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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."

Atkins v. Virginia, *536 U.S. 304, 318, 122 S.Ct. 2242, 2250 (2002)*

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.

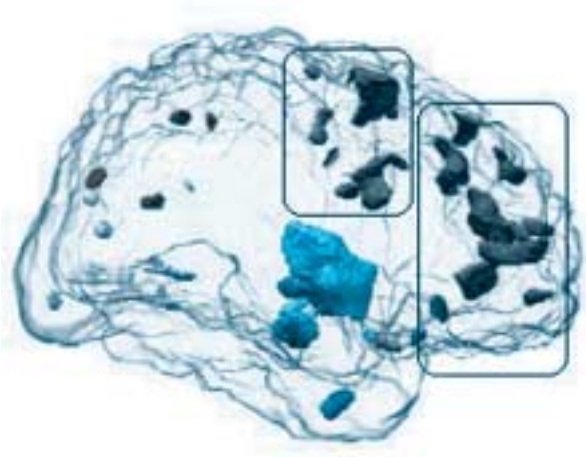
The largest part of the brain is the *frontal lobe*. A small area of the frontal lobe located behind the forehead, called the *prefrontal cortex*, controls the brain's most advanced functions. This part, often referred to as the "CEO" of the body, provides humans with advanced cognition. It allows us 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.



A three dimensional "map" showing portions of gray matter "pruned" from the brain between adolescence and adulthood. The dark portions in the two boxes indicate sections that will be discarded from the **frontal lobe**. The box on the far right indicates the **prefrontal cortex**, a subsection of the frontal lobe that controls judgment.

Image adapted from *Nature Neuroscience*.

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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.[2] 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.[3]

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.[4] 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]aturation, particularly in the frontal lobes, has been shown to correlate with measures of cognitive functioning."[5]

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."[6]

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."[7]

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."[8]

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,"[9] 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."[10]

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.[11]

> **"Just because they're physically mature, they may not appreciate the consequences or weigh information the same way as adults do. So, [although] somebody looks physically mature, their brain may in fact not be mature."**
>
> Deborah Yurgelun-Todd, PhD
> Brain Imaging Laboratory,
> McClean Hospital
> Harvard University Medical School

Emotionally, an adolescent "is really both part child and part adult,"[12] 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]

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> Ruben Gur, MD, PhD
> Director, University of
> Pennsylvania Medical Center

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]

Dr. Jay Giedd of the National Institute of Mental Health. Image courtesy of PBS Frontline report *Inside the Teenage Brain*.

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.*

Notes

[1] For an excellent overview, see Elkhonon Goldberg, *The Executive Brain: Frontal Lobes and the Civilized Mind,* Oxford University Press (2001).

[2] Sowell, Elizabeth R, Paul M. Thompson, Colin J. Holems, Terry L. Jernigan and Arthur W. Toga. *In vivo evidence for post-adolescent brain maturation in frontal and striatal regions.* 2 Nature Neuroscience 10 (1999), also Paus, Tomas, Jay Giedd, et. al. *Structural maturation of neural pathways in children and adolescents: in vivo study.* Science, 283 (1999).

[3] Id.

[4] Id.

[5] Sowell, Elizabeth R, Paul M. Thompson, Kevin D. Tessner and Arthur W. Toga. *Mapping continued brain growth and gray matter density reduction in dorsal frontal cortex: inverse relationships during postadolescent brain maturation,* 21 Journal of Neuroscience 22 (2001), at 8819, also Reiss, A.L., et. al., *Brain development, gender and IQ in children, a volumetric imaging study.* Brain, 119 (1996).

[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.

[9] Gur, Ruben C. Declaration of Ruben C. Gur., PhD, *Patterson v. Texas.* Petition for Writ of Certiorari to US Supreme Court, J. Gary Hart, Counsel. (Online at: www.abanet.org/crimjust/juvjus/patterson.html)

[10] Id.

[11] See Adams, Gerald R., Raymond Montemayor, and Thomas P. Gullota, eds. *Psychosocial Development during Adolescence.* Thousand Oaks, CA, Sage Publications (1996).

[12] Lewis, Melvin. *Child and Adolescent Psychiatry: A comprehensive textbook,* Lippincott Williams and Wilkins (2002).

[13] See id, and Cobb, Nancy J. *Adolescence: Continuity, Change and Diversity.* Mayfield Publishing, CA (1998).

[14] American Society of Pediatrics, *Policy Statement,* 1 Pediatrics, 103 (1999).

[15] Phyllis L. Crocker. *Childhood Abuse and Adult Murder: Implications for the Death Penalty,* 77 NC L. Rev. 1143 (1999).

[16] Mallett, Chris. *Socio-Historical Analysis of Juvenile Offenders on Death Row,* 3 Juv. Corr. Mental Health Report 65 (2003).

[17] Id., at 77.

[18] Id., at 78.

[19] Id., at 77.

[20] Id., at 78.

[21] Id.

[22] Id.

[23] Id.

[24] Robinson, DA and Stephens, OH; *Patterns of mitigating factors in juvenile death penalty cases,* 3 Criminal Law Bulletin 28 (1992).

[25] Lewis, DO, Pincus, Bard, Richardson, Prichep, Feldman, Yeager. *Neuropsychiatric, psychoeducational, and family characteristics of 14 juveniles condemned to death in the United States,* 5 Am. J. of Psychiatry 145 (1988).

[26] Id.

[27] Id.

[28] Id.

[29] Id.

[30] Id.

[31] Office of the U.S. Surgeon General, *At a Glance, Suicide Among the Young:* Online at www.surgeongeneral.gov/library/calltoaction/fact3.htm

[32] White House Office of National Drug Control Policy, Juveniles and Drugs, at www.whitehousedrugpolicy.gov/drugfact/juveniles/index.html

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Adolescent Development and Juvenile Justice

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adolescence, crime, neuroscience, law, policy

Abstract

Although justice system policy and practice cannot, and should not, be dictated solely by studies of adolescent development, the ways in which we respond to juvenile offending should be informed by the lessons of developmental science. This review begins with a brief overview of the history, rationale, and workings of the American juvenile justice system. Following this, I summarize findings from studies of brain, cognitive, and psychosocial development in adolescence that have implications for the treatment of juveniles in the justice system. The utility of developmental science in this context is illustrated by the application of these research findings to three fundamental issues in contemporary justice policy: the criminal culpability of adolescents, adolescents' competence to stand trial, and the impact of punitive sanctions on adolescents' development and behavior. Taken together, the lessons of developmental science offer strong support for the maintenance of a separate juvenile justice system in which adolescents are judged, tried, and sanctioned in developmentally appropriate ways.

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INTRODUCTION

Few issues challenge a society's ideas about both the nature of human development and the nature of justice as much as serious juvenile crime. Because we neither expect children to be criminals nor expect crimes to be committed by children, the unexpected intersection between childhood and criminality creates a dilemma that most people find difficult to resolve. Indeed, the only ways out of this problem are either to redefine the offense as something less serious than a crime or to redefine the offender as someone who is not really a child (Zimring 1998).

For most of the twentieth century, American society has most often chosen the first approach—redefining the offense—and has treated most juvenile infractions as matters to be adjudicated as delinquent acts within a separate juvenile justice system designed, at least in theory, to recognize the special needs and immature status of young people and to therefore emphasize rehabilitation over punishment. Indeed, for much of the past century, states believed that the juvenile justice system was a vehicle to protect the public by providing a system that responds to children who are maturing into adulthood. States recognized that conduct alone—that is, the alleged criminal act—should not be dispositive in deciding when to invoke the heavy hand of the adult criminal justice system. They recognized that by providing for accountability, treatment, and supervision in the juvenile justice system—and in the community whenever possible—they promoted short-term and long-term public safety.

During the last two decades of the twentieth century, there was a dramatic shift in the way juvenile crime was viewed by policy makers and the public. Rather than choosing to define offenses committed by youth as delinquent, society increasingly opted to deal with young offenders more punitively in the juvenile justice system or to redefine them as adults and try them in adult criminal court. This trend was reflected in the growing number of juvenile offenses adjudicated in adult criminal court, where adolescents are exposed to a far more adversarial proceeding than in juvenile court; in the increasingly punitive response of the criminal justice system to juvenile offenders who are found guilty; and in what some observers have referred to as the "criminalization" of the juvenile justice system itself through increased use of punishment, rather than rehabilitation, as a legitimate juvenile justice goal (Feld 1993).

This transformation of juvenile justice policy and practice raises difficult, but important, questions for psychologists interested in the development and well-being of young people.

These questions are variations of the more general question of whether adolescents are fundamentally different from adults in ways that warrant the differential treatment of juveniles who break the law. In particular:

- Do adolescents have the psychological capabilities necessary to function as competent defendants in adult court?
- Should juveniles accused of crimes be held to the same standards of blameworthiness as adults and punished in the same ways as adult criminals who have committed similar crimes?
- How does exposing juveniles to especially punitive sanctions affect their behavior, development, and mental health?

These questions provide this review's focus. More broadly, the purpose of this review is to integrate developmental psychological considerations into moral, legal, political, and practical analyses of juvenile crime. Because addressing this issue necessitates at least a rudimentary understanding of the rationale and workings of the juvenile justice system, I begin not with a discussion of the science of adolescent development, but rather with a short history of juvenile justice in America and a brief overview of the process through which individuals are adjudicated within the system.

Following this brief introduction to American juvenile justice, I then summarize findings from recent studies of adolescent development that bear on whether adolescents differ from adults in ways that have implications for justice system policy and practice. Because not all aspects of adolescent development are pertinent to how young people are, or should be, treated in the justice system, I limit my discussion to studies that are especially relevant to these issues. Readers interested in a broader and more comprehensive treatment of adolescent development are encouraged to consult several recent reviews of this literature (Collins & Steinberg 2006, Smetana et al. 2006) as well as a recently updated handbook on adolescent psychology (Lerner & Steinberg 2009). I then look specifically at what we know about adolescents' competence to stand trial, criminal culpability, and response to various types of sanctions and interventions.

JUVENILE JUSTICE IN AMERICA: AN OVERVIEW

The Origins of the Juvenile Justice System

Economic recessions in the early nineteenth century pushed children out of work in America's new factory system during the industrial revolution. Concerns about poor children on the street led to the creation of institutional care for children. In New York City, the Society for Prevention of Pauperism in 1824 became the Society for the Reformation of Juvenile Delinquents, and in 1825 opened the nation's first House of Refuge. Boston followed a year later and Philadelphia in 1828. These Houses of Refuge were designed to maintain class status and prevent unrest (Krisberg & Austin 1993, Platt 1977).

