The Developing Brain, Children's Rights, and the Juvenile Justice System

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Fauri Conference, School of Social Work
University of Michigan
September 29, 2017
Organization of Presentation

- What have we learned about developmental maturity as it relates to juvenile justice?

- What does the new neuroscience research tell us?

- What are the major legal implications of this rapidly expanding knowledge?
Adolescence

- For convenience, using ages 10 – 20 years (second decade of life)
- Period of rapid transition in many domains
- Not all changes are well coordinated
Developmental Maturity

- **Cognitive Development**
  - Numerous important changes
  - No sharp age markers, especially in logic or risk assessment

- **Social Development**
  - Increased behavioral autonomy
  - Increased peer interaction, influence, and susceptibility

- **Emotional Development**
  - Increased moodiness, strength of emotions, likely hormonal (pubertal) as well as brain-based

- **“Judgment”**
  - For all these reasons, develops slowly
Adolescent Neurodevelopment: “All Accelerator, No Brakes”

- Substantial increases in exploration and sensation-seeking mechanisms, related to behavioral choice, romantic involvements, and risk taking behaviors. Also termed “bottom brain” or limbic system.

- Growth in prefrontal cortex (“top brain”) also begins during this transition, but is slower, lasting into the mid-20s.

- Thus, a “developmental maturity mismatch” may underlie much adolescent risk behavior, including criminal activity and health risks.
Developmental Maturity Mismatch

Function/Activation/Performance Relative to Mature Adult Level

Mismatch

Amygdala-Ventral Striatal Activation: Arousal & Reward

Prefrontal Cortex (PFC) System: Executive Function

Early Middle Late
----- Adolescence ------ Mature Adult
Developmental Risks

- Impulsivity: hard to stop a runaway train
- “Planful” risk taking: exploring the world
- BUT available PFC resources may be depleted with carrying out a plan that goes awry
- Increased intensity of desires, wants
- Internal checks from PFC (judgment) lag behind
- At the same time that adult external “scaffolding” declines
- Stress responses increase (physiologically), further impairing judgment
... especially for youth with a history of early life adversity:

The Lifelong Impact of Early Life Adversity—and How to Break the Cycle

born anxious

Daniel P. Keating

St. Martin’s Press, April 2017
stmartins.com/bornanxious
Implications for Justice Policy

- Developmental maturity is a significant legal issue, with compelling science to indicate that there is a core developmental profile that characterizes adolescence.

- Legal relevance for:
  - Competence (ability to make legal judgments in proceedings)
  - Culpability (mitigation)
  - Rehabilitative prospects (character development still still underway)

- Especially, the age of assignment or transfer to adult jurisdiction needs to be made carefully and individually.
Increasing Recognition by Supreme Court of Developmental Neuroscience

- Earlier decisions focused more on culpability, and mitigation due to developmental immaturity
- More recent focus on immaturity per se, and implications for rehabilitation (character not fully formed)
- Neuroscience evidence seemingly persuasive
- "Full maturity" from brain imaging suggests mid-20s, so arguments to raise the age to match other markers (voting, contracts, children’s rights in UN CRC) have both scientific and legal/justice support
- Science cannot provide precise markers, legal necessity for a firm line prevails

■ One benchmark is the CRC, which defines the “child” as up to age 18 years, with special claims to nurturance until that age.

■ “Rights” include those relevant to nurturance and to self-determination in the full range

■ Recognizes “evolving capacities,” but the evidence that adolescents are still in need of special protection is strong