

On Minimum Age of Criminal Responsibility (MACR): Neuropsychological and Developmental Perspectives

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Key Questions

What is the **CAPACITY** of young people to act in ways consistent with social rules, expectations, and laws?

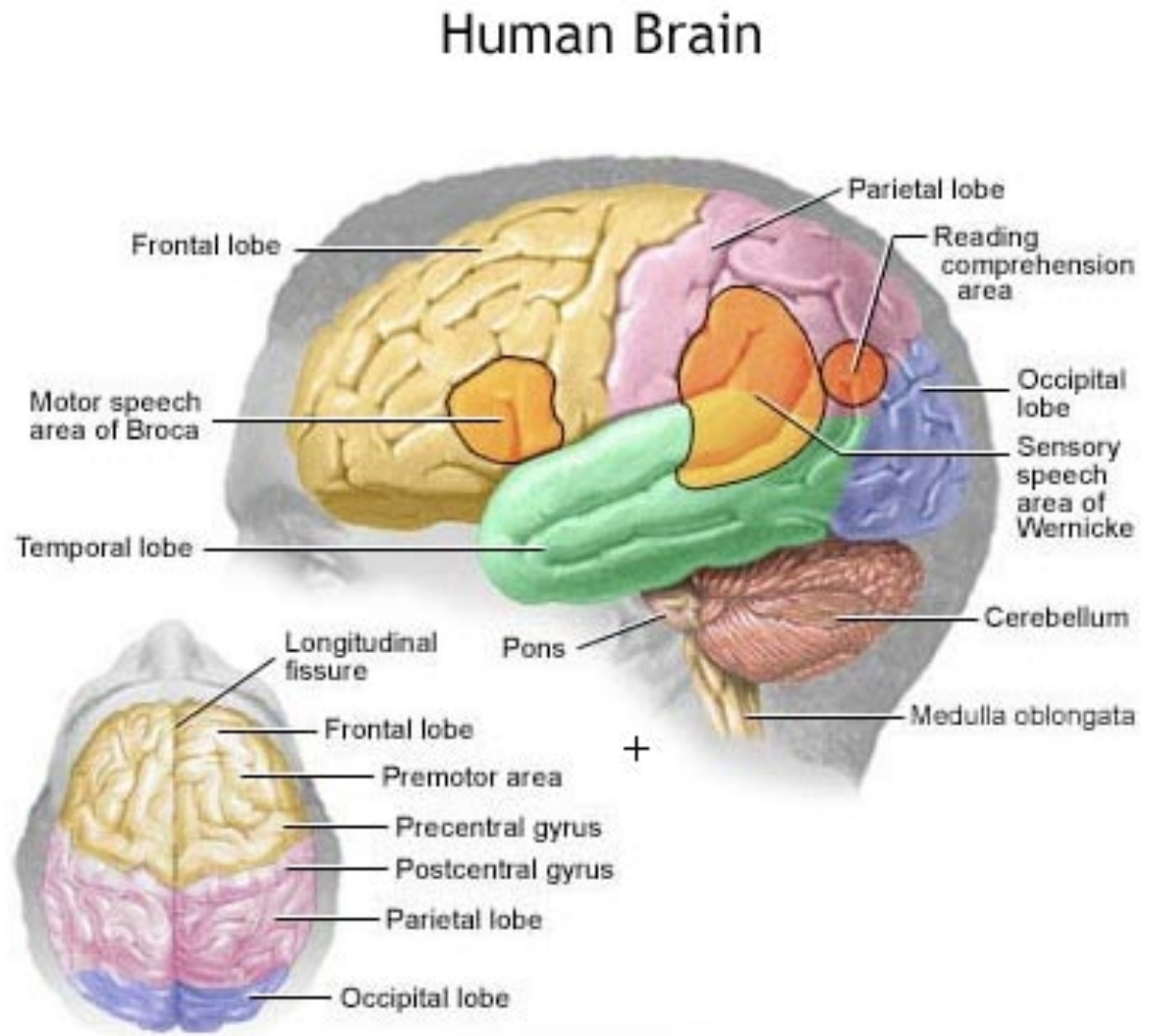
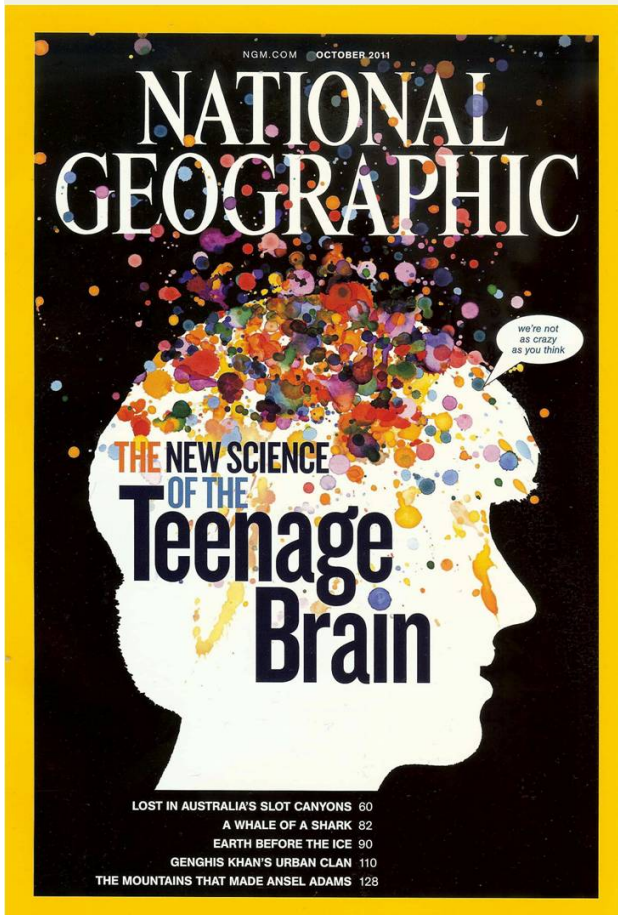
Can we reasonably expect **youth to think and behave in the same ways as adults** in situations where antisocial / delinquent / risky behaviors are involved?

