

The Upside Down Organization presents

# BEYOND POVERTY: Brain-Inspired Ways to Understand and Respond to Poverty

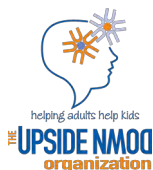


## PARTICIPANT WORKBOOK

2015 National CASA Conference  
Monday, June 1, 2015

**Heather Higgins, LCSW-C**

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## Who Are These Guys?

### The Children's Guild

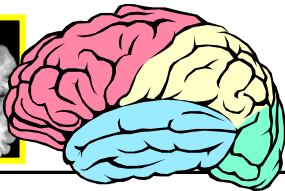
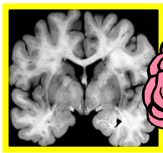
#### PROGRAMS

- 5 Schools
- 2 are Non-Public
- 3 Charter
- 3 Group Homes
- Foster Care
- OMHC
- Autism Center

- Located in Baltimore, MD, Glen Burnie, MD, Laurel, MD and Washington, DC, USA
- Urban (8.4 million)
- African American (80%), Hispanic (10%), Caucasian (5%) Students
- **Majority of Students Live at or Below Poverty Level**
- Majority of Students Have had 2+ Failed School Placements in Non-Public Programs

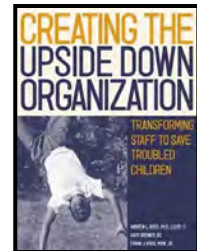
## TRANSFORMATION EDUCATION

Translates the fields of neuroscience (*brain compatible approaches*) and anthropology (*culture*) to be **practically applied** to child-serving organizations and schools.



## What's Different About The Upside Down Organization?

- A unique learning organization to **"Help Adults Help Kids."**
- **Nonprofit.** Proceeds go to kids at The Children's Guild.
- **Applied Research.** We are operating schools, group homes, foster care, mental health and after-school programs!
- **Word of Mouth Marketing.** Our participants "spread the word."



## About Your Presenter



Heather obtained her BA from Loyola University and her MSW from the University of MD, Baltimore. Heather began working for The Children's Guild in 2004 on their clinical leadership team serving first as the Clinical Director of the special education school and then as the Director of the OMHC. Heather began her career working with children and adults with developmental delays while she was in high school, and has continued to serve individuals in need ever since. Heather has worked with children and families in a multitude of settings including residential care, school, foster care, outpatient, and inpatient hospitals. Heather can be found presenting interactive workshops and keynote addresses nationwide to child serving professionals and families. Heather provides energetic and engaging training in a variety of areas including Poverty and the Brain, Gender Differences in the Classroom, The Teen Brain, ADHD, and Bullying. Born and raised in New York, Heather has been calling Baltimore, Maryland home for the past two decades.

## TODAY'S ITINERARY

Four Big Questions About Poverty and the Brain

- What is Poverty?
- How is the Developing Brain Influenced by Its Environmental Experience?
- Do Children in Poverty Have Different Environmental Experiences than Higher SES Kids?
- What Can We Do for These Unique Brains?

**Instead of thinking:**

***“How can kids from poverty do better in school?, ask:  
How can we restructure school to do  
better for kids from poverty?”***

# Four Big Questions About Poverty and the Brain

## 1. What is Poverty?

1. a.) the state of one who lacks a usual or socially acceptable amount of money or material possessions b.) renunciation as a member of a religious order of the right as an individual to own property
2. a.) scarcity, dearth 3. a.) debility due to malnutrition b.) lack of fertility.

**synonyms: poverty, indigence, penury, want, destitution** mean the state of one with insufficient resources. **poverty** may cover a range from extreme want of necessities to an absence of material comforts <the extreme **poverty** of the slum dwellers>. **indigence** implies seriously straitened circumstances <the **indigence** of her years as a graduate student>. **penury** suggests a cramping or oppressive lack of money <a catastrophic illness that condemned them to years of **penury**>. **want** and **destitution** imply extreme poverty that threatens life itself through starvation or exposure <lived in a perpetual state of **want**> <the widespread **destitution** in countries beset by famine>.

