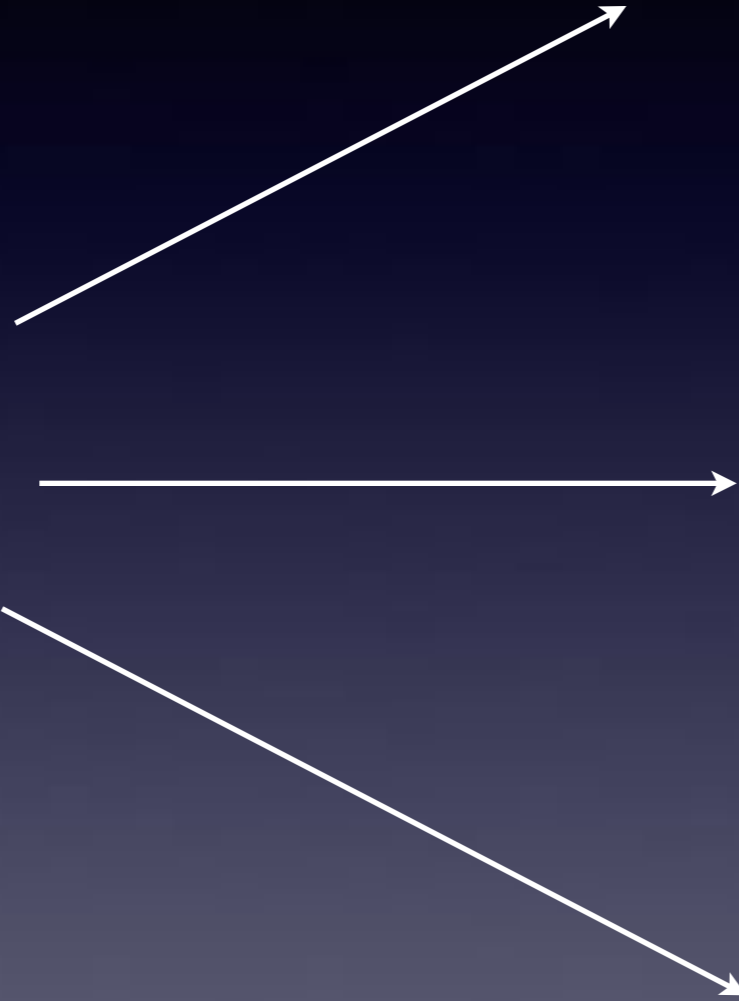
**In the great  
green room...**

**Awareness  
of books**

Understanding of printed  
words and what they  
**represent**

Using background  
knowledge and  
strategies to obtain  
**meaning** from print

**Fluent** reading



# Dialogic Reading:

The act of reading becomes a **conversation** between the adult and the child; the adult helps the child become the teller of the story by becoming the listener, questioner, and audience for the child.



Reading to children may not be a natural skill for adults.

Reading at all may not be something an adult is **capable** of.

Reading problems may have been an issue for **generations**.

Some people there are who, being grown, forget the horrible task of learning to read. It is perhaps the single greatest effort that the human undertakes, and he must do it as a child.

John Steinbeck

**Reading**  
is a  
**triumph**  
of the  
**early brain.**

— Perri Klass, MD

— PERRI KLASS, MD

**Reading should be fun!**

# *Part Three*

**Reach Out and Read**



**Reach  
Out  
& Read<sup>®</sup>**



# Prescription for Reading



WISCONSIN  
★ Children's Health  
Alliance of Wisconsin

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Age: \_\_\_\_\_

*Rx Share Books Together*



- Every night at bedtime
- For \_\_\_\_\_ minutes every day
- As needed

Refills: as requested at local public library

Signature: \_\_\_\_\_

Dr. Dipesh Navsaria, MPH, MSLIS, MD  
Pediatrician & Occasional Children's Librarian

Our goal is **not** about

Teaching a child to actually read  
early

It is about learning to **love** books.



Not **merely** advice  
or a book giveaway...