- question is different from “discernment”, i.e. knowing right vs wrong; children may know right from wrong but the capacity to behave in accord with that knowledge is a different issue

Scientific research on adolescent development and juvenile delinquency provide evidence that **children and adolescents differ significantly from adults** in decision-making, propensity to engage in risky behavior, impulse control, identity development, and overall maturity. The developmental immaturity of youth mitigates their criminal culpability. **Although they may be able to discern right from wrong action, it is their capability to act in ways consistent with that discernment that is undermined** by several factors at this stage.

*- statement of the Psychological Association
of the Philippines on proposed lowering of MACR*

The brain is still developing through childhood and adolescence




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Growing a Grown-up Brain

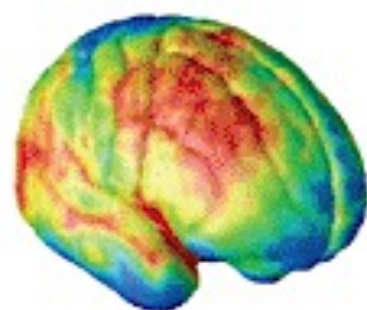
Scientists have long thought that the human brain was formed in early childhood. But by scanning children's brains with an MRI year after year, they discovered that the brain undergoes radical changes in adolescence. Excess gray matter is pruned out, making brain connections more specialized and efficient. The parts of the brain that control physical movement, vision, and the senses mature first, while the regions in the front that control higher thinking don't finish the pruning process until the early 20s.

Gray matter density

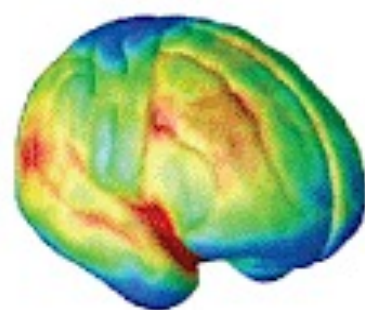
Gray matter becomes less dense as the brain matures.