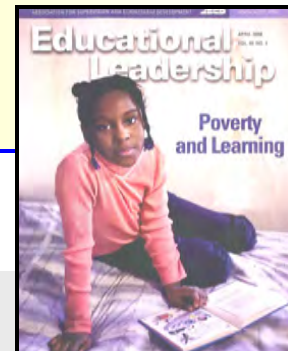
## 2014 Poverty Guidelines for the 48 Contiguous States and District of Columbia

Persons in Family	Poverty Guideline
1	\$11,670
2	\$15,730
3	\$19,790
4	\$23,850
5	\$27,910
6	\$31,970
7	\$36,030
8*	\$40,090

\* For families with more than 8 persons, add \$4,060 for each additional person.

## TAKE HOME MESSAGES

- Children of poverty have significantly different brains (not better, not worse).
- Like all brains, their brains can change for the better in the right environment.
- The adults in the school and the community must provide these children specific kinds of experiences that will combat the negative impact of poverty on brain development.



## POVERTY is...

A chronic condition characterized by the:

- 1.) synergistic effect of multiple, adverse, economic risk factors; and
- 2.) lack of access to basic human resources.

(Atzaba-Poria et al. 2004)

## Basic Human Needs

- Food
- Clothing
- Shelter
- Cognitive Stimulation
- Emotional Support

## How significant an issue is Poverty?

According to new Census figures, **nearly one in five children in the United States lived in poverty last year**, with a much higher proportion of poverty among African-American and Hispanic children.

Overall, the number of children living in poverty declined slightly from 21.8% of all children (16.07 million) in 2012 to 19.9% (14.66 million) in 2013. Nearly 37% of African-American children and just over 30% of Hispanic children lived in poverty in 2013.

(Source: US Census 2013)

## Quick Poverty Stats: USA

- Children more likely than adults to be poor and *suffer more from the deprivation of poverty.*
- Poverty is **largest predictor** of child abuse and neglect. (Children's Defense Fund, 2006)
- Children in poverty are more likely to suffer from **mental health problems** than other children. (National Center for Children in Poverty, 2011)



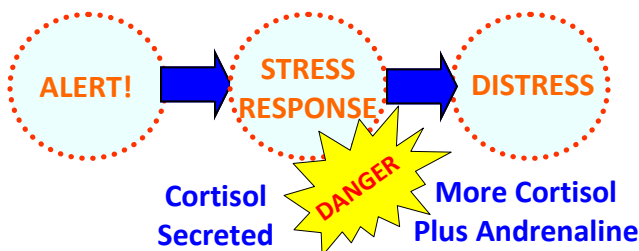
## 2. How is the Developing Brain Influenced by its Environmental Experience?



**Traumatic Levels of Stress (Cortisol) May significantly Change the Brain**



### 3 Stages of the Stress Response (Amygdala Driven)



The child's stress response system is exaggerated and prolonged.

Amygdala compels you to:

1. *Solve the problem causing stress.*
2. *Escape from the problem.*
3. *Cope with the problem.*
4. *Defend yourself the best you can.*
5. *At any cost, survive.*

## Effects of Too Much Cortisol...

Brain Damage | Poor Social Skills | Low Verbal Skills | Memory Impairment | Aggression | Impulsiveness | Anxiety | Dissociation

## CORPUS CALLOSUM

### The BRIDGE IN OUR BRAINS

- The bridge between hemispheres
- Facilitates the integration of right hemisphere and left hemisphere functions
- How logic and emotion meet!

