Why is brain development important for juvenile justice?

Brain imagery now allows us all to see the developmental milestones achieved by the human brain as it grows and matures throughout the early stages of life—confirming in pictures what parents and those who work closely with youth have long found to be true: adolescence is a period of gradual maturation. Hard science demonstrates that teenagers and young adults are not fully mature in their judgment, problem-solving and decision-making capacities.

Adolescence, roughly defined as the period between the onset of puberty and maturity, may last from age 10 to age 25. During this period of rapid growth, American adolescents live in a precarious middle ground between the innocence and immaturity of childhood and the responsibility and accountability of adulthood. On the one hand, the law shields adolescents from their inability to make sound judgments and their natural propensity to be impulsive and reckless. Such societal understanding is expressed in the laws of 29 states where the legal alcohol consumption age is expressly 21 years of age.1 In 48 states, the marriageable age is set at age 18, unless a minor obtains parental or judicial consent.2 Nationwide, no one can cast a ballot or join the military until age 18. The intent of such laws is clear—to protect the young from their own immaturity, while providing opportunities for learning and maturation.

On the other hand, some laws—specifically those in some criminal statutes—do not reflect such societal understanding of the nature of child and adolescent development. In fact, there are 15 states that regard children as young as 10 years of age as competent and responsible enough to be put on trial in the juvenile court.3 Forty-four states and the District of Columbia regard children as young as 14 years of age as mature enough to be held as responsible as adults for wrongdoing and to be sanctioned as adults in the criminal court, without full regard what is know about child and adolescent development or full consideration of the age-appropriate services and supports needed.4 In addition, treatment approaches used for court-involved youth with substance abuse and mental health problems are often modeled after those used for adults—again, without appropriate regard to what is known about more effective approaches based on the research of adolescent development.

1 National Institute on Alcohol Abuse and Alcoholism, Alcohol Policy Information System, “Exceptions to Minimum Age of 21 for Consumption of Alcohol as of January 1, 2005.” 2 Cornell Law School, Legal Information Institute, “Marriage Laws of the Fifty States, District of Columbia and Puerto Rico,” Copyright 2006. 3 Office of Juvenile Justice and Delinquency Prevention, Office of Justice Programs, U.S. Department of Justice, “Trying Juveniles as Adults in Criminal Court: An Analysis of State Transfer Provisions,” Dec. 1998. 4 Griffin, Patrick, National Center for Juvenile Justice,“Trying and Sentencing Juveniles as Adults: An Analysis of State Transfer and Blended Sentencing Laws,” Oct. 2003.

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KEY FACTS

• During adolescence, the brain begins its final stages of maturation and continues to rapidly develop well into a person’s early 20s, concluding around the age of 25.5

• The prefrontal cortex, which governs the “executive functions” of reasoning, advanced thought and impulse control, is the final area of the human brain to mature.6

• Adolescents generally seek greater risks for various social, emotional and physical reasons, including changes in the brain’s neurotransmitters, such as dopamine, which influence memory, concentration, problem-solving and other mental functions. Dopamine is not yet at its most effective level in adolescence.7

• Adolescents commonly experience “reward-deficiency syndrome,” which means they are no longer stimulated by activities that thrilled them as younger children. Thus, they often engage in activities of greater risk and higher stimulation in efforts to achieve similar levels of excitement.8

• Adolescents must rely heavily on the parts of the brain that house the emotional centers when making decisions, because the frontal regions of their brains are not fully developed.

KEY RESEARCH & QUESTIONS

Brain and developmental research conducted over the past 10 to 15 years have opened new pathways to understanding the true developmental differences between adolescents and fully mature adults. The findings highlight the need to conduct more basic and applied research regarding such developmental differences—how they influence motivation, judgment, thinking, feeling and social relationships—and to explore the ways in which intervention and treatment strategies may be changed to incorporate such research, with an ultimate goal of balancing positive outcomes for youth with public safety and individual accountability.

The research also brings difficult questions to the forefront. How does one guide an adolescent to cope in a healthy manner with this tumultuous stage of life? How do we hold young offenders accountable and take advantage of every opportunity to positively influence their development? How can and should common delinquency prevention and juvenile justice practices and laws change to incorporate a more sensible approach to addressing the needs of adolescents, while balancing them with community safety needs?

5 Beatrice Luna, Ph.D., “Brain and Cognitive Processes Underlying Cognitive Control of Behavior in Adolescence,” University of Pittsburgh, Oct. 2005.. 6 Paul Thompson, Ph.D., “Time-Lapse Imaging Tracks Brain Maturation From Ages 5 to 20,” National Institutes of Mental Health, and the University of California Los Angeles, May 2004; also, author interview with Robin Jenkins, Ph.D., June 2006. 7 Linda Patia Spear, Ph.D., “Neurodevelopment During Adolescence,” Neurodevelopmental Mechanisms in Psychopathology, Cambridge University Press, Nov. 2003. 8 Ibid.

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At the highest levels of jurisprudence, changes have already begun. In 2005, the U.S. Supreme Court’s ruling in Roper v. Simmons outlawed the juvenile death penalty. In authoring the majority opinion that the death penalty is not appropriate for youth under age 18, Justice Anthony Kennedy noted that “juveniles are more vulnerable or susceptible [than adults] to negative influences and outside pressures, including peer pressure… This is explained in part by the prevailing circumstance that juveniles have less control, or less experience with control, over their own environment.” Justice Kennedy further cited scientific and sociological studies on the “underdeveloped sense of responsibility found in youth.” Following the logic of the high court’s ruling and its roots in a clearer understanding of the adolescent mind, it becomes important for juvenile court professionals and practitioners engaged in delinquency prevention and rehabilitation to re-examine each point of contact or interaction with adolescents—to ensure that developmentally appropriate responses are in place.