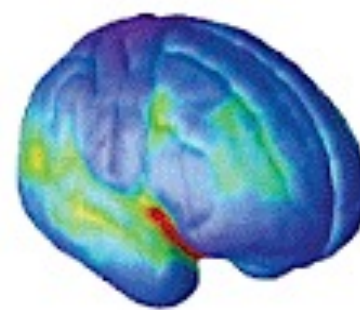
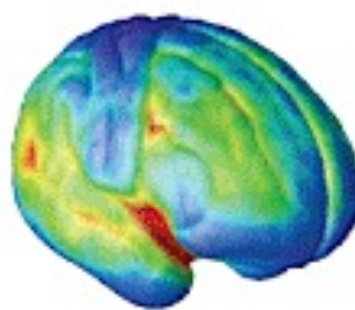
More dense Less dense



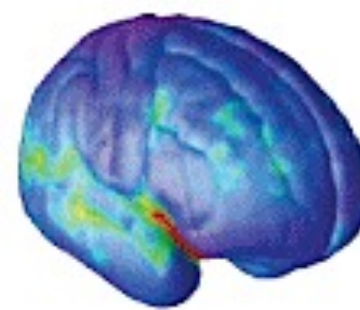
Age: 5



Adolescence



20



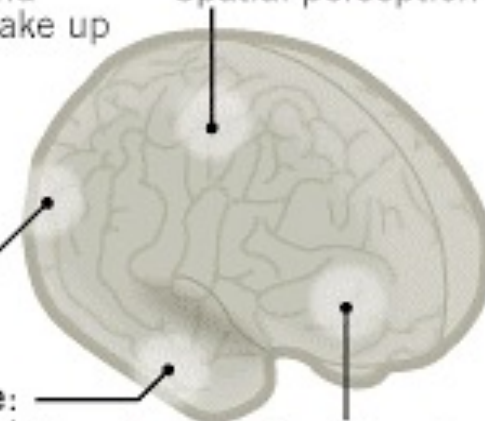
Gray matter: Nerve cell bodies and fibers that make up the bulk of the brain's computing power.

Parietal lobe: Spatial perception

Occipital lobe: Vision

Temporal lobe: Memory, hearing, language

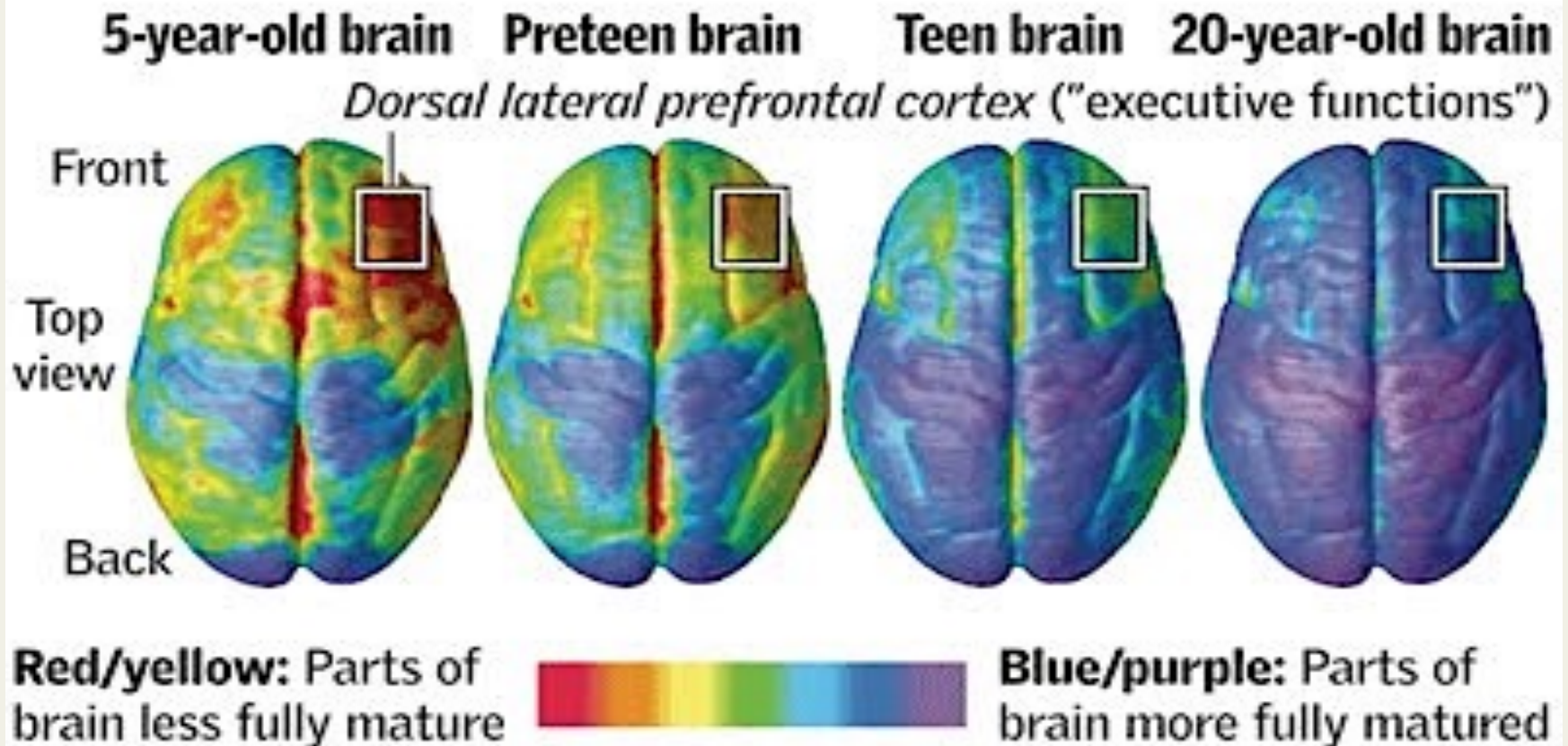
Frontal lobe: Planning, emotional control, problem solving