### LEFT HEMISPHERE

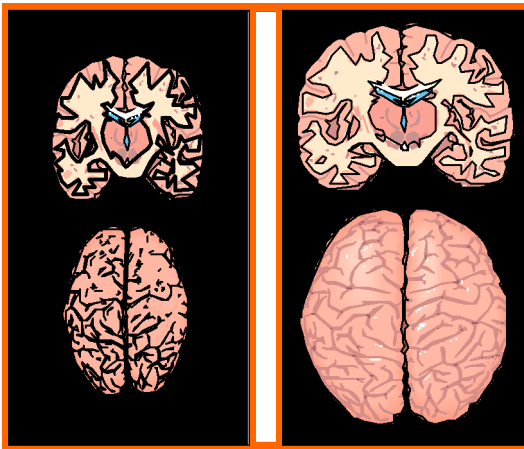
- Motor activity on right side of the body
- Language
- Detail
- Sequence
- Logical thought based on language
- Memory creation

### RIGHT HEMISPHERE

- Motor activity on left side of the body
- Spatial manipulations
- Holistic perception (“Gist”)
- Face Recognition
- Interpersonal and emotional processing
- Memory retrieval

## At what age are the frontal lobes fully developed?

### Brains Change as a Result of SES Experience



### TAKE HOME MESSAGES

*Chronic stress (excess cortisol) is a key issue to address in child experiencing poverty, deprivation and neglect. Until cortisol is reduced to near normal ranges, damage to brain development is likely to continue. Trauma is common — if not dominant — among children living in chronic poverty.*

### 3. Do Children in Poverty Have Different Environmental Experiences than High SES Kids?



#### Contrasting Experiences ...

When compared to their middle or upper income classmates, what are children of poverty more likely to experience?

#### AREAS OF CONTRAST

- LESS Emotional Support
- LESS Cognitive Stimulation
- MORE Stress/Distress
- MORE Health & Safety Issues

## EMOTIONAL SUPPORT

*Lower-income parents are less likely to:*

- Know their child's teachers by name.
- Know their child's best & worst subject.
- Know how their child is doing in school. (Benviste et al. 2003)

*Children of poverty are more likely to:*

- Hear less responsive, fewer supportive, less interactive home conversations. (Evans, 2004)
- Get less quality time and less total time from their parents or caregivers. (Fields and Casper 2001)

## COGNITIVE STIMULATION

- Parents are **less likely (3-4X)** to begin conversation just to maintain social contact or build vocabulary. (Hart & Risley 1995)
- Kids in poverty watch more TV and have less access to books and computers (Evans, 2004)
- Children hear very **different vocabulary**; fewer words and less of the complex ones. (Hoff 2003)

#### EXTRAS for Learning

*Poor families cannot afford:*

- √ Quality child care
- √ Stimulating toys
- √ Recreational books
- √ Team uniform costs
- √ School supplies
- √ Scouts or camp
- √ Private music/dance lessons

# STRESS / DISTRESS

## INSTABILITY + STRESSORS

### Children in poor families:

- move twice as often
- get evicted 5X as much (Federman, et al. 1996)
- develop fewer social ties
- experience more chaotic households and separation from family (Evans, 2004)
- parents lose their jobs more
- worry about money more (McLoyd, 1990)



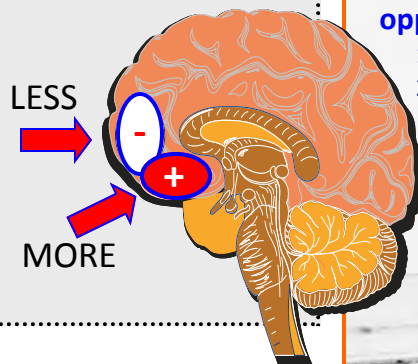
## Chronic stress is known as DISTRESS

Poor children are exposed to more stressors, more intense stressors, longer lasting stressors and have fewer coping skills than their higher SES counterparts. (Evans 2007)

Flow to the Brain  
DISTRESS / THREAT changes Blood



Less blood flow to places in the brain (dorsal area of frontal lobes) that do future planning ... and more blood flow to areas that process emotions, leaving fewer options for more thoughtful decision-making.



