Cruel and Unusual Punishment: The Juvenile Death Penalty

Adolescence, Brain Development and Legal Culpability

“[They] frequently know the difference between right and wrong and are competent to stand trial. Because of their impairments, however, by definition they have diminished capacities to understand and process mistakes and learn from experience, to engage in logical reasoning, to control impulses, and to understand the reactions of others…. Their deficiencies do not warrant an exemption from criminal sanctions, but they do diminish their personal culpability.”


In 2002, the U.S. Supreme Court banned the execution of mentally retarded persons. This decision, Atkins v. Virginia, cited the underdeveloped mental capacities of those with mental retardation as a major factor behind the Justices’ decision.

Adolescence is a transitional period during which a child is becoming, but is not yet, an adult. An adolescent is at a crossroads of changes where emotions, hormones, judgment, identity and the physical body are so in flux that parents and even experts struggle to fully understand.

As a society, we recognize the limitations of adolescents and, therefore, restrict their privileges to vote, serve on a jury, consume alcohol, marry, enter into contracts, and even watch movies with mature content. Each year, the United States spends billions of dollars to promote drug use prevention and sex education to protect youth at this vulnerable stage of life. When it comes to the death penalty, however, we treat them as fully functioning adults.

The Basics of the Human Brain

The human brain has been called the most complex three-pound mass in the known universe. This is a well deserved reputation, for this organ contains billions of connections among its parts and governs countless actions, involuntary and voluntary, physical, mental and emotional.

The largest part of the brain is the frontal lobe. A small area of the frontal lobe located behind the forehead, called the prefrontal cortex, controls the brain’s most advanced functions. This part, often referred to as the “CEO” of the body, provides humans with advanced cognition. It allows us to prioritize thoughts, imagine, think in the abstract, anticipate consequences, plan, and control impulses.

Along with everything else in the body, the brain changes significantly during adolescence. In the last five years, scientists, using new technologies, have discovered that adolescent brains are far less developed than previously believed.

New Technology, New Discoveries

Scientists are now utilizing advances in magnetic resonance imaging (MRI) to create and study three-dimensional images of the brain without the use of radiation (as in an x-ray). This breakthrough allows scientists to safely scan children over many years, tracking the development of their brains.1

Researchers at Harvard Medical School, the National Institute of Mental Health, UCLA, and others, are collaborating to “map” the development of the brain from childhood to adulthood and examine its implications.
The scientists, to their surprise, discovered that the teenage brain undergoes an intense overproduction of gray matter (the brain tissue that does the “thinking”). Then a period of “pruning” takes over, during which the brain discards gray matter at a rapid rate. This process is similar to pruning a tree: cutting back branches stimulates health and growth.

In the brain, pruning is accompanied by myelination, a process in which white matter develops. White matter is fatty tissue that serves as insulation for the brain’s circuitry, making the brain’s operation more precise and efficient.

Researchers have carefully scrutinized the pace and severity of these changes and have learned that they continue into a person’s early 20s. Dr. Elizabeth Sowell, a member of the UCLA brain research team, has led studies of brain development from adolescence to adulthood. She and her colleagues found that the frontal lobe undergoes far more change during adolescence than at any other stage of life. It is also the last part of the brain to develop, which means that even as they become fully capable in other areas, adolescents cannot reason as well as adults: “[m]aturity, particularly in the frontal lobes, has been shown to correlate with measures of cognitive functioning.”

**Biology and Behavior**

Jay Giedd, a researcher at the National Institute of Mental Health, explains that during adolescence the “part of the brain that is helping organization, planning and strategizing is not done being built yet. . . . It’s sort of unfair to expect [adolescents] to have adult levels of organizational skills or decision making before their brain is finished being built.”

Dr. Deborah Yurgelun-Todd of Harvard Medical School has studied the relation between these new findings and teen behavior and concluded that adolescents often rely on emotional parts of the brain, rather than the frontal lobe. She explains, “one of the things that teenagers seem to do is to respond more strongly with gut response than they do with evaluating the consequences of what they’re doing.”

Also, appearances may be deceiving: “Just because they’re physically mature, they may not appreciate the consequences or weigh information the same way as adults do. So we may be mistaken if we think that [although] somebody looks physically mature, their brain may in fact not be mature.”

This discovery gives us a new understanding into juvenile delinquency. The frontal lobe is “involved in behavioral facets germane to many aspects of criminal culpability,” explains Dr. Ruben C. Gur, neuropsychologist and Director of the Brain Behavior Laboratory at the University of Pennsylvania. “Perhaps most relevant is the involvement of these brain regions in the control of aggression and other impulses. . . . If the neural substrates of these behaviors have not reached maturity before adulthood, it is unreasonable to expect the behaviors themselves to reflect mature thought processes.