In 1899, Jane Addams and her Hull House colleagues established what is generally accepted as the nation's first juvenile court. Juvenile court judges, in the early part of the twentieth century, were authorized to investigate the character and social background of both predelinquent and delinquent children. They examined personal motivation as well as criminal intent, seeking to identify the moral reputation of problematic children (Platt 1977). Ben Lindsey, of Denver, was the juvenile court judge whose practice most closely matched the rhetoric of the emerging juvenile court:

> We should make it our business to study and know each particular case, because it will generally demand treatment in some little respect different from any other case.... (a) Is the child simply mischievous or criminal in its tendencies? (b) Is the case simply an exceptional or isolated instance in which a really good boy or girl has gone wrong for the first time because too weak to resist a strong temptation? (c) Is the child a victim of incompetent

Competence to stand trial: the ability of a defendant to understand the court proceeding, reason with relevant facts, and assist counsel

Criminal culpability: the extent to which an individual is judged to be responsible for a crime

Transfer: one mechanism through which juveniles' cases are referred to criminal (adult) court

Disposition: in the juvenile justice system, the outcome of an adjudication; comparable to a sentence in criminal court

> parents? Does the home or parent need correction or assistance? (d) What of environment and association, which, of course, may embrace substantively all of the points of study? How can the environment be improved? Certainly by keeping the child out of the saloon and away from evil examples. (e) Is the child afflicted with what we call "the moving about fever" – that is, is he given to playing "hookey" from school, or "bumming" and running away, showing an entire lack of ambition or desire to work and settle down to regular habits? [Ben B. Lindsey, "The Boy and the Court," *Charities* 13 (January 1905):352; cited in Platt (1977)]

Julian Mack, Chicago's second juvenile court judge, similarly described the ideal juvenile court proceeding:

> The problem for determination by the judge is not Has this boy or girl committed a specific wrong but What is he, how has he become what he is, and what had best be done in his interest and in the interest of the state to save him from a downward career. It is apparent at once that the ordinary legal evidence in a criminal court is not the sort of evidence to be heard in such a proceeding. (Mack 1909)

It is beyond the scope of this article to discuss the likely causes of the transformation of the juvenile justice system away from the rehabilitative ideal espoused by its founders and toward the more punitive regime that exists today (but see Scott & Steinberg 2008 for a discussion). However, it is worth noting that the early rhetoric on the rationale and purpose of the juvenile court is significant in two ways that bear on contemporary debates about justice system policy and practice. First, it is clear that the founders of the juvenile justice system began from the premise that adolescents are developmentally different from adults in ways that should affect our interpretation and assessment of their criminal acts. The questions raised by Judges Lindsey and Mack are relevant to the most vexing challenges that practitioners face today in determining (*a*) whether an adolescent's antisocial behavior is due to transient immaturity or contextual disadvantage, as opposed to deep-seated criminal character and (*b*) how best to construct a response to a juvenile's delinquent or criminal acts that will decrease the likelihood of recidivism. The difference between now and then, however, is that at the time of the court's founding, there was no science available to inform consideration of either issue. Owing to the dramatic increase in empirical research on normative and nonnormative adolescent development that began in the late 1970s, there has been a remarkable expansion of the scientific knowledge relevant to each of these matters.

Critical Decision Points Along the Juvenile Justice Pipeline

Juvenile justice is regulated mainly by state law, which makes it difficult to generalize about the system in ways that apply universally. Despite whatever differences exist across jurisdictions in policies and practices, however, the points of decision are essentially similar: referral, intake, detention, transfer, adjudication, disposition, and release (see Steinberg & Schwartz 2000).

Referral. Entrance into the pipeline begins with a referral to the juvenile justice system or a police arrest. Depending upon the state, a child may be too young or too old for the juvenile justice system. Children who are too young are most often diverted from the system or sent to the branch of juvenile court that has jurisdiction over neglected and abused children. Children who are too old are tried as adults. A juvenile may also be charged with an offense that results automatically in adult prosecution. If the juvenile is charged as an adult, most states allow for judges, after a hearing, to decide that the case should be transferred to juvenile court if the public interest requires it, or if the juvenile can prove that he or she is amenable to treatment in the juvenile justice system.

Intake. If the child enters the juvenile justice system after being arrested, referred by a private petitioner (such as a school or next-door neighbor), or transferred from criminal court, there will be an intake decision. Should the case proceed, or should the juvenile be diverted? If the latter, should it be an informal diversion, without further involvement by the juvenile court, or should the child be sent to a program, such as a community panel or teen court (and returned to juvenile court if he or she fails to obey a community-ordered disposition)? Some cases are diverted to other systems, such as the mental health system. Some cases are dropped entirely because intake officers decide that this particular combination of youth and offense does not belong in the juvenile justice system. Many factors thus enter into the decision to divert a case: The youth's age, prior history, the seriousness of the offense, and the youth's explanation or attitude will affect the intake decision.

Detention. If the intake officer decides that the case should proceed to a hearing, the officer must decide whether the child should be sent home (with or without supervision) or should be detained, either in a maximum-security detention center or in a detention alternative. Juveniles and their parents will need to explain to an intake officer how pretrial supervision will occur, and they will have to convince the officer that the juvenile will appear for trial. If the child is detained, there will be a court appearance within 24–72 hours. Most states call this first court appearance a detention hearing. Here a judge or referee will decide whether to continue the detention status. This is usually the first time that the child meets his or her attorney. Here the child must be able to discuss with counsel the circumstances of the arrest and out-of-court issues related to the detention decision (such as school attendance or the presence of an interested adult in the juvenile's life).

Transfer. Most persons under the age of 18 who are tried as adults are done so because of statutory exclusion of their case from the juvenile justice system. State law may exclude them because of their age—in New York, for example, a 16-year-old will be tried as an adult for any offense. Every state excludes some offenses from juvenile court jurisdiction if a child is of a certain age (for example, a state can decide that 15-year-olds who are charged with armed robbery will have their cases begin in adult criminal court). Some states permit prosecutors to file the juvenile's case directly in the adult system, where the juvenile may or may not have an opportunity to have the case transferred to juvenile court. Every state also allows judges to transfer children of a certain age—usually 14, but in some instances, even younger—to criminal court if they are charged with an offense as serious as a felony. States usually must prove that the juvenile is "not amenable to treatment" in the juvenile justice system. At transfer hearings, it is important that the juvenile is able, for example, to discuss with counsel his or her recent placement history and its reason for failure. He or she should be able to understand options, such as proposed placements, counseling programs, or plea agreements.

Adjudication. If the child continues to be detained within the juvenile justice system, an adjudicatory hearing (comparable to the trial in criminal court) must be held within 10–30 days. (Although this is the general rule, in some states juveniles charged with high-profile crimes such as murder will have a longer time to wait until their trials.) Demands on juveniles at adjudicatory hearings are many. They will include the need to understand the nature of the charges against them and to consult with counsel. They will have to weigh the costs and benefits of entering an admission (guilty plea). They should be able to help counsel identify potential witnesses, know whether an alibi or other defenses are available, and consult with counsel during cross-examination of state witnesses.

Disposition. If the juvenile admits to the offense, or if the juvenile court finds by proof beyond a reasonable doubt that the child has committed the offense, the court will proceed to disposition (sentence). Juveniles are

expected to assist counsel in presenting disposition options to the juvenile court. Assistance might include suggesting dispositions or helping the attorney and experts develop client-specific dispositions. Juvenile dispositions historically have been aimed at providing treatment, rehabilitation, or supervision in a way that best serves the needs of the juvenile, although in recent years some legislatures also have included incapacitation for public safety as a valid rationale. Under any of the models, the juvenile court will have a range of discretion. In some states, the juvenile court has wide latitude, from ordering that a child return home under supervision (probation) to placing a child in maximum-security institutions, known as training schools, reform schools, or youth development centers. In other states, which use a "youth authority" model, the court will either order probation or, if placement is warranted, transfer custody of the child to the youth authority, which will then determine the appropriate level of care.

Release. Most juvenile court dispositions are for indeterminate periods of time. However, dispositions cannot be for a longer period than an adult would serve for a similar crime in the criminal justice system. The court will usually review the juvenile's case every six to nine months. Sometimes the reviews are formal hearings, whereas in other instances they are informal reviews of reports provided by probation officers or institutional staff. Many juveniles in placement, particularly those with mental health needs or who have been placed in inappropriate placements, end up being returned to juvenile court for a new disposition. Most often, those juveniles are placed in detention pending a new placement plan. When juveniles are released from institutions, they are placed on aftercare probation, which is analogous to parole. A juvenile who is on probation or on aftercare probation status can have that status revoked, or "violated," for new offenses or for violating the terms of probation, such as associating with gang members, truancy, or missing curfew. A violation of probation may lead to rearrest, detention, and another hearing, the outcome of which may be a new disposition.

The Relevance of Developmental Science to Decision Making in the Justice System

Although there are few decision points in the pipeline where the developmental status of the juvenile is taken into account explicitly, at each decision juncture, information about the juvenile's stage of development should play an important role in the outcome of the decision. A juvenile's developmental status is relevant with respect to the adjudication process because a just and fair hearing requires the competent participation of the individual in his or her defense. As noted earlier, at both the adjudication and transfer hearings, certain competencies are expected to be in place, including those that potentially affect the juvenile's ability to understand the charges, assist counsel, and enter pleas (Scott & Grisso 2005). To the extent that these competencies are based on capabilities that develop over the course of childhood and adolescence, an accurate understanding of how and along what timetable these capabilities develop is crucial to deciding whether an individual possesses the skills necessary to participate in the process.

Under the law, characteristics of the offender and the circumstances of the offense can mitigate criminal responsibility and lessen the punishment that is ordered by the court. A crime that is committed impulsively is punished less severely than one that is premeditated, as is a crime that is committed under coercive pressure from others. Familiarity with the expected developmental timetables of phenomena such as self-control, foresight, and susceptibility to peer pressure is therefore important for making determinations of culpability. In theory at least, an offender who, by virtue of developmental immaturity, is impulsive, shortsighted, and easily influenced by peers should be punished less harshly than one who is better able to control himself, anticipate the future consequences of his behavior, and resist the

antisocial urgings of his friends (Steinberg & Scott 2003).