Source: "Dynamic mapping of human cortical development during childhood through early adulthood," Nitin Gogtay et al., *Proceedings of the National Academy of Sciences*, May 25, 2004, by California Institute of Technology

Judgment last to develop

The area of the brain that controls "executive functions" — including weighing long-term consequences and controlling impulses — is among the last to fully mature. Brain development from childhood to adulthood:



Sources: National Institute of Mental Health;
Paul Thompson, Ph.D., UCLA Laboratory of
Neuro Imaging

Thomas McKay | The Denver Post

11/21/2016

L.P. Alampay

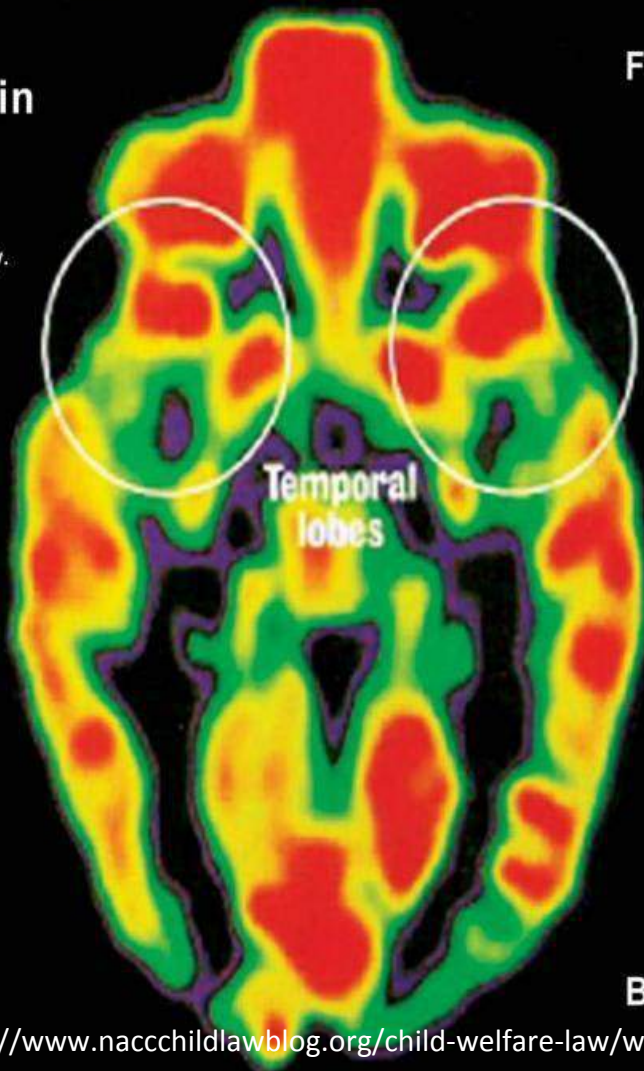
Children and teenagers **DO NOT (yet)** have the cognitive capacity to make reasoned decisions, consider with forethought the consequences of their actions (especially long-term consequences), and control their emotional impulses in the same way that (most) adults can.