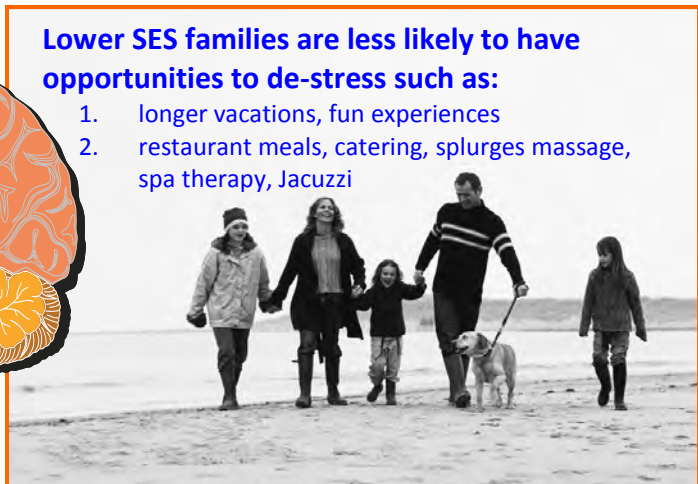
## Stress, Violence and Distress

- Poor children are more than 2X as likely to report seeing assaults or weapons at school. (Gallup 1993)
- Poor children are more likely to experience crime within one's neighborhood. (Sampson, Raudenbush, & Earls, 1997)
- Household income is inversely related to exposure to family violence. (Emery & Laumann Billings, 1998)
- Domestic violence is associated with lower IQ in young children. (Koenen et al. 2003)

## Leisure De-Stressing

Lower SES families are less likely to have opportunities to de-stress such as:

1. longer vacations, fun experiences
2. restaurant meals, catering, splurges massage, spa therapy, Jacuzzi





# HEALTH AND SAFETY ISSUES

## More Toxic Exposure

### Dangerous Address

- Live on or near toxic waste sites. (Brody et al. 1993)

### Air Quality

- Live in areas that did not meet National Ambient Air Quality Standards. (EPA 2000)

### Pesticide Exposure

- Have more exposure to pesticides (negative synergistic affects when combined with stress). (Moses et al. 1993) / (Relyea, 2004)

### Lead

- Poor children are twice as likely to have levels of lead in their blood (NCCP 2011)

### Poison

- More than 1/4 of poor children live with someone that smokes everyday. (NCCP 2011)

### Hazards

- Greater exposure to environmental hazards (cleaners, tobacco, paint, drugs, smog, etc.). (Suk, et al. 2003)

**FOOTHILLS**      **VALLEY**

54 mos female    55 mos female    54 mos female    53 mos female

5 year olds

**FOOTHILLS**      **VALLEY**

60 mos female    71 mos male    71 mos female    71 mos male

**Drawings on the left, healthy brain.**

**Drawings on the right ... same age plus exposure to local pesticides.**

**Drawings by a 4th grade student of poverty:**

**A - Clock**

**B - Flag**

**C - Flag**

## Safety Issues

### Traffic

- Get exposure to 50% more street crossings with a 6X greater risk in pedestrian accidents. (McPherson et al. 1998)

### Peers

- Have more contact with aggressive peers. (Sinclair et al., 1994)

### Impact?

- Dysregulation of stress response system (bad for health). (Evans 2007)

## Health and Safety Issues

**Families from poverty are more likely than non poor families to live in homes with:**

- non-working water heater (2.5X)
- non-working toilet (2.5X)
- rats, mice, or roaches (3X)
- more than one person per bedroom (U.S. Bureau of the Census, 2000)
- exposed household wiring (3X) (Scott and Munson, 1994)

### VULNERABILITY

Children of poverty are far less likely to get needed medical care for:

- Falls or head injuries
- Physical impairments
- Behavioral disorders
- **Mental illness**
- **Depression**



## Health Risks

**Compared to their non-poor peers, children of poverty have ...**

- 1 in 50 infants in U.S are victims of nonfatal child neglect or abuse
  - 87% involved neglect (CDC, 2008)
- Increased pre and post-natal mortality rates
- Greater risk of injuries resulting from accidents or physical abuse/neglect
- Higher risk for asthma (NCCP 2011)
- Maladaptive changes in brain chemistry (Sapolsky, 2000)