Finally, decision makers in the system often must assess the youngster's potential for change and risk for future offending when making transfer or disposition decisions (Mulvey & Leistico 2008). Such determinations of developmental plasticity are especially important at transfer hearings, because a youngster who is or seems hardened and unlikely to profit from rehabilitation is more likely to be charged as an adult than is one who is or is seen as malleable and amenable to intervention. Similarly, a juvenile who is deemed to be at high risk of recidivism, either because of a long prior record of offending or other characteristics associated with continued and/or dangerous criminal behavior (e.g., failure to respond to prior attempts at rehabilitation, a history of uncontrollable violence, or likelihood of inadequate adult supervision in the community), will be more likely to be sent to institutional placement.

In order to make well-informed decisions about the treatment of juveniles who have entered the juvenile justice pipeline, therefore, policy makers, practitioners, and mental health professionals need to be familiar with the developmental changes that occur during childhood and adolescence in the capabilities and characteristics that are relevant to competence, culpability, and likely response to treatment. Legislators need this information in order to create age-related laws and statutes that are developmentally appropriate and scientifically reasonable; if, for example, we know that the ability to understand charges or enter pleas does not generally develop until a certain age, it makes little sense to draw age boundaries that would subject developmentally incompetent individuals to court proceedings that necessitate their participation in order to satisfy ordinary due process requirements. Judges need this information in order to make wise and fair decisions in the courtroom; if we know that the capacity to regulate one's own behavior is unlikely to be present before a certain age, it is important that this information be taken into account at the time of sentencing or disposition. Mental health professionals need this information in order to perform accurate assessments and make appropriate treatment recommendations; individuals at different stages of development may need very different sorts of interventions. And attorneys need this information in order to practice law more effectively; prosecutors may consider a juvenile's developmental status in deciding when it is appropriate to charge an individual as an adult, and defense attorneys need to know how best to interact with clients who may not fully understand their situation. Understanding the nature of psychological development during adolescence, therefore, will likely improve policymaking, judicial decision making, forensic evaluation, and legal practice.

BRAIN, COGNITIVE, AND PSYCHOSOCIAL DEVELOPMENT IN ADOLESCENCE

When lawmakers focus on juvenile justice policy, the distinction between adolescence and adulthood, rather than that between childhood and adolescence, is of primary interest. However, most studies of adolescent development have compared adolescents with children, and only in recent years has scientific interest focused intensely on the psychological transition between adolescence and adulthood, largely in response to new research showing continued brain maturation through the end of the adolescent period. This work has provided support for the uniqueness of adolescence as a stage of life that is also distinct from adulthood with respect to several aspects of brain and psychosocial development.

Adolescent Brain Development

Although most of the developmental research on cognitive and psychosocial functioning during adolescence involves psychological studies, recent work in developmental neuroscience is beginning to shed light on the neural underpinnings of psychological development across adolescence and adulthood. In the past several years, a new perspective on risk taking

Socioemotional system: the brain system governing the processing of social and emotional information and the experience of reward and punishment

Cognitive control system: the brain system governing executive function, including deliberative thinking, impulse control, foresight, and the evaluation of risk and reward

(including antisocial risk taking) during adolescence has emerged, one that is informed by advances in developmental neuroscience (Casey et al. 2008, Steinberg 2008). According to this view, risky behavior in adolescence is the product of the interaction between changes in two distinct neurobiological systems: a socioemotional system, which is localized in limbic and paralimbic areas of the brain, including the amygdala, ventral striatum, orbitofrontal cortex, medial prefrontal cortex, and superior temporal sulcus; and a cognitive control system, which is mainly composed of the lateral prefrontal and parietal cortices and those parts of the anterior cingulate cortex to which they are interconnected (Steinberg 2007).

According to this dual-systems model, adolescent risk taking is hypothesized to be stimulated by a rapid and dramatic increase in dopaminergic activity within the socioemotional system around the time of puberty, which is presumed to lead to increases in reward seeking. However, this increase in reward seeking precedes the structural maturation of the cognitive control system and its connections to areas of the socioemotional system, a maturational process that is gradual, unfolds over the course of adolescence, and permits more advanced self-regulation and impulse control. The temporal gap between the arousal of the socioemotional system, which is an early adolescent development, and the full maturation of the cognitive control system, which occurs later, creates a period of heightened vulnerability to risk taking during middle adolescence (Steinberg 2008). As one writer has characterized it, the process may be akin to "starting the engines without a skilled driver behind the wheel" (Dahl 2001).

Neurobiological evidence in support of this dual-systems model is rapidly accumulating. A growing literature, derived primarily from rodent studies but with implications for human development, indicates that the remodeling of the dopaminergic system within the socioemotional network involves an initial postnatal rise and then, starting in preadolescence, a subsequent reduction of dopamine receptor density in the striatum and prefrontal cortex; this pattern is more pronounced among males than females (Sisk & Foster 2004, Sisk & Zehr 2005, Teicher et al. 1995). As a result of this remodeling, dopaminergic activity in the prefrontal cortex increases significantly in early adolescence and is higher during this period than before or after. Because dopamine plays a critical role in the brain's reward circuitry, the increase, reduction, and redistribution of dopamine receptor concentration around puberty, especially in projections from the limbic system to the prefrontal area, is likely to increase reward-seeking behavior and, accordingly, sensation seeking.

There is equally compelling neurobiological evidence for changes in brain structure and function during adolescence and early adulthood that facilitate improvements in self-regulation that permit individuals to modulate their inclinations to seek rewards, although this development is presumed to unfold along a different timetable and to be independent of puberty (see Paus 2005 for a summary). Because of synaptic pruning and the continued myelination of prefrontal brain regions, resulting in improved connectivity among cortical areas and between cortical and subcortical areas, there are improvements over the course of adolescence in many aspects of executive function, such as response inhibition, planning, weighing risks and rewards, and the simultaneous consideration of multiple sources of information. There is also improved coordination of affect and cognition, reflected in improved emotion regulation, which is facilitated by the increased connectivity between regions associated with the socioemotional and cognitive control systems.

The development of the cognitive control system, which is manifested chiefly in improved connectivity across brain regions, must be distinguished from the well-publicized maturation of the frontal lobes because of synaptic pruning. Although both processes result in improved thinking abilities, they occur at different times in adolescence and have different implications for cognitive development. Whereas increases in connectivity take place throughout adolescence and well into adulthood, the decline in gray matter density that reflects synaptic

pruning takes place in preadolescence and early adolescence and is more or less complete by age 16. Consequently, performance on tasks that activate the frontal lobes continues to improve through middle adolescence but not beyond age 16 on tasks of moderate difficulty (Conklin et al. 2007, Crone & van der Molen 2004, Hooper et al. 2004, Luna et al. 2001). In contrast, adult-like performance on more demanding cognitive tasks, especially those that require coordination between and among multiple cortical and subcortical brain regions, is not attained until later in development.

The upshot of this developmental neuroscience is that changes in the socioemotional system at puberty may promote reckless, sensation-seeking behavior in early and middle adolescence, while the regions of the prefrontal cortex that govern cognitive control continue to mature over the course of adolescence and into young adulthood. This temporal gap between the increase in sensation seeking around puberty and the later development of mature self-regulatory competence may combine to make adolescence a time of inherently immature judgment. Thus, despite the fact that in many ways adolescents may appear to be as intelligent as adults (at least as indexed by performance on tests of information processing and logical reasoning), their ability to regulate their behavior in accord with these advanced intellectual abilities is more limited. As the next section makes clear, research on adolescent cognitive and psychosocial development is consistent with this neurobiological profile.

Adolescent Cognitive Development

The application of information about normative adolescent development to policy and practice in the justice system necessitates differentiating between cognitive and psychosocial development, which appear to follow different developmental trajectories (Steinberg 2008). Briefly, on relatively less-demanding tasks that are mainly or exclusively cognitive in nature, and where improvement in adolescence is likely due to synaptic pruning of the frontal lobes, adolescents evince adult levels of competence by age 16. In contrast, on more challenging tasks that involve the coordination of affect and cognition, and on many measures of psychosocial maturity, performance continues to improve well into young adulthood, most likely because this improvement is mediated by improved connectivity across brain regions, a relatively later development. As I discuss below, this temporal disjunction has created a great deal of confusion with regard to where we should draw the legal boundary between adolescence and adulthood, because different developmental literatures suggest different chronological ages.

The most important cognitive capacities involved in decision making are understanding (i.e., the ability to comprehend information relevant to the decision) and reasoning (i.e., the ability to use this information logically to make a choice). These capacities increase through childhood into adolescence. Between late childhood and middle adolescence (roughly between the ages of 11 and 16), individuals show marked improvements in reasoning (especially deductive reasoning) and in both the efficiency and capacity of information processing (Hale 1990, Kail 1997, Keating 2004, Overton 1990). Research has demonstrated conclusively that, as a result of gains in these areas, individuals become more capable of abstract, multidimensional, deliberative, and hypothetical thinking as they develop from late childhood into middle adolescence (Kuhn 2009). These abilities reach an asymptote sometime around 16, and by this age, teens' capacities for understanding and reasoning in making decisions, at least in controlled experiments, roughly approximate those of adults. This comparability between middle adolescents and adults is not limited to basic cognitive abilities such as memory or verbal fluency or to performance on tasks of logical reasoning. Studies of capacity to grant informed consent to receive medical treatment or participate as a research subject, for example, show little improvement beyond age 16 (Belter & Grisso 1984, Grisso & Vierling 1978, Gustafson & McNamara 1987, Weithorn & Campbell 1982).

The notion that adolescents and adults demonstrate comparable capacities for understanding and reasoning should not be taken to mean that they also demonstrate comparable levels of maturity of judgment, however. As my colleagues and I have argued elsewhere, maturity of judgment is affected both by cognitive capabilities as well as psychosocial ones, and although the former show adult levels of maturity by 16, the latter do not (Steinberg et al. 2009). As a result, adolescents may be less able to deploy their cognitive capacities as effectively as adults in exercising judgment in their everyday lives when decisions are influenced by emotional and social variables. The development of these psychosocial factors is described in the next section.

Adolescent Psychosocial Development

New perspectives on adolescent "cognition-in-context" emphasize that adolescent thinking in everyday settings is a function of social and emotional, as well as cognitive, processes, and that a full account of youthful judgment must examine the interaction of all of these influences (Scott et al. 1995, Steinberg & Cauffman 1996). Even when adolescent cognitive capacities approximate those of adults, youthful decision making may still differ from that of adults due to psychosocial immaturity. Indeed, research indicates that psychosocial maturation proceeds more slowly than cognitive development and that age differences in judgment may reflect social and emotional differences between adolescents and adults that continue well beyond mid-adolescence. Of particular relevance to the present discussion are age differences in susceptibility to peer influence, future orientation, reward sensitivity, and the capacity for self-regulation. Available research indicates that adolescents and adults differ significantly with respect to each of these attributes.