- brain is still in flux
- limited life experiences
- situations that are uncertain, stressful, and emotional likely elicit impulsive behaviors

Experience also matters in brain development

Healthy Brain

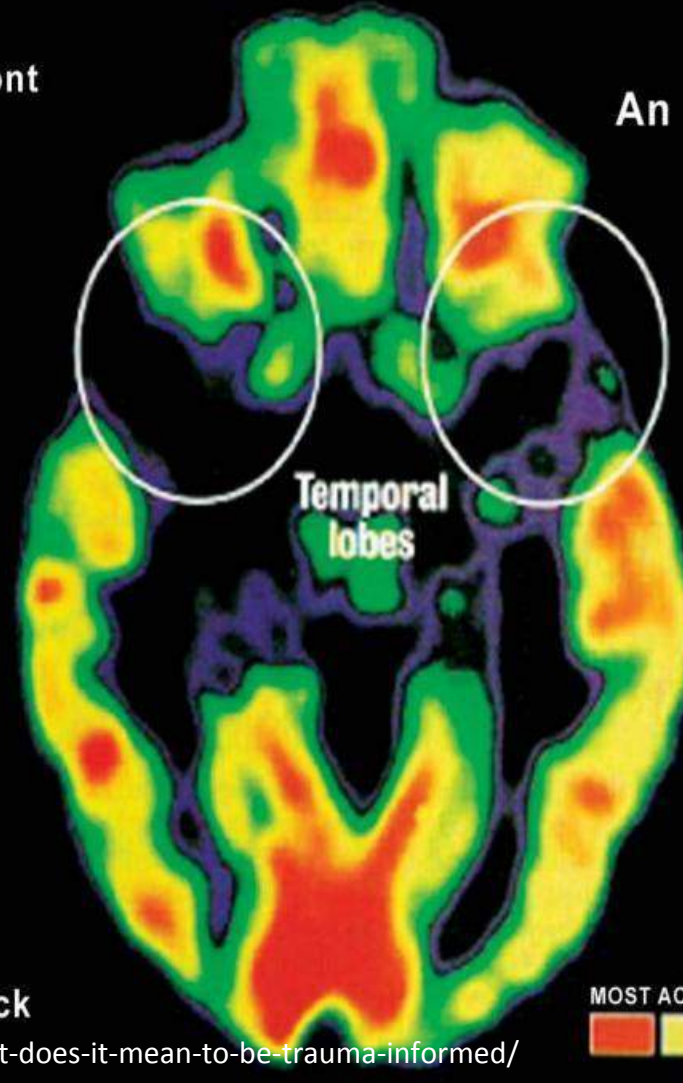
This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.



Front

An Abused Brain

This PET scan of the brain of a Romanian Orphan, who was institutionalized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top), which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.



MOST ACTIVE LEAST ACTIVE

A color scale legend for PET scan activity levels. It consists of five colored squares in a row: red, yellow, green, purple, and black. The red square is labeled 'MOST ACTIVE' and the black square is labeled 'LEAST ACTIVE'.

image from: <https://www.naccchildlawblog.org/child-welfare-law/what-does-it-mean-to-be-trauma-informed/>

