

PHR

Physicians for
Human Rights

Adolescent Brain Development *A Critical Factor in Juvenile Justice Reform*

Kids are not adults—and shouldn't be treated as such. Yet each year, nearly 250,000 youth are prosecuted, sentenced and incarcerated as adults. Recent advances in neuroscientific research, however, have confirmed that young people's brains are not fully developed until they reach their early twenties. As a result, children lack the capacity for adult level reasoning or a full realization of the consequences of their actions. This emerging research establishes a medical basis for applying a different standard of culpability to children than to adults.

The adolescent mind works differently than ours... Their brains are physiologically underdeveloped in the areas that control impulses, foresee consequences and temper emotions... This insight emerges from sophisticated and noninvasive brain imaging techniques.

The American Medical Association,
Amicus Brief to the Supreme Court,
Roper v. Simmons

The Developing Brain

Advances in magnetic resonance imaging (MRIs) have made it possible to track the growth and development of the brain. These images reveal that during adolescence, behavior is highly influenced by the limbic system and amygdala, regions of the brain associated with impulse and aggression.

As the frontal lobe matures in the early 20s, cognitive functions shift to the prefrontal cortex, often termed the "CEO" of the brain. The prefrontal cortex is the center for advanced cognition, including imagination, abstract thought, judgment of consequences, planning, and controlling impulses.

Though adolescents are physically strong and more resilient than other age groups, late development of the prefrontal cortex is a factor in their relatively high overall morbidity rates. It is also a contributing factor to delinquent behavior.

Trauma and Brain Development

While adolescents' judgment is dubious in general, brain development can be further impaired by exposure to trauma, violence and abuse—all too prevalent among youth in the justice system. One of the primary areas of the brain affected by psychological trauma is the very prefrontal cortex that is essential in moderating impulses and behavior.

Are Youth *Capable* of Making Decisions?

Yes. It is important to note that generally adolescents over the age of 15 can be as capable as adults in focused decision-making situations (*cold cognition*.) However, the impulsive, short-sighted judgment associated with delinquency is influenced by the combination of cognitive and psychosocial factors (*hot cognition*.) When children find themselves in emotionally-charged situations, the parts of the brain that regulate emotion, rather than reasoning, are more likely to be engaged.

Supreme Court Abolishes Juvenile Death Penalty; Brain Development Cited

In an historic decision on March 1, 2005, the United States Supreme Court ruled in *Roper v. Simmons*, abolishing the death penalty for crimes committed by adolescents under the age of eighteen, thus distinguishing between adolescence and adulthood.

In the majority opinion, Justice Kennedy referred to recent research, stating that juveniles under eighteen have an "underdeveloped sense of responsibility...result[ing] in impetuous and ill-considered actions and decisions...are more susceptible to negative influences and peer pressure...[their] character is not as well formed as that of an adult."

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Health Professionals Can Promote Reform

As important as it is, the Supreme Court ruling doesn't go far enough to ensure that children are not prosecuted as adults—a dangerous practice that ignores child development and poses serious health risks. Health professionals can apply scientific findings regarding adolescent development to support advocacy campaigns on policy reform issues:

Raise the Age of Jurisdiction: In several states, 16-and/or 17-years old are considered adults for the purposes of criminal prosecution—*for any crime.*

Limit Youth Transfer to Adult System: Most states have mandatory or discretionary transfer policies that allow judges and prosecutors to waive youth to the adult system for certain crimes, including for some non-violent offenses.

Support Clemency and Reduced Sentences: Children as young as 13 can be sentenced to life imprisonment without the possibility of parole. Worldwide, there are only 13 individuals sentenced to life for crimes committed as a juveniles. In the United States alone, there are 2,200.

Increase Developmentally-Appropriate Services: Programs and services can use research to evaluate and enhance developmentally-appropriate resources, particularly those that address the unique physical and mental health needs of youth.

Health Professionals, YOU Can Make a Difference!

Health professionals can speak with authority on the physical, mental and emotional health of children and can advocate for developmentally-appropriate services that meet youths' needs. **Take action** to support the health and human rights of youth in the justice system:

- Sign up to receive action alerts from PHR
- Arrange Grand Rounds on health issues of incarcerated youth
- Call legislators to support scientific and humane reform
- Write letters to the Editor and Op-Eds that highlight these issues
- Contact your local juvenile court or advocacy group to volunteer
- Monitor local detention facilities to learn first-hand about conditions
- Join PHR and support the Health and Justice for Youth Campaign

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Complete references available on website

Prisons are likely to interfere with growth and development and encourage the very behavior we want to extinguish.

Dr. Steven Berkowitz, Yale School of Medicine Child Study Center

Appropriate Intervention Can Work

Dr. Steven Berkowitz, a child and adolescent psychiatrist from Yale School of Medicine Child Study Center, emphasized adolescent development while speaking against Connecticut's harsh policy to try all 16- and 17-year olds as adults.

"Because adolescent brains are not yet mature, physiological changes can actually occur in response to the external environment. Compare human development to building construction—think of our genes as the framework and experiences as the boards, insulation and façade. Clearly both are essential to a safe structure; both will affect the outcome.

While these influences exist to some extent throughout a person's life, they are most salient in one's younger years. Positive environmental influences, such as close supervision, support, training and positive role models, are likely to have a more profound and positive effect on youth than adults. The opposite is also true. Harsh environments such as adult prisons do not support adolescent development."

Health & Justice for Youth Fact Sheets

- Health & Human Rights
- Youth in the Adult Criminal System
- Adolescent Brain Development
- Mental Health Needs of Youth
- Youth of Color in the Justice System
- Girls in the Justice System



Adolescent Brain Development

This fact sheet was developed using the following sources:

- Amicus Curiae Brief of the American Medical Association, American Psychiatric Association, American Society for Adolescent Psychiatry, et al. in support of Respondent in *Roper v. Simmons*, U.S. Supreme Court, 03-633 (2005).
- Amnesty International (July 2003). "The Exclusion of Child Offenders from the Death Penalty Under General International Law." Available at: <http://web.amnesty.org/library/index/engact500042003>
- Beckman, M. (July 2004). "Crime, Culpability, and the Adolescent Brain". *Science*, 305 (5684): 596-599, 30.
- Begley, S. (February 2000). "Getting Inside a Teen Brain". *Newsweek*.
- Campaign for Youth Justice (2006). Available at: <http://www.campaign4youthjustice.org/>
- Cooke, B. (August 2005). "Teen Brains are Different for SURE!" *Pioneer Press*.
- Dahl, R.E. (2004). "Adolescent Brain Development: A Period of Vulnerabilities and Opportunities". *Annals of the New York Academy of Sciences*, 1021: 1-22.
- Giedd, J., et. al. (October 1999). "Brain development during childhood and adolescence: a longitudinal MRI study". *Nature Neuroscience*, 2(10).
- National Institute of Health (January 2001). "Teenage Brain: A Work in Progress". Publication No. 014929.
- Ortiz, A. (January 2004). "Evolving Standards of Decency." *Juvenile Justice Center*, American Bar Association.
- Ortiz, A. (January 2004). "Adolescence, Brain Development, and Legal Culpability." *Juvenile Justice Center*, American Bar Association.
- Wisconsin Council on Children & Families (March 2006). "Rethinking the Juvenile in Juvenile Justice. Implications of Adolescent Brain Development on the Juvenile Justice System."