Peer influence. Substantial research evidence supports the conventional wisdom that teens are more oriented toward peers and responsive to peer influence than are adults (Steinberg & Monahan 2007). Resistance to peer influence increases between adolescence and adulthood as individuals begin to form an independent sense of self and develop greater capacity for autonomous decision making. Studies of age differences and age changes in resistance to peer influence suggest somewhat different patterns vis-à-vis antisocial versus neutral or prosocial peer pressure prior to middle adolescence (with resistance to antisocial influence decreasing during this time, especially among boys, but resistance to other forms of peer influence increasing), but similar patterns after age 14 (with resistance to all forms of peer influence increasing). Because the main justice policy and practice questions concern differences between adolescents and adults, especially during the latter part of the adolescent period, it is this increase in resistance to peer influence from age 14 on that is of particular interest.

Recent studies of the neural underpinnings of resistance to peer influence in adolescence indicate that improvements in this capacity may be linked to the development of greater connectivity between cortical and subcortical regions, which likely facilitates the better coordination of affect and cognition (Grosbras et al. 2007, Paus et al. 2008), although it should be noted that this conclusion is based on studies of individual differences in brain morphology and function among same-aged adolescents who differ in their self-reported resistance to peer pressure and not to cross-sectional or longitudinal studies that link age differences in resistance to peer influence to age differences in brain structure or function. Nevertheless, it is reasonable to speculate that the social and arousal processes that may undermine logical decision making during adolescence, when connectivity is still maturing, do not have the same impact during adulthood. One recent behavioral study found, for instance, that adolescents, college undergraduates, and adults performed similarly on a risk-taking task when performing the task alone, but that the presence of same-aged friends doubled risk taking among the adolescents and increased it 50% among the undergraduates, but had no

impact on the adults (Gardner & Steinberg 2005).

Peer influence affects adolescent judgment both directly and indirectly. In some contexts, adolescents might make choices in response to direct peer pressure, as when they are coerced to take risks that they might otherwise avoid. More indirectly, adolescents' desire for peer approval and consequent fear of rejection affects their choices even without direct coercion. The increased salience of peers in adolescence likely makes approval seeking especially important in group situations. Thus, it is not surprising, perhaps, that adolescents are far more likely than are adults to commit crimes in groups (Zimring 1998). Peers also may provide models for behavior that adolescents believe will assist them to accomplish their own ends. For example, there is some evidence that during early and middle adolescence, teens who engage in certain types of antisocial behavior, such as fighting or drinking, may enjoy higher status among their peers as a consequence. Accordingly, some adolescents may engage in antisocial conduct to impress their friends or to conform to peer expectations; indeed, in one of the most influential accounts of so-called adolescence-limited offenders (that is, individuals who commit crimes during adolescence but not before or after), imitation of higher-status peers is hypothesized to be a prime motivation for antisocial behavior (Moffitt 1993).

Future orientation. Future orientation, the capacity and inclination to project events into the future, may also influence judgment because it affects the extent to which individuals consider the long-term consequences of their actions in making choices. Over the course of adolescence and into young adulthood, individuals become more future oriented, with increases in their consideration of future consequences, in their concern about the future, and in their ability to plan ahead (Greene 1986, Nurmi 1991, Steinberg et al. 2008b).

There are several plausible explanations for this age gap in future orientation. In part, adolescents' weaker future orientation may reflect their more limited life experience (Gardner 1993). To a young person, a short-term consequence may have far greater salience than one five years in the future. The latter may seem very remote simply because five years represents a substantial portion of her life. There is also evidence linking the differences between adolescents and adults in future orientation to age differences in brain structure and function, especially in the prefrontal cortex (Cauffman et al. 2005).

Adolescence-limited offenders: antisocial individuals whose offending begins and ends during adolescence

Reward sensitivity. Research evidence also suggests that, relative to adults, adolescents are more sensitive to rewards and, especially, to immediate rewards, a difference that may explain age differences in sensation seeking and risk taking (Galvan et al. 2007, Steinberg et al. 2008a). Although it had once been believed that adolescents and adults differ in risk perception, it now appears that age differences in risk taking are more likely mediated by age differences in reward sensitivity than by age differences in sensitivity to the potential adverse consequences of a risky decision (Cauffman et al. 2008, Millstein & Halpern-Felsher 2002). Thus, adolescents and adults may perceive risks similarly (both in the lab and in the real world) but evaluate rewards differently, especially when the benefits of the risky decision are weighed against the costs. So, for example, in deciding whether to speed while driving a car, adolescents and adults may estimate the risks of this behavior (e.g., being ticketed, getting into an accident) similarly, but adolescents may weigh the potential rewards (e.g., the thrill of driving fast, peer approval, getting to one's destination sooner) more heavily than adults, leading to lower risk ratios for teens—and a higher likelihood of engaging in the (rewarding) activity. Thus, what distinguishes adolescents from adults in this regard is not the fact that teens are less knowledgeable about risks, but rather that they attach greater value to the rewards that risk taking provides (Steinberg 2004).

The heightened salience of rewards to adolescents, relative to adults, is seen in age

differences in performance on the Iowa Gambling Task, in which subjects are given four decks of cards, face down, and are instructed to turn over cards, one at a time, from any deck. Each card has information about how much money the subject has won or lost by selecting that card. Two of the decks are "good," in that drawing from them will lead to gains over time, and two of the decks are "bad"; drawing from them will produce net losses. Because a few cards in the "bad" decks offer very high rewards, though, a person who is especially sensitive to rewards will be drawn to the "bad" decks, even if he or she keeps losing money as a result. At the beginning of the task, people tend to draw randomly from all four decks, but as the task progresses, normal adults pick more frequently from the good decks. Children and younger adolescents (as well as adults with damage to the ventromedial prefrontal cortex) do poorly on this task (Crone et al. 2005, Crone & van der Molen 2004, Hooper et al. 2004). Performance improves with age, with the most dramatic improvement taking place during middle adolescence. This likely reflects a decrease in susceptibility to choosing based on the prospect of an immediate, attractive reward. Further evidence that adolescents tend to value immediate rewards more than adults do is seen in age differences in performance on tests of delay discounting, in which individuals are asked to chose between a smaller immediate reward (e.g., receiving $600 tomorrow) and a larger delayed one (e.g., receiving $1000 in one year) (Steinberg et al. 2008b). Heightened reward sensitivity, indexed by self-report or task performance, is especially pronounced during early and middle adolescence, when reward circuitry in the brain is undergoing extensive remodeling. There is some evidence from both human and animal studies that this may be linked to pubertal maturation (Dahl 2004).

Self-regulation. In addition to age differences in susceptibility to peer influence, future orientation, and reward sensitivity, adolescents and adults also differ with respect to their ability to control impulsive behavior and choices. Thus, the widely held stereotype that adolescents are more reckless than adults is supported by research on developmental changes in impulsivity and self-management over the course of adolescence (Galvan et al. 2007, Leshem & Glicksohn 2007). In general, studies show gradual but steady increases in the capacity for self-direction through adolescence, with gains continuing through the high school years and into young adulthood. Similarly, impulsivity, as a general trait, declines linearly between adolescence and adulthood (Steinberg et al. 2008a).

An illustration of behavioral research that sheds light on age differences in impulse control is the study of performance on a task known as the Tower of London. In this test, the subject is presented with an arrangement of colored balls, stacked in a certain order, and several empty vertical rods onto which the balls can be moved. The subject is then presented with a picture of a different configuration of balls and asked to turn the original configuration into the new one by moving one ball at a time, using the fewest number of moves (Berg & Byrd 2002). This task requires thinking ahead, because extra moves must be used to undo a mistake. In several studies, our research group found that early and middle adolescents performed similarly to adults when the problem presented was an easy one (i.e., one that could be solved in two or three moves), but that they did not plan ahead as much as late adolescents and young adults on the harder problems; unlike the older subjects, the younger individuals spent no more time before making their first move on the complex problems than they did on the simple ones (Steinberg et al. 2008a). These findings are consistent with casual observations of teenagers in the real world, which also suggest that they are less likely than are adults to think ahead before acting.

Taken together, these findings from self-report and behavioral studies of psychosocial development indicate that individuals become more resistant to peer influence and oriented to the future, and less drawn to immediate rewards and impulsive, as they mature from adolescence to adulthood. Although the science of

adolescent brain development is still in its infancy, findings indicate that much of this maturation continues well beyond the age by which individuals evince adult levels of performance on tests of cognitive capacity. As I discuss in the next section, the continued maturation of cognitive competence through age 16 and the continued maturation of psychosocial competence into young adulthood have important implications for how we view and respond to the criminal behavior of juveniles.

JUVENILE JUSTICE ISSUES INFORMED BY DEVELOPMENTAL SCIENCE

Criminal Culpability of Youth

The adult justice system presumes that defendants who are found guilty are responsible for their own actions, should be held accountable, and should be punished accordingly. Because of the relative immaturity of minors, however, it may not be justified to hold them as accountable as one might hold adults. If, for example, adolescents below a certain age cannot grasp the long-term consequences of their actions or cannot control their impulses, one cannot hold them fully accountable for their actions. In other words, we cannot claim that adolescents "ought to know better" if, in fact, the evidence indicates that they do not know better, or more accurately, cannot know better, because they lack the abilities needed to exercise mature judgment. It is important to note that culpability cannot really be researched directly. Because an individual's culpability is something that is judged by someone else, it is largely in the eye of the beholder. What can be studied, however, are the capabilities and characteristics of individuals that make them potentially blameworthy, such as their ability to behave intentionally or to know right from wrong.

I use the term "culpability" in this review as a shorthand for several interrelated phenomena, including responsibility, accountability, blameworthiness, and punishability. These notions are relevant to the adjudication of an individual's guilt or innocence, because an individual who is not responsible for his or her actions by definition cannot be guilty, and to the determination of a disposition (in juvenile court) or sentence (in criminal court), in that individuals who are found guilty but less than completely blameworthy, owing to any number of mitigating circumstances, merit proportionately less punishment than do guilty individuals who are fully blameworthy.

The starting point in a discussion of criminal culpability is a principle known as penal proportionality. Simply put, penal proportionality holds that criminal punishment should be determined by two criteria: the harm a person causes and his blameworthiness in causing that harm. The law recognizes that different wrongful acts cause different levels of harm through a complex system of offense grading under which more serious crimes (rape, for example) are punished presumptively more severely than less serious crimes (shoplifting, for example). Beyond this, though, two people who engage in the same wrongful conduct may differ in their blameworthiness. A person may be less culpable than other criminals—or not culpable at all—because he inadvertently (rather than purposely) causes the harm, because he is subject to some endogenous deficiency or incapacity that impairs his decision making (such as mental illness), or because he acts in response to an extraordinary external pressure—a gun to the head is the classic example. Less-blameworthy offenders deserve less punishment, and some persons who cause criminal harm deserve no punishment at all (Scott & Steinberg 2008).