“The evidence now is strong that the brain does not cease to mature until the early 20s in those relevant parts that govern impulsivity, judgment, planning for the future, foresight of consequences, and other characteristics that make people morally culpable. . . . Indeed, age 21 or 22 would be closer to the ‘biological’ age of maturity.”

**Other Changes in the Body**

In addition to the profound physical changes of the brain, adolescents also undergo dramatic hormonal and emotional changes. One of the hormones which has the most dramatic effect on the body is testosterone. Testosterone, which is closely associated with aggression, increases tenfold in adolescent boys.

Emotionally, an adolescent “is really both part child and part adult,” explains Melvin Lewis, an expert in child psychiatry and pediatrics at Yale University School of Medicine. Normal development at this time includes self-searching, during which the adolescent tries to grow out of his or her childlike self. This change is complicated by the conflict between an adolescent’s new sense of adult identity and remaining juvenile insecurities.
The behaviors associated with this process include self-absorption, a need for privacy, mood swings, unique dress, and escapism, such as video games, music, and talking on the phone, as well as riskier behaviors, such as drug use or sexual activity.\(^{13}\)

**Childhood Abuse and Violence**

In addition to this context of change and volatility, research shows that abusive childhood experiences can trigger violent behavior. The American Academy of Pediatrics has identified several risk factors that can spark violence in adolescents, including being witness to domestic violence or substance abuse within the family, being poorly or inappropriately supervised, and being the victim of physical or sexual assault.\(^{14}\)

Researcher Phyllis L. Crocker of Cleveland-Marshall College of Law has written that “the nexus between poverty, childhood abuse and neglect, social and emotional dysfunction, alcohol and drug abuse and crime is so tight in the lives of many capital defendants as to form a kind of social historical profile.”\(^{15}\)

Dr. Chris Mallett, Public Policy Director at Bellefaire Jewish Children’s Bureau in Ohio, recently completed the most comprehensive study of traumatic experiences in the lives of death row juvenile offenders to date.\(^{16}\) He found that:

- 74% experienced family dysfunction\(^ {17}\)
- 60% were victims of abuse and/or neglect\(^ {18}\)
- 43% had a diagnosed psychiatric disorder\(^ {19}\)
- 38% suffered from substance addictions\(^ {20}\)
- 38% lived in poverty\(^ {21}\)

More than 30% of death row juvenile offenders had experienced six or more distinct areas of childhood trauma with an overall average of four such experiences per offender. Most children and adolescents do not face even one of these defined areas of difficulty.\(^ {22}\) Mallett also found that such mitigating evidence was presented to juries in fewer than half of the offenders’ trials.\(^ {23}\)

Mallett’s research confirmed findings in previous studies. In 1992, researchers found that two-thirds of all juveniles sentenced to death had backgrounds of abuse, psychological disorders, low IQ, indigence, and/or substance abuse.\(^ {24}\)

In 1987, an investigation into 14 juveniles on death row\(^ {25}\) (40% of the total at the time) revealed that nine had major neuropsychological disorders\(^ {26}\) and seven had psychotic disorders since early childhood.\(^ {27}\) All but two had IQ scores under 90.\(^ {28}\) Only three had average reading abilities, and another three had learned to read only after arriving on death row.\(^ {29}\) Twelve reported having been physically or sexually abused, including five who were sodomized by relatives.\(^ {30}\)

**Delinquency Link**

The turmoil often associated with adolescence can result in poor decisions and desperate behaviors. For example, studies have found that 20 to 30% of high school students consider suicide. Suicide is the third-leading cause of death among teenagers, occurring once every two hours, or over 4,000 times a year, according to the U.S. Surgeon General.\(^ {31}\) Approximately 30% of youths reported using an illicit drug at least once during their lifetime, and 22.2% reported using an illicit drug within the past year.\(^ {32}\)

**Conclusion**

New discoveries provide scientific confirmation that the teen years are a time of significant transition. They shed light on the mysteries of adolescence and demonstrate that adolescents have significant neurological deficiencies that result in stark limitations of judgment. Research suggests that when compounded with risk factors (neglect, abuse, poverty, etc.), these limitations can set the psychological stage for violence.

These discoveries support the assertion that adolescents are less morally culpable for their actions than competent adults and are more capable of change and rehabilitation. The ultimate punishment for minors is contrary to the idea of fairness in our justice system, which accords the greatest punishments to the most blameworthy.

This fresh understanding of adolescence does not excuse juvenile offenders from punishment for violent crime, but it clearly lessens their culpability. This concept is not new; it is why we refer to those under 18 as “minors” and “juveniles”—because, in so many respects, they are *less than adult*.
3 Id.
4 Id.
6 PBS Frontline, Inside the Teen Brain. See Interview with Jay Giedd, online at www.pbs.org/wgbh/pages/frontline/shows/teenbrain/.
7 Id, at Interview with Deborah Yurgelun-Todd.
8 Id.
10 Id.

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