Adverse childhood experiences (ACE) affect brain function

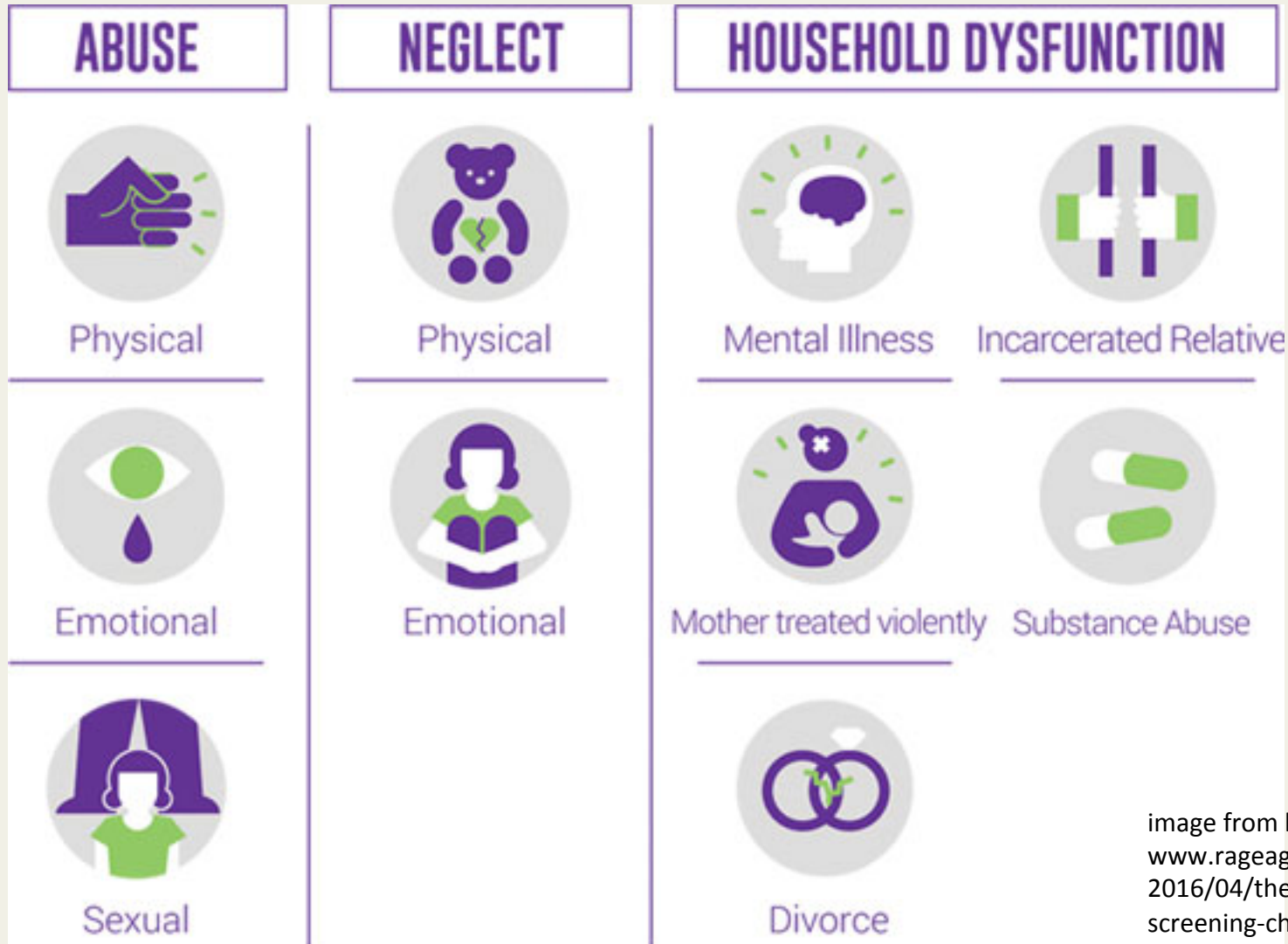


image from <http://www.rageagainsttheminivan.com/2016/04/the-importance-of-screening-children.html>