The concept of mitigation plays an important role in the law's calculation of blame and punishment, although it gets little attention in the debate about youth crime. Mitigation applies to persons engaging in harmful conduct who are blameworthy enough to meet the minimum threshold of criminal responsibility but who deserve less punishment than a typical offender would receive. Through mitigation, the criminal law calculates culpability and punishment along a continuum and is not limited to the options of full responsibility or complete

Penal proportionality: the principle in American criminal law linking the severity of punishment for a crime to the criminal's culpability

Mitigation: in criminal law, the lessening of criminal responsibility

excuse. Indeed, criminal law incorporates calibrated measures of culpability. For example, the law of homicide operates through a grading scheme under which punishment for killing another person varies dramatically depending on the actor's blameworthiness. Thus, the actor who kills intentionally is deemed less culpable if he does so without premeditation because his choice reveals less consideration of the harmful consequences of his act, and the actor who negligently causes another's death is guilty of a less serious crime than one who intends to kill. A person who kills in response to provocation or under extreme emotional disturbance may be guilty only of manslaughter and not of murder. Under standard homicide doctrine, mitigating circumstances and mental states are translated into lower-grade offenses that warrant less punishment.

What makes the conduct of one person less blameworthy than that of another person who causes the same harm? Generally, a person who causes criminal harm is a fully responsible moral agent (and deserves full punishment) if, in choosing to engage in the wrongful conduct, he has the capacity to make a rational decision and a "fair opportunity" to choose not to engage in the harmful conduct. Under this view, the actor whose thinking is substantially impaired or whose freedom is significantly constrained is less culpable than is the typical offender and deserves less punishment—how much less depends on the extent of the impairment or coercion. Under American criminal law, two very different kinds of persons can show that their criminal conduct was less culpable than that of the offender who deserves full punishment—those who are very different from ordinary persons due to impairments that contributed to their criminal choices and those who are ordinary persons whose offenses are responses to extraordinary circumstances or are otherwise aberrant conduct (Scott & Steinberg 2008).

Although it seems paradoxical, adolescents, in a real sense, belong to both groups. In the first group are individuals with endogenous traits or conditions that undermine their decision-making capacity, impairing their ability to understand the nature and consequences of their wrongful acts or to control their conduct. In modern times, this category has been reserved mostly for offenders who suffer from mental illness, mental disability, and other neurological impairments. The criminal law defenses of insanity, diminished capacity, extreme emotional disturbance, and involuntary act recognize that psychological and biological incapacities can undermine decision making in ways that reduce or negate the culpability of criminal choices.

Individuals in the second group are ordinary persons whose criminal conduct is less culpable because it is a response to extraordinary external circumstances: These cases arise when the actor faces a difficult choice, and his response of engaging in the criminal conduct is reasonable under the circumstances, as measured by the likely response of an ordinary law-abiding person in that situation. Thus, under standard self-defense doctrine, a person who kills a threatening assailant is excused from liability if a reasonable person in his place would have felt that his life was in danger. Similarly, the defenses of duress, necessity, and provocation are available to actors who can explain their criminal conduct in terms of unusual external pressures that constrained their ability to choose.

In the preceding section, I described aspects of psychological development in adolescence that are relevant to youthful choices to get involved in criminal activity and that may distinguish young offenders from their adult counterparts. Although youths in mid-adolescence have cognitive capacities for reasoning and understanding that approximate those of adults, even at age 18 adolescents are immature in their psychosocial and emotional development, and this likely affects their decisions about involvement in crime in ways that distinguish them from adults. Teenagers are more susceptible to peer influence than are adults and tend to focus more on rewards and less on risks in making choices. They also tend to focus on short-term rather than long-term consequences and are less capable of anticipating future consequences, and they are more impulsive and volatile in their emotional responses. When we consider these

developmental factors within the conventional criminal law framework for assessing blameworthiness, the unsurprising conclusion is that adolescent offenders are less culpable than are adults. The mitigating conditions generally recognized in the criminal law—diminished capacity and coercive circumstances—are relevant to criminal acts of adolescents and often characterize the actions of juvenile offenders. This does not excuse adolescents from criminal responsibility, but it renders them less blameworthy and less deserving of adult punishment.

Although in general lawmakers have paid minimal attention to the mitigating character of adolescents' diminished decision-making capacities, some legislatures and courts have recognized that immature judgment reduces culpability. Most notably, in its consideration of the constitutionality of the juvenile death penalty, the Supreme Court has focused on this rationale for mitigation. In *Roper v. Simmons*, the 2005 case that abolished the juvenile death penalty, the Court adopted the developmental argument for mitigation that follows from the research reviewed above. Justice Kennedy, writing for the majority, described three features of adolescence that distinguish young offenders from their adult counterparts in ways that mitigate culpability—features that are familiar to the reader at this point. The first is the diminished decision-making capacity of youths, which may contribute to a criminal choice that is "not as morally reprehensible as that of adults" because of its developmental nature. The Court pointed to the tendency of adolescents to engage in risky behavior and noted that immaturity and an "underdeveloped sense of responsibility" often result in "impetuous and ill-considered decisions" by youths. Second, the Court pointed to the increased vulnerability of youths to external coercion, including peer pressure. Finally, the Court emphasized that the unformed nature of adolescent identity made it "less supportable to conclude that even a heinous crime was evidence of irretrievably depraved character." Adolescents are less blameworthy than are adults, the Court suggested, because the traits that contribute to criminal conduct are transient, and because most adolescents will outgrow their tendency to get involved in crime as they mature. Although the Court did not elaborate, we have seen that each of these attributes of adolescence corresponds to a conventional source of mitigation in criminal law (*Roper v. Simmons* 2005).

***Roper v. Simmons*:** the U.S. Supreme Court case that abolished the juvenile death penalty

Does this argument apply to the conduct of immature adults? Although most impulsive young risk takers mature into adults with different values, some adult criminals are impulsive, sensation-seeking risk takers who discount future consequences and focus on the here and now. Are these adolescent-like adults also less culpable than other adult offenders and deserving of reduced punishment? I think not. Unlike the typical adolescent, the predispositions, values, and preferences that motivate the adult offenders are not developmental but characterological, and they are unlikely to change merely with the passage of time. Adolescent traits that contribute to criminal conduct are normative of adolescence, but they are not typical in adulthood. In an adult, these traits are often part of the personal identity of an individual who does not respect the values of the criminal law and who deserves punishment when he or she violates its prohibitions (Scott & Steinberg 2008).

Competence of Adolescents to Stand Trial

Before discussing adolescents' competence to stand trial, it is worth underscoring the distinction between competence and culpability—two very different constructs that are often confused, even by those with expertise in criminal law. Competence to stand trial refers to the ability of an individual to function effectively as a defendant in a criminal or delinquency proceeding. In contrast, determinations of culpability focus on the defendant's blameworthiness in engaging in the criminal conduct and on whether and to what extent he will be held responsible. Although many of the same incapacities that excuse or mitigate criminal responsibility may also render a defendant incompetent, the two issues are analytically distinct and

***Dusky v. United States*:** the U.S. Supreme Court case that established criteria for competence to stand trial

***In re Gault*:** the U.S. Supreme Court case that determined that juveniles adjudicated in juvenile court were entitled to many of the same procedural protections as adults adjudicated in criminal court

Developmental incompetence: a lack of competence to stand trial due to normal cognitive or psychosocial immaturity, as opposed to mental illness or disability

separate legal inquiries, and they focus on the defendant's mental state at two different points in time (the time of the crime and the time of the court proceeding).

The reason that competence is required of defendants in criminal proceedings is simple: When the state asserts its power against an individual with the goal of taking away his liberty, the accused must be capable of participating in a meaningful way in the proceeding against him. If a defendant is so mentally ill or disabled that he cannot participate adequately, then the trial lacks fundamental fairness that is required as a part of due process under the Fourteenth Amendment to the U.S. Constitution (Scott & Grisso 2005).

In 1960, the Supreme Court announced a legal standard for trial competence in *Dusky v. United States* that has since been adopted uniformly by American courts. According to *Dusky*, when the issue of a defendant's competence is raised in a criminal trial, the court's determination should focus on "whether the defendant has sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding—and whether he has a rational, as well as factual, understanding of the proceedings against him." Thus, there are two parts to the competence requirement: The defendant must be able to consult with her attorney about planning and making decisions in her defense, and she must understand the charges, the meaning, and purpose of the proceedings and the consequences of conviction (Scott & Grisso 2005).

The requirement that criminal defendants be competent to stand trial had no place in delinquency proceedings in the traditional juvenile court. In a system in which the government's announced purpose was to rehabilitate and not to punish errant youths, the procedural protections accorded adult defendants—including the requirement of adjudicative competence—were thought to be unnecessary. This all changed with *In re Gault*, which led to an extensive restructuring of delinquency proceedings to conform to the requirements of constitutional due process. Today, it is generally accepted that requirements of due process and fundamental fairness are satisfied only if youths facing charges in juvenile court are competent to stand trial.

Until the 1990s, the issue of juveniles' trial competence involved a straightforward incorporation into delinquency proceedings of a procedural protection that was relevant to a relatively small number of mentally impaired adult defendants, where it was assumed to apply similarly to a small number of mentally incapacitated youths. The regulatory reforms that began in the late 1980s changed the situation by increasing the punishment stakes facing many young offenders and by eroding the boundary between the adult and juvenile systems. The importance of this issue was not recognized immediately, however. As legislatures across the country began to enact laws that dramatically altered the landscape of juvenile crime policy, the procedural issue of whether developmentally immature youngsters charged with crimes might be less able to participate in criminal proceedings than are adult defendants—what is referred to in this article as developmental incompetence—was not central to the policy debates.

