



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

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# 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

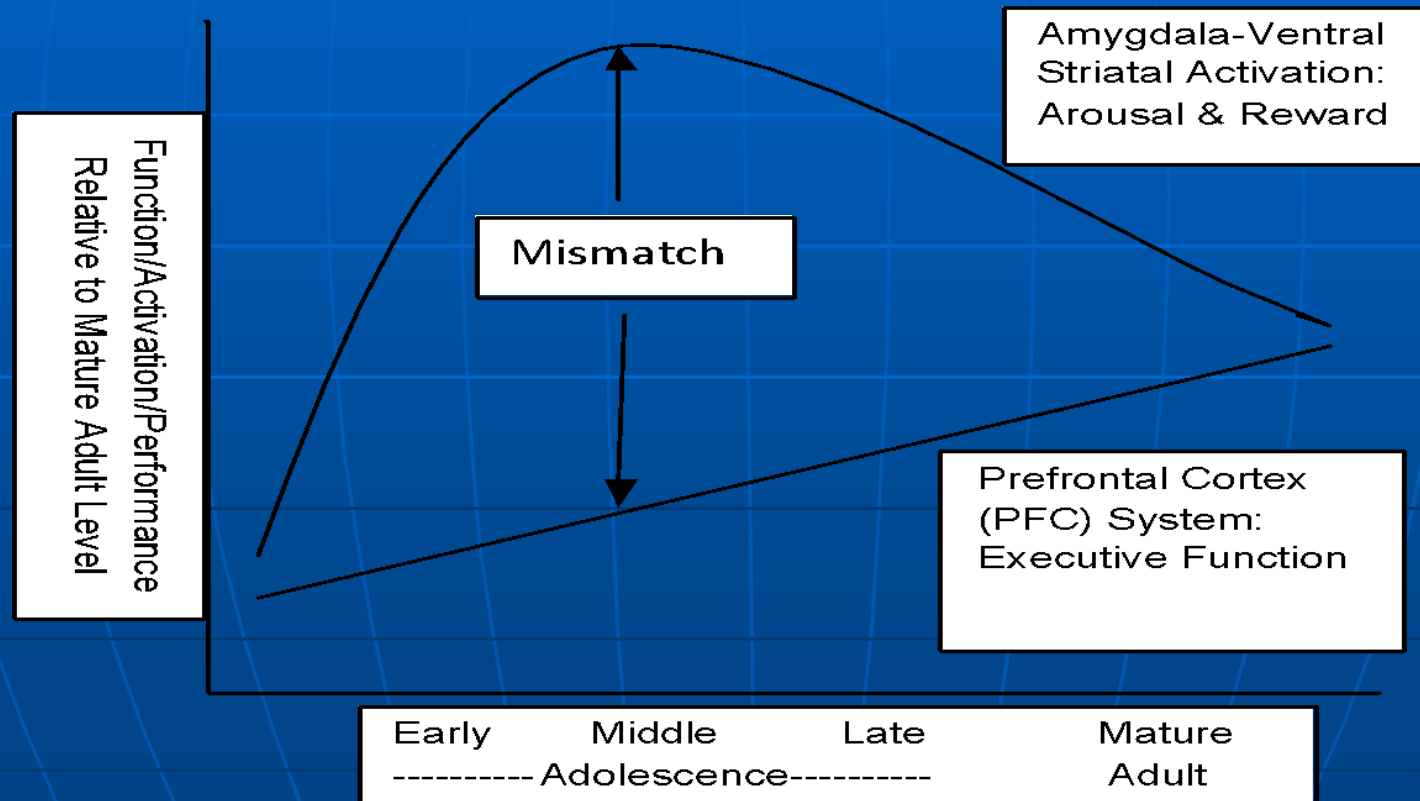
# Developmental Maturity

- 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.

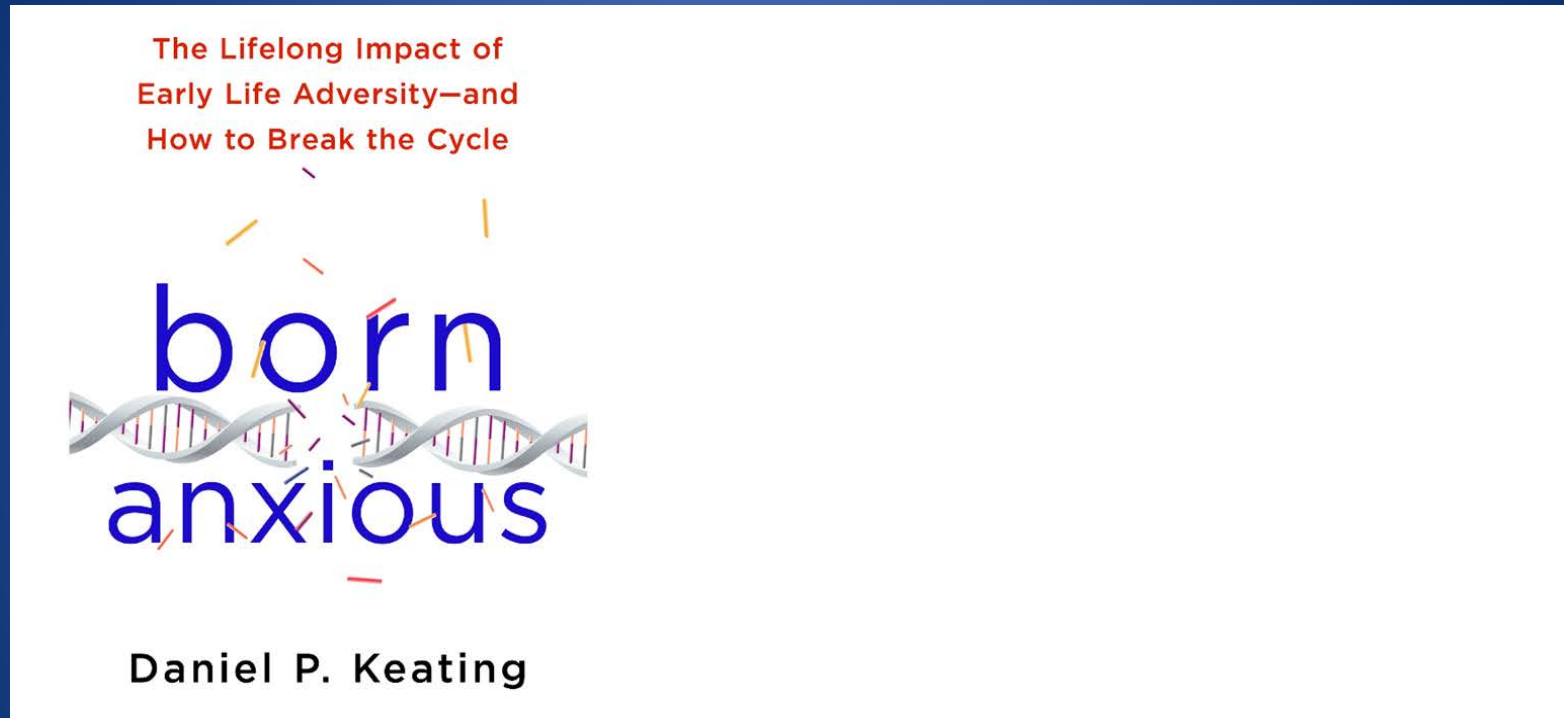
# Developmental Maturity Mismatch



# 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:



St. Martin's Press, April 2017  
[stmartins.com/bornanxious](http://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 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 can not provide precise markers, legal necessity for a firm line prevails

# United Nations Convention on the Rights of the Child (CRC)

- 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