Extreme Neglect Diminishes Brain Power

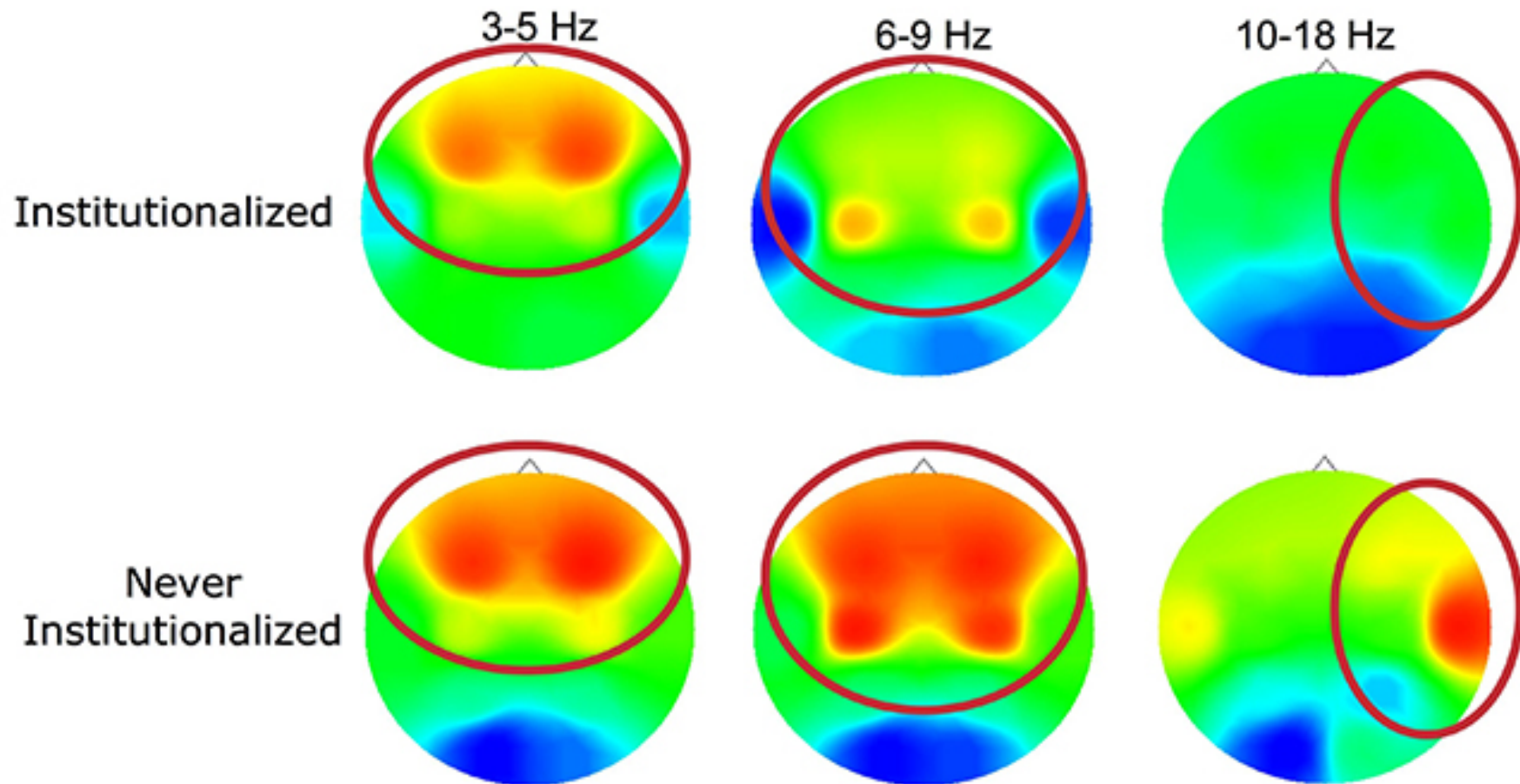


image from <http://developingchild.harvard.edu/resources/inbrief-the-impact-of-early-adversity-on-childrens-development/>

The typical profile of the Filipino CICL is a child or youth who is poor and highly exposed to adverse childhood experiences and a criminogenic environment.

These experiences and environments hinder healthy brain development and further diminish cognitive capacities.

Summary

1. Youth are characterized by normative developmental limitations in decision-making and self-regulation due to their still-developing brain
2. Disadvantaged environments and adverse childhood experiences hinder healthy brain development and may further diminish cognitive capacities.
3. #1 and #2 mitigate children's criminal culpability
4. Supporting healthy brain development through childhood and adolescence means providing positive and formative experiences so youth can develop mature cognitive skills and positive behaviors. Incarceration or institutionalization will set them on a lifelong negative trajectory.

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