Given that developmental incompetence largely escaped the attention of courts and policy makers until recently, it is worth asking directly whether the constitutional prohibition against criminal adjudication of incompetent defendants must be applied to this form of incapacity. The answer is surely "yes." The competence requirement is functional at its core, speaking to questions about the impact of cognitive deficiencies on trial participation. Functionally it makes no difference if the defendant cannot understand the proceeding she faces or assist her attorney, whether due to mental illness or to immaturity (Scott & Grisso 2005). In either case, the fairness of the proceeding is undermined. In short, the same concerns that support the prohibition against trying criminal defendants who are incompetent due to mental impairment apply with equal force when immature youths are subject to criminal proceedings. In the context of the recent changes in juvenile

justice policy, it has become important to have a better understanding of how the capacities of children and adolescents to participate in criminal proceedings compare with those of adults. In pursuit of this end, I first examine the specific abilities that are required for adjudicative competence under the legal standard. I then turn to the research directly comparing the abilities of juveniles and adults.

Three broad types of abilities are implicated under the *Dusky* standard for competence to stand trial: (*a*) a factual understanding of the proceedings, (*b*) a rational understanding of the proceedings, and (*c*) the ability to assist counsel (Scott & Grisso 2005). Courts applying the standard are directed to weigh each factor, but otherwise they exercise substantial discretion in deciding how much competence is enough. Examining each component of competence under the *Dusky* standard and considering how the capacities of juvenile defendants are likely to compare with those of adults is instructive.

Factual understanding focuses on the defendant's knowledge and awareness of the charges and his understanding of available pleas, possible penalties, the general steps in the adjudication process, the roles of various participants in the pretrial and trial process, and his rights as a defendant. Intellectual immaturity in juveniles may undermine factual understanding, especially given that youths generally have less experience and more limited ability to grasp concepts such as rights. Juveniles also may be more likely than are adults to have extensive deficits in their basic knowledge of the trial process, such that more than brief instruction is needed to attain competence.

The rational understanding requirement of *Dusky* has been interpreted to mean that defendants must comprehend the implications, relevance, or significance of what they understand factually regarding the trial process. Deficits in rational understanding typically involve distorted or erroneous beliefs that nullify factual understanding. For example, an immature defendant may know that he has a right to remain silent, yet believe that the judge can take this "right" away at any time by demanding a response to questions. (When asked what he thought the "right to remain silent" meant, my 12-year-old son said, "It means that you don't have to say anything until the police ask you a question.") Intellectual, emotional, and psychosocial immaturity may undermine the ability of some adolescents to grasp accurately the meaning and significance of matters that they seem to understand factually.

Finally, the requirement that the defendant in a criminal proceeding must have the capacity to assist counsel encompasses three types of abilities. The first is the ability to receive and communicate information adequately to allow counsel to prepare a defense. This ability may be compromised by impairments in attention, memory, and concentration, deficits that might undermine the defendant's ability to respond to instructions or to provide important information to his attorney, such as a coherent account of the events surrounding the offense. As I noted above, these capacities continue to improve through age 16, according to studies of cognitive development. Second, the ability to assist counsel requires a rational perspective regarding the attorney and her role, free of notions or attitudes that could impair the collaborative relationship. For example, a young defendant may develop a belief that all adults involved in the proceeding are allied against him, perhaps after seeing defense attorneys and prosecutors chatting together outside the courtroom. Third, defendants must have the capacity to make decisions about pleading and the waiver or assertion of other constitutional rights. These decisions involve not only adequate factual and rational understanding, but also the ability to consider alternatives and make a choice in a decision-making process. Immature youths may lack capacities to process information and exercise reason adequately in making trial decisions, especially when the options are complex and their consequences far reaching.

As juveniles' competence to stand trial began to emerge as an important issue in the mid-1990s, the need for a comprehensive study comparing the abilities of adolescents

and adults in this realm became apparent. Before this time, a few small studies had looked at particular capacities in juveniles that were important at different stages in the justice process. However, no comprehensive research had compared the specific capacities of juveniles and adults that are directly implicated in assessments of adjudicative competence. In response to that need, the MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice sponsored a large-scale study of individuals between the ages of 11 and 24—half of whom were in the custody of the justice system and half of whom had never been detained—designed to examine empirically the relationship between developmental immaturity and the abilities of young defendants to participate in their trials (Grisso et al. 2003). The study also probed age differences in psychosocial influences on decision making in the criminal process.

Based on participants' responses to a structured interview that had been used in previous studies of competence to stand trial among mentally ill adults, and for which norms had been established to define clinically significant "impairment," the researchers found that competence-related abilities improve significantly between the ages of 11 and 16. On average, youths aged 11 to 13 demonstrated significantly poorer understanding of trial matters, as well as poorer reasoning and recognition of the relevance of information for a legal defense, than did 14- and 15-year-olds, who in turn performed significantly more poorly than individuals aged 16 and older. There were no differences between the 16- and 17-year-olds and the young adults. The study produced similar results when adolescents and adults were categorized according to their scores above and below the cut-off scores indicating impairment. Nearly one-third of 11- to 13-year-olds and about one-fifth of 14- and 15-year-olds, but only 12% of individuals 16 and older, evidenced impairment at a level comparable to mentally ill adults who had been found incompetent to stand trial with respect to either their ability to reason with facts or understand the trial process. Individual performance did not differ significantly by gender, ethnicity, or, in the detained groups, as a function of the extent of individuals' prior justice system experience. This last finding is important because it indicates that there are components of immaturity independent of a lack of relevant experience that may contribute to elevated rates of incompetence among juveniles.

A different structured interview was used to probe how psychosocial influences affect decision making by assessing participants' choices in three hypothetical legal situations involving a police interrogation, consultation with a defense attorney, and the evaluation of a proffered plea agreement. Significant age differences were found in responses to police interrogation and to the plea agreement. First, youths, including 16- to 17-year-olds, were much more likely to recommend waiving constitutional rights during an interrogation than were adults, with 55% of 11- to 13-year-olds, 40% of 14- to 15-year-olds, and 30% of 16- to 17-year-olds choosing to "talk and admit" involvement in an alleged offense (rather than "remaining silent"), but only 15% of the young adults making this choice. There were also significant age differences in response to the plea agreement. This vignette was styled so as not to clearly favor accepting or rejecting the state's offer, which probably accounted for the fact that young adults were evenly divided in their responses. In contrast, 75% of the 11- to 13-year-olds, 65% of the 14- to 15-year-olds, and 60% of the 16- to 17-year-olds recommended accepting the plea offer. Together, these results suggest a much stronger tendency for adolescents than for young adults to make choices in compliance with the perceived desires of authority figures (Grisso et al. 2003).

Analysis of participants' responses to the vignettes also indicated differences between the youngest age group and older subjects in risk perception and future orientation. Participants were asked to explain their choices, including their perceptions about positive and negative consequences of various options; questions probed the subjects' assessment of the

seriousness of risks (the perceived negative consequences) and the likelihood of risks materializing. Analyses indicated age differences for all of these dimensions of "risk perception," with the 11- to 13-year-olds less able to see risks than 16- to 17-year-olds and young adults. Similarly, in comparison with older adolescents, fewer 11- to 13-year-olds mentioned the long-range consequences of their decisions, which suggests that future orientation differences exist that are consistent with those described above.

The study's findings are consistent with those of earlier studies that examined various dimensions of youths' functioning in the justice system. For example, an important study of youths' and adults' capacities to understand Miranda rights in the early 1980s found that, compared with adults in the criminal justice system, 14-year-olds in juvenile detention were less able to understand the meaning and importance of *Miranda* warnings (Grisso 1981). Other studies using smaller samples also have found age differences across the adolescent years with regard to knowledge of legal terms and the legal process in delinquency and criminal proceedings (e.g., Cooper 1997). Finally, a series of studies found significant age differences across the adolescent years in "strategic thinking" about pleas; older adolescents were more likely than younger subjects to make choices that reflected calculations of probabilities and costs based on information provided (e.g., Peterson-Badali & Abramovitch 1993).

In light of what is known about psychological maturation in early and mid-adolescence, these findings are not surprising. Indeed, given the abilities required of defendants in criminal proceedings, it would be puzzling if youths and adults performed similarly on competence-related measures. This research provides powerful and tangible evidence that some youths facing criminal charges may function less capably as criminal defendants than do their adult counterparts. This does not mean, of course, that all youths should be automatically deemed incompetent to stand trial any more than would a psychiatric diagnosis or low IQ score. It does mean, however, that the risk of incompetence is substantially elevated in early and mid-adolescence; it also means that policy makers and practitioners must address developmental incompetence as it affects the treatment of juveniles in court (Scott & Grisso 2005).

It is important to emphasize that the pattern of age differences in studies of legal decision making more closely resembles that seen in studies of cognitive development (where few age differences are apparent after 16) than in studies of psychosocial development (where age differences are observed in late adolescence and sometimes in young adulthood). This suggests that determinations of where to draw a legal boundary between adolescence and adulthood must be domain specific. In matters in which cognitive abilities predominate, and where psychosocial factors are of minimal importance (that is, in situations where the influence of adolescents' impulsivity, susceptibility to peer pressure, reward sensitivity, and relatively weaker future orientation is mitigated), adolescents older than 15 should probably be treated like adults. In situations in which psychosocial factors are substantially more important, drawing the boundary at an older age is more appropriate. This is why my colleagues and I have argued that it is perfectly reasonable to have a lower boundary for adolescents' autonomous access to abortion (a situation in which mandatory waiting periods limit the impact of impulsivity and shortsightedness and where consultation with adults likely counters immaturity of judgment) than for judgments of criminal responsibility (because adolescents' crimes are often impulsive and influenced by peers) (Steinberg et al. 2009).

Impact of Punitive Sanctions on Adolescent Development and Behavior

As noted above, the increasingly punitive orientation of the justice system toward juvenile offenders has resulted in an increase in the number of juveniles tried and sanctioned as adults and in the use of harsher sanctions in responding to the delinquent behavior of juveniles who have been retained in the juvenile justice

Life-course-persistent offenders: antisocial individuals whose offending begins before adolescence and persists into adulthood

Age-crime curve: in criminology, the relation between age and crime, showing that the prevalence of criminal activity increases between preadolescence and late adolescence, peaks around age 17, and declines thereafter

system. Research on the impact of adult prosecution and punishment and on the use of punitive sanctions more generally suggests, however, that these policies and practices may actually increase recidivism and jeopardize the development and mental health of juveniles (Fagan 2008). Consequently, there is a growing consensus among social scientists that policies and practices, such as setting the minimum age of criminal court jurisdiction below 18 (as about one-third of all states currently do), transferring juveniles to the adult system for a wide range of crimes, including nonviolent crimes, relying on incarceration as a primary means of crime control, and exposing juvenile offenders to punitive programs such as boot camps, likely do more harm than good, cost taxpayers much more than they need spend on crime prevention, and ultimately pose a threat to public safety (Greenwood 2006).

In order to understand why this is the case, it is important to begin with a distinction between adolescence-limited and life-course-persistent offenders (Moffitt 1993). Dozens of longitudinal studies have shown that the vast majority of adolescents who commit antisocial acts desist from such activity as they mature into adulthood and that only a small percentage—between five and ten percent, according to most studies—become chronic offenders. Thus, nearly all juvenile offenders are adolescent limited. This observation is borne out in inspection of what criminologists refer to as the age-crime curve, which shows that the incidence of criminal activity increases between preadolescence and late adolescence, peaks at about age 17 (slightly younger for nonviolent crimes and slightly older for violent ones), and declines thereafter. These findings, at both the individual and aggregate level, have emerged from many studies that have been conducted in different historical epochs and around the world (Piquero et al. 2003).

In view of the fact that most juvenile offenders mature out of crime (and that most will desist whether or not they are caught, arrested, prosecuted, or sanctioned), one must therefore ask how to best hold delinquent youth responsible for their actions and deter future crime (both their own and that of others) without adversely affecting their mental health, psychological development, and successful transition into adult roles. If the sanctions to which juvenile offenders are exposed create psychological disturbance, stunt the development of cognitive growth and psychosocial maturity, and interfere with the completion of schooling and entrance into the labor force, these policies are likely to exacerbate rather than ameliorate many of the very factors that lead juveniles to commit crimes in the first place (mental illness, difficulties in school or work, and, as reviewed above, psychological immaturity).

It is clear that sanctioning adolescents as adults is counterproductive. One group of researchers examining this question compared a group of 2700 Florida youths transferred to criminal court, mostly based on prosecutors' discretionary authority under Florida's direct-file statute, with a matched group of youths retained in the juvenile system (Bishop & Frazier 2000). In another study, the researchers compared 15- and 16-year-olds charged with robbery and burglary in several counties in metropolitan New York and in demographically similar counties in New Jersey. The legal settings differed in that New York juveniles age 15 and older who are charged with robbery and burglary are automatically dealt with in the adult system under that state's legislative waiver statute, whereas in New Jersey, transfer is rarely used, and the juvenile court retains jurisdiction over almost all youths charged with these crimes (Fagan 1996).

The New York-New Jersey study found that youths convicted of robbery in criminal court were rearrested and incarcerated at a higher rate than those who were dealt with in the juvenile system, but that rates were comparable for burglary, a less serious crime. The study also examined the number of days until rearrest and found a similar pattern; the youths sentenced for robbery in criminal court reoffended sooner than did their juvenile court counterparts. Recidivism was not affected by sentence length; longer sentences were not more

effective at reducing recidivism than were shorter sentences. Results of the Florida study also support the conclusion that juvenile sanctions may reduce recidivism more effectively than criminal punishment. This study measured only rearrest rates and found lower rates for youths who were retained in juvenile court than for youths who were transferred. The follow-up period in this study was relatively brief—less than two years. During this period, transferred youth were more likely to be rearrested, committed more offenses per year, and reoffended sooner than did juveniles in the juvenile system. As in the New York-New Jersey study, longer sentences did not have a deterrent effect.

Within the juvenile system, of course, there is wide variation in the types and severity of sanctions to which offenders are exposed. Some youths are incarcerated in prison-like training schools, whereas others receive loosely supervised community probation—neither of which is effective at changing antisocial behavior. An important question therefore is, what can the juvenile system offer young offenders that will be effective at reducing recidivism? A detailed discussion of the enormous literature evaluating the effects of various sanctions and interventions is beyond the scope of this review, and this literature has been summarized many times (Greenwood 2006, Lipsey 1999). Here I highlight a few main points.

Until the 1990s, most researchers who study juvenile delinquency programs might well have answered that the system had little to offer in the way of effective therapeutic interventions; the dominant view held by social scientists in the 1970s and 1980s was that "nothing works" to reduce recidivism with young offenders. Today the picture is considerably brighter, in large part due to a substantial body of research produced over the past 15 years showing that many juvenile programs, in both community and institutional settings, have a substantial crime-reduction effect; for the most promising programs, that effect is in the range of 20% to 30%. An increased focus on research-based programs and on careful outcome evaluation allows policy makers to assess accurately the impact on recidivism rates of particular programs to determine whether the economic costs are justified. In a real sense, these developments have revived rehabilitation as a realistic goal of juvenile justice interventions.

In general, successful programs are those that attend to the lessons of developmental psychology, seeking to provide young offenders with supportive social contexts and to assist them in acquiring the skills necessary to change problem behavior and to attain psychosocial maturity. In his comprehensive meta-analysis of 400 juvenile programs, Lipsey (1995) found that among the most effective programs in both community and institutional settings were those that focused on improving social development skills in the areas of interpersonal relations, self-control, academic performance, and job skills. Some effective programs focus directly on developing skills to avoid antisocial behavior, often through cognitive behavioral therapy. Other interventions that have been shown to have a positive effect on crime reduction focus on strengthening family support, including Multisystemic Therapy, Functional Family Therapy, and Multidimensional Treatment Foster Care, all of which are both effective and cost effective (Greenwood 2006). It is also clear from these reviews that punitive sanctions administered within the juvenile system have iatrogenic effects similar to those seen in studies of juveniles tried as adults. Punishment-oriented approaches, such as "Scared Straight" or military-style boot camps, do not deter future crime and may even inadvertently promote reoffending. Nor do these programs appear to deter other adolescents from offending (Greenwood 2006).

The dearth of evidence supporting the effectiveness of tough sanctions in deterring youthful criminal activity becomes less puzzling when we consider the response of young offenders to harsh punishment in light of developmental knowledge about adolescence discussed earlier. Teenagers on the street deciding whether to hold up a convenience store may simply be less capable than adults, due to their

psychosocial immaturity, of considering the sanctions they will face. Thus, the developmental influences on decision making that mitigate culpability also may make adolescents less responsive to the threat of criminal sanctions (Scott & Steinberg 2008).

In addition, adolescence is a formative period of development. In mid and late adolescence, individuals normally make substantial progress in acquiring and coordinating skills that are essential to filling the conventional roles of adulthood. First, they begin to develop basic educational and vocational skills to enable them to function in the workplace as productive members of society. Second, they also acquire the social skills necessary to establish stable intimate relationships and to cooperate in groups. Finally, they must begin to learn to behave responsibly without external supervision and to set meaningful personal goals for themselves. For most individuals, the process of completing these developmental tasks extends into early adulthood, but making substantial progress during the formative stage of adolescence is important. This process of development toward psychosocial maturity is one of reciprocal interaction between the individual and her social context. Several environmental conditions are particularly important, such as the presence of an authoritative parent or guardian, association with prosocial peers, and participation in educational, extracurricular, or employment activities that facilitate the development of autonomous decision making and critical thinking. For the youth in the justice system, the correctional setting becomes the environment for social development and may affect whether he acquires the skills necessary to function successfully in conventional adult roles (Steinberg et al. 2004).

Normative teenagers who get involved in crime do so, in part, because their choices are driven by developmental influences typical of adolescence. In theory, they should desist from criminal behavior and mature into reasonably responsible adults as they attain psychosocial maturity—and most do, especially as they enter into adult work and family responsibilities. Whether youths successfully make the transition to adulthood, however, depends in part on whether their social context provides opportunity structures for the completion of the developmental tasks described above. The correctional environment may influence the trajectories of normative adolescents in the justice system in important ways. Factors such as the availability (or lack) of good educational, skill building, and rehabilitative programs; the attitudes and roles of adult supervisors; and the identity and behavior of other offenders shape the social context of youths in both the adult and the juvenile systems. These factors may affect the inclination of young offenders to desist or persist in their criminal activities and may facilitate or impede their development into adults who can function adequately in society—in the workplace, in marriage or other intimate unions, and as citizens.

SUMMARY AND CONCLUDING COMMENTS

The overarching question I pose in this article is whether research on adolescent development indicates that adolescents and adults differ in ways that warrant their differential treatment when they violate the law. More specifically, I ask how this research informs debate about three fundamental questions that continue to challenge the justice system: (*a*) Should adolescents be held to adult standards of criminal culpability and, accordingly, exposed to the same punishment as adults; (*b*) Do adolescents possess the necessary capabilities to function as competent defendants in an adversarial court proceeding; and (*c*) How are juvenile offenders affected by the sorts of punitive sanctions that became increasingly popular during the past several decades?

It is now incontrovertible that psychological development continues throughout adolescence and into young adulthood in ways that are relevant to all three questions. Although basic cognitive competence matures by the time individuals reach age 16, many of the social and emotional capacities that influence adolescents'

judgment and decision making, especially outside the psychologist's laboratory, continue to mature into late adolescence and beyond. Compared to individuals in their mid to late twenties, adolescents even as old as 18 are more impulsive, less oriented to the future, and more susceptible to the influence of their peers. In addition, because adolescence is also period during which individuals are still acquiring the psychological capacities they will need to successfully transition into adult work and family roles, it is important that the sanctions to which juvenile offenders are exposed not adversely affect their development. Recent research on the neural underpinnings of these developments does not change the portrait of adolescent immaturity painted by behavioral research, but it does add detail and support to the argument that makes the story more compelling. It is one thing to say that adolescents don't control their impulses, stand up to peer pressure, or think through the consequences of their actions as well as adults; it is quite another to say that don't because they can't.

Because American criminal law clearly provides that diminished judgment mitigates criminal responsibility, it is reasonable to argue that adolescents are inherently less blameworthy than their elders in ways should affect decisions about criminal punishment; as a class, adolescents are inherently less blameworthy than adults. The picture that emerges from an analysis of the capacities necessary for competence to stand trial is not the same, however. Here the relevant research indicates that some adolescents (generally, those 16 and older) have adult-like capabilities but that others (generally those 15 and younger) may not. Research on the impact of punitive sanctions on adolescent development and behavior, although not explicitly developmental in nature, indicates that trying adolescents as adults or exposing them to especially harsh sanctions does little to deter offending and may indeed have iatrogenic effects.

Although justice system policy and practice cannot, and should not, be dictated solely by studies of adolescent development, the ways in which we respond to juvenile offending should at the very least be informed by the lessons of developmental science. Taken together, the lessons of developmental science offer strong support for the maintenance of a separate juvenile justice system in which adolescents are judged, tried, and sanctioned in developmentally appropriate ways. Using developmental science to inform juvenile justice policy is not a panacea that will solve the problem of youth crime. Adolescents will always get in trouble, sometimes very serious trouble, and some will continue to offend, despite the state's best efforts to respond to their crimes in ways that will deter future offending. At the same time, the future prospects of some youths will be harmed by a system that holds them to adult levels of accountability for their crimes under our transfer rules. No one policy regime will yield good outcomes for all young offenders, but looking to developmental research to guide our decision making provides a solid framework for policies and practices that will enhance public safety in the long run by promoting healthy adolescent development.

