

# Early Life Adversity and the Developing Brain



**MARQUETTE**  
UNIVERSITY

College of Health Sciences

*Robert A Wheeler, Ph.D.*  
*Department of Biomedical Sciences*

## Early Life Adversity Changes the Developing Brain

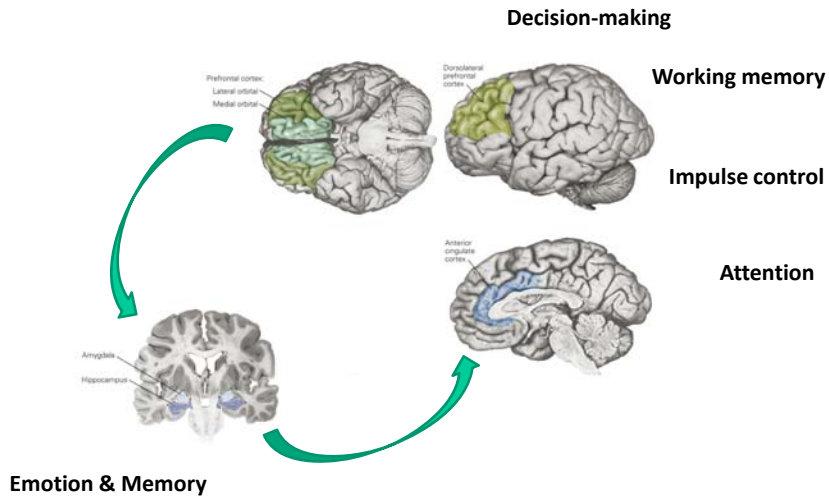
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Bucharest Early Intervention Project

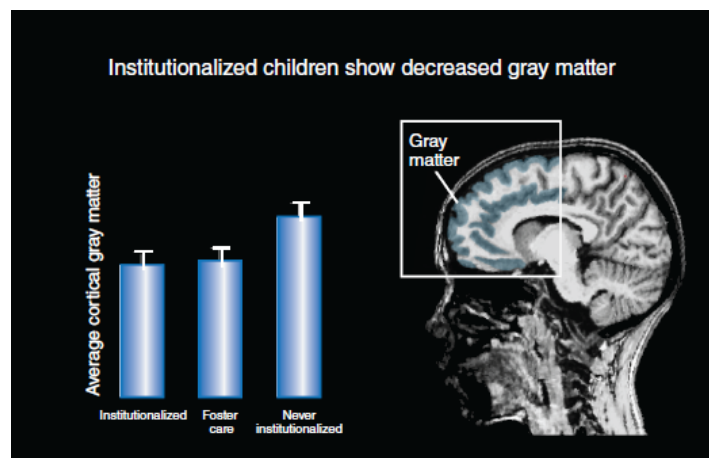


Cynthia Johnson/Getty Images)

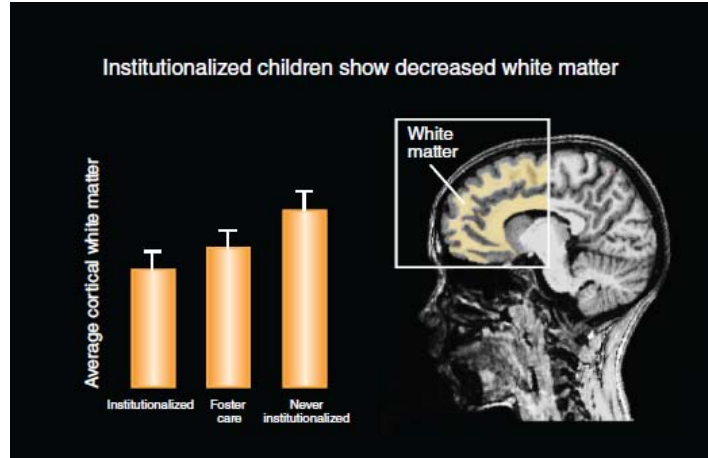
## Prefrontal Cortex: Cognitive Function & Emotional Control



## Early Life Adversity Changes the Developing Brain



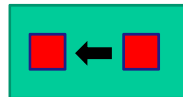
## Early Life Adversity Changes the Developing Brain



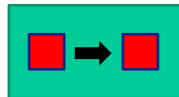
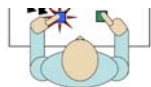
## Early Life Adversity Changes the Developing Brain

Adverse Childhood Experiences are associated with behavioral problems.

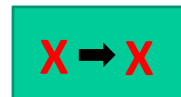
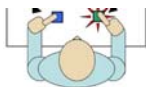
### The Flanker Task



Press the left button



Press the right button



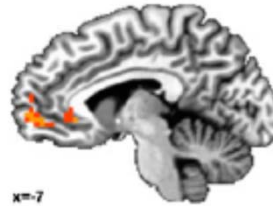
Do not press a button

Children placed into foster care showed greater accuracy and faster response times than children who remained in the institution.

McDermott et al., 2013

## Early Life Adversity Changes the Developing Brain

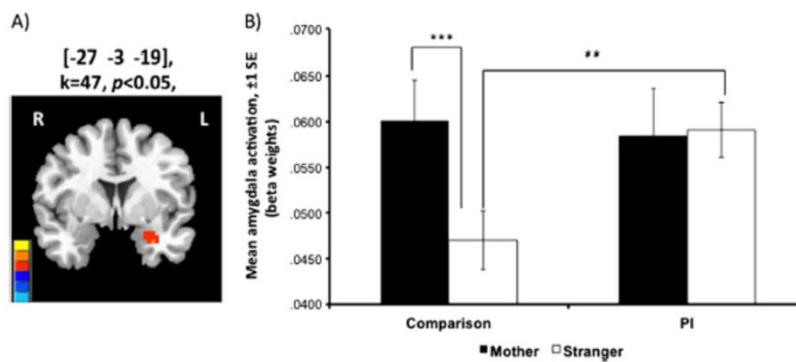
During this task cortical brain activity is altered and communication with other brain areas is also altered.



Gee et al. PNAS, 2013; Mueller et al. Neuropsychologia 2010

## ACEs Change the Developing Brain

These problems are not restricted to the cortex.  
They can disrupt other aspects of life into adulthood.



Olsavsky, Biol Psych, 2013

## Interventions Confer Resilience

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These studies illustrate the biological impact of adverse childhood experiences. They also provide hope that policy interventions can correct these physiological problems.



## Interventions Confer Resilience

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Some of the adverse effects of poverty appear to be alleviated by supportive caregiving.



Supportive caregiving was correlated with healthier brain development.

Luby et al. JAMA Pediatrics, 2013