## Nutrition and Poverty

- The brain is most susceptible to the effects of poor nutrition during the early years of brain development. (Georgieff and Rao 2001)
- 21% of households with children in the U.S. are food insecure sometime during the year. (NCCP 2008)



#### 4. What Can We Do For These Unique Brains?

### Good News!

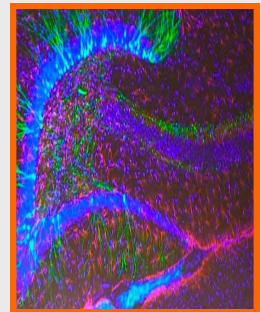
Many long-term studies have shown that we can make a **significant, lasting and positive** impact on children of poverty.

**Brains can change for the better!**



## The Promise of **NEUROGENESIS**

*By exposing children to enriched experiences and environments, adults can stimulate the growth of new neurons in a child's brain to repair and eventually expand learning capacity!*



# Neurogenesis is Your Goal!

- Vigorous Physical Play (*Regular Physical Activity*)
- Meaningful New Learning
- Enriched Experiences
- Managed Stress Levels
- Positive Nutrition
- Social Support
- Sufficient Time

(Jensen, 2006)



1.

## Vigorous Physical Play (*Regular Physical Activity*)

- 60 minutes per day x 7 days per week.
  - Outdoors whenever possible.
- Engage in “physical activity exploration.”
  - Organized sports can work.
  - Key = Find movement they like!
  - Monitor, monitor, monitor



**Play is an essential nutrient of brain development — we NEED it.**

2.

## Meaningful New Learning

### Start with Language Immersion

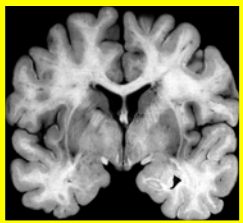
- *If age appropriate, read to them. A lot!*
- *Use audio books during chores, downtime, bus or car rides.*
- *Teach to “Read with a Dictionary.”*
- *Label objects whenever possible.*
- *Expose child to “storytelling opportunities.”*

### Focus on Skill Building

- *While being highly supportive of school performance, help students find opportunities to build skills outside school.*
- *Skill building accelerates cognitive development and significantly improves a child’s confidence and self-esteem.*
- *Cooking, magic tricks, ceramics, martial arts are all good examples.*

3.

### Enriched Experiences



- High Contrast
- Integration
- Connectivity
- Coherence
- Challenge
- Novelty
- Complexity
- Active (not passive)

Jensen, E.; *Enriching the Brain* (2006)

4.

### Managed Stress Levels

- Vigorous Physical Play reduces stress (cortisol).
- The proper amount of Sleep is essential.
- Increase Predictability whenever possible.
- Remove Threat.
- Teach Stress Management Skills.



**How much learning (encoding) happens during sleep?**

5.

### Positive Nutrition

**GREAT BRAIN FOODS**



Blueberries		Turkey
Milk		Whole Grains
Hot Cocoa	Almonds and Walnuts	Garlic
	Concord Grape Juice	Olive Oil
	Vegetables	Salmon
Bananas	Orange Juice w/Zinc	Brown Rice

## 6.

## Build Social Supports

- *Show up. Every time.*
- *Maintain proper boundaries.*
- *Use old-fashioned mail (or technology) to connect when you have long periods of physical separation.*
- *Don't personalize the child's behavior. You are in a non-reciprocal relationship!*
- *Constantly teach relationship skills.*



## 7.

## Sufficient Time

- Work to establish consistency in the areas we have discussed today. With enough consistency over time, the brain **WILL** change for the better. It is how the brain is engineered!
- Defend against trauma. Trauma is devastating to young brains and a lot of intervention is needed for recovery. Many kids never recover.

## To Get MIRACLES ...

1. get **everyone** on the same page.
2. create **persistent, positive contrasting conditions**.
3. **do it over time**.

**The brain WILL change.**  
**Resistance is futile.**

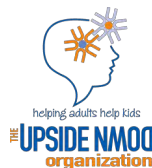
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