SUMMARY POINTS

1. During the past two decades, policies and practices concerning the treatment of juvenile offenders in the United States became increasingly punitive, as evidenced by the increase in the number of juveniles tried as adults and the expanded use of harsh sanctions within both the juvenile and criminal justice systems. This was a break from the traditional model of juvenile justice, which emphasized rehabilitation rather than punishment as its core purpose, that had prevailed for most of the twentieth century.

2. In order to make well-informed decisions about the treatment of juveniles who have entered the juvenile justice pipeline, therefore, policymakers, practitioners, and mental health professionals need to be familiar with the developmental changes that occur during childhood and adolescence in the capabilities and characteristics that are relevant to their competence to stand trial, their criminal culpability, and their likely response to treatment.
3. Brain maturation continues well into young adulthood, and although individuals, on average, perform at adult levels on tests of basic cognitive ability by the time they are 16, most do not attain adult-like levels of social and emotional maturity until very late in adolescence or early in adulthood. Compared to adults, adolescents are more susceptible to peer influence, less oriented to the future, more sensitive to short-term rewards, and more impulsive.
4. This research on adolescent brain, cognitive, and psychosocial development supports the view that adolescents are fundamentally different from adults in ways that warrant their differential treatment in the justice system. An analysis of factors that mitigate criminal responsibility under the law indicates that adolescents are inherently less culpable than are adults and should therefore be punished less severely. In addition, studies of competence to stand trial indicate that those who are under 16 are more likely to be incompetent than are adults, raising questions about the appropriateness of trying younger adolescents in criminal court.
5. Studies of the impact of punitive sanctions on adolescent development and behavior, including prosecuting and sanctioning adolescents as adults, indicate that they do not deter adolescents from breaking the law and may in fact increase recidivism. In contrast, family-based interventions have been shown to be both effective and cost effective.

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The author is not aware of any biases that might be perceived as affecting the objectivity of this review.

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LITERATURE CITED

Belter R, Grisso T. 1984. Children's recognition of rights violations in counseling. *Prof. Psychol. Res. Pract.* 15:899–910

Berg W, Byrd D. 2002. The Tower of London spatial problem solving task: enhancing clinical and research implementation. *J. Exp. Clin. Neuropsychol.* 25:586–604

Bishop D, Frazier C. 2000. Consequences of transfer. In *The Changing Borders of Juvenile Justice*, ed. J Fagan, F Zimring, pp. 227–77. Chicago: Univ. Chicago Press

Casey BJ, Getz S, Galvan A. 2008. The adolescent brain. *Dev. Rev.* 28:62–77

Cauffman E, Shulman E, Claus E, Banich M, Steinberg L, et al. 2008. Responding to reward versus punishment: how adolescents differ from adults in performance on the Iowa Gambling Task. Dept. Psychol. Social Behav., Univ. Calif., Irvine. Manuscr. under review

Cauffman E, Steinberg L, Piquero A. 2005. Psychological, neuropsychological, and psychophysiological correlates of serious antisocial behavior in adolescence: the role of self-control. *Criminology* 43:133–76

Collins WA, Steinberg L. 2006. Adolescent development in interpersonal context. In *Social, Emotional, and Personality Development. Handbook of Child Psychology*, ed. W Damon, R Lerner, N Eisenberg, pp. 1003–67. New York: Wiley

Conklin H, Luciana M, Hooper C, Yarger R. 2007. Working memory performance in typically developing children and adolescents: behavioral evidence of protracted frontal lobe development. *Dev. Neuropsychol.* 31:103–28

Cooper D. 1997. Juveniles' understanding of trial-related information: Are they competent defendants? *Behav. Sci. Law* 15:167–80

Crone EA, Bunge SA, Latenstein H, Van Der Molen MW. 2005. Characterization of children's decision making: sensitivity to punishment frequency, not task complexity. *Child Neuropsychol.* 11:245–63

Crone EA, Van Der Molen MW. 2004. Developmental changes in real life decision making: performance on a gambling task previously shown to depend on the ventromedial prefrontal cortex. *Dev. Neuropsychol.* 25:251–79

Dahl R. 2001. Affect regulation, brain development, and behavioral/emotional health in adolescence. *CNS Spectr.* 6:1–12

Dahl R. 2004. Adolescent brain development: a period of vulnerabilities and opportunities. *Ann. N. Y. Acad. Sci.* 1021:1–22

Fagan J. 1996. The comparative impacts of juvenile and criminal court sanctions on adolescent felony offenders. *Law Policy Rev.* 18:77–119

Fagan J. 2008. Juvenile crime and criminal justice: resolving border disputes. *Fut. Child.* 18(2):81–118

Feld BC. 1993. Criminalizing the American juvenile court. *Crime Just.* 17:197–280

Galvan A, Hare T, Voss H, Glover G, Casey BJ. 2007. Risk-taking and the adolescent brain: Who is at risk? *Dev. Sci.* 10:F8–14

Gardner M, Steinberg L. 2005. Peer influence on risk-taking, risk preference, and risky decision-making in adolescence and adulthood: an experimental study. *Dev. Psychol.* 41:625–35

Gardner W. 1993. A life-span rational choice theory of risk taking. In *Adolescent Risk Taking*, ed. N Bell, R Bell, pp. 66–83. Newbury Park, CA: Sage

Greene A. 1986. Future time perspective in adolescence: the present of things future revisited. *J. Youth Adolesc.* 15:99–113

Greenwood P. 2006. *Changing Lives: Delinquency Prevention as Crime Control Policy*. Chicago: Univ. Chicago Press

Grisso T. 1981. *Juveniles' Waiver of Rights: Legal and Psychological Competence*. New York: Plenum

Grisso T, Vierling L. 1978. Minors' consent to treatment: a developmental perspective. *Prof. Psychol.* 9:412–26

Grisso T, Steinberg L, Woolard J, Cauffman E, Scott E, et al. 2003. Juveniles' competence to stand trial: a comparison of adolescents' and adults' capacities as trial defendants. *Law Hum. Behav.* 27:333–63

Grosbras M, Jansen M, Leonard G, McIntosh A, Osswald K, et al. 2007. Neural mechanisms of resistance to peer influence in early adolescence. *J. Neurosci.* 27:8040–45

Gustafson K, McNamara J. 1987. Confidentiality with minor clients: issues and guidelines for therapists. *Prof. Psychol. Res. Pract.* 18:503–8

Hale S. 1990. A global developmental trend in cognitive processing speed. *Child Dev.* 61:653–63

Hooper C, Luciana M, Conklin H, Yarger R. 2004. Adolescents' performance on the Iowa Gambling Task: implications for the development of decision making and ventromedial prefrontal cortex. *Dev. Psychol.* 40:1148–58

Kail R. 1997. Processing time, imagery, and spatial memory. *J. Exp. Child Psychol.* 64:67–78

Keating D. 2004. Cognitive and brain development. In *Handbook of Adolescent Psychology*, ed. R Lerner, L Steinberg, pp. 45–84. New York: Wiley. 2nd ed.

Provides an excellent summary of research on the impact of trying juveniles as adults on adolescents' behavior, mental health, and recidivism.

Furnishes a comprehensive analysis of the effectiveness of various approaches to preventing and treating juvenile delinquency.

Landmark empirical study that demonstrates that in comparison to adults, individuals under 16 are more likely to be incompetent to stand trial.

Krisberg B, Austin J. 1993. *Reinventing Juvenile Justice*. Newbury Park, CA: Sage
Kuhn D. 2009. Adolescent thinking. See Lerner & Steinberg 2009. In press
Lerner R, Steinberg L, eds. 2009. *Handbook of Adolescent Psychology*. New York: Wiley. 3rd ed. In press
Leshem R, Glicksohn J. 2007. The construct of impulsivity revisited. *Personal. Individ. Differ.* 43:681–91
Lipsey M. 1995. What do we learn from 400 research studies on the effectiveness of treatment with juvenile delinquents? In *What Works? Reducing Reoffending*, ed. J McGuire, pp. 63–78. New York: Wiley
Lipsey M. 1999. Can rehabilitative programs reduce the recidivism of young offenders? An inquiry into the effectiveness of practical programs. *Va. J. Soc. Policy Law* 6:611–41
Luna B, Thulborn K, Munoz D, Merriam E, Garver K, et al. 2001. Maturation of widely distributed brain function subserves cognitive development. *Neuroimage* 13:786–93
Mack J. 1909. The juvenile court. *Harv. Law Rev.* 23:104–22
Millstein S, Halpern-Felsher B. 2002. Perceptions of risk and vulnerability. *J. Adolesc. Health* 31S:10–27
Moffitt T. 1993. Adolescence-limited and life-course persistent antisocial behavior: a developmental taxonomy. *Psychol. Rev.* 100:674–701
Mulvey E, Leistico A. 2008. Improving professional judgments of risk and amenability in juvenile justice. *Fut. Child.* 18(2):35–58
Nurmi J. 1991. How do adolescents see their future? A review of the development of future orientation and planning. *Dev. Rev.* 11:1–59
Overton W. 1990. Competence and procedures: constraints on the development of logical reasoning. In *Reasoning, Necessity, and Logic: Developmental Perspectives*, ed. W Overton, pp. 1–32. Hillsdale, NJ: Erlbaum
Paus T. 2005. Mapping brain maturation and cognitive development during adolescence. *Trends Cogn. Sci.* 9:60–68
Paus T, Toro R, Leonard G, Lerner J, Lerner R, et al. 2008. Morphological properties of the action-observation cortical network in adolescents with low and high resistance to peer influence. *Soc. Neurosci.* In press
Peterson-Badali M, Abramovitch R. 1993. Grade related changes in young people's reasoning about plea decisions. *Law Hum. Behav.* 17:537–52
Piquero A, Farrington D, Blumstein A. 2003. The criminal career paradigm: background and recent developments. *Crime Just.* 30:359–506
Platt A. 1977. *The Child Savers: The Invention of Delinquency*. Chicago: Univ. Chicago Press. 2nd ed.
Roper v. Simmons, 541 U.S. 1040 2005
Scott E, Grisso T. 2005. Developmental incompetence, due process, and juvenile justice policy. *N. C. Law Rev.* 83:793–846
Scott E, Reppucci N, Woolard J. 1995. Evaluating adolescent decision making in legal contexts. *