...but rather a process of  
**parental skill-building**  
**and support...**

by already-existing, skilled,  
**trusted professionals.**



# The Reach Out and Read Podcast

[www.reachoutandread.org/podcast](http://www.reachoutandread.org/podcast)

[www@reachoutandread.org](mailto:www@reachoutandread.org)

# Families Need Support



# Supporting Relational Health



# Shared Reading as a Scaffold



# Consilience

Health Care

A “jumping together”  
(of evidence, thought, and direction)

Early Childhood  
Education

Home Visiting

Social Work

And many  
more



# EARLY BRAIN AND CHILD DEVELOPMENT

## The Call

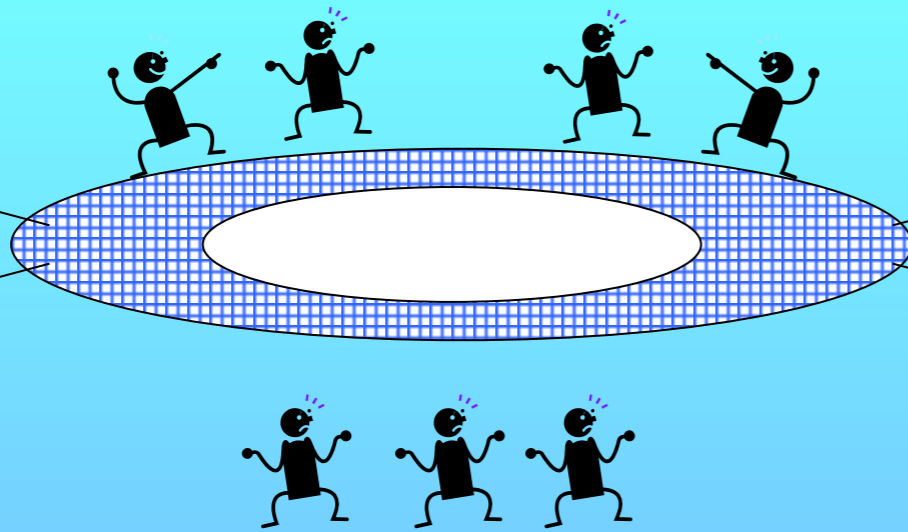


# Using A Public Health Approach to Building Healthy Brains

Promote

Identify & Address

Repair



**Universal Primary Preventions**  
Anticipatory Guidance  
Bright Futures  
Reach Out and Read  
Social Supports  
Relational Health  
High Quality Child Care

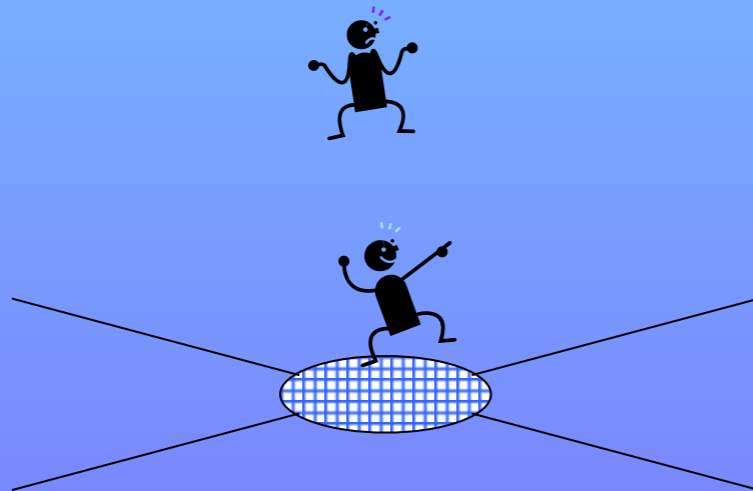
Everyone

Screening/Targeted

**All of these levels are necessary;  
None on their own are sufficient.**

At-risk

Early Intervention



**Evidence-Based Treatments**  
CPP, COS, PCIT, TB-CBT  
Intensive Home Visiting  
Intensive Parenting Education  
Care Coordination

Symptomatic

Change the First Five Years and You Change Everything

Ounce of Prevention Fund

Accessible at <http://youtu.be/GbSp88PBe9E>



Madonna and Child Enthroned with Saints, Santi di Tito, in the Uffizi Gallery, Florence.

“While schools can do much to raise achievement among children who initially lag behind their peers, all too often pre-school gaps set in train a pattern of **ever increasing inequality** during school years and beyond. Any drive to improve social mobility must begin with an effective strategy to **nurture the fledgling talent in young children** so often lost before it has had a chance to flourish.”

The Sutton Trust

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**THE  
END**

Public-facing Social Media  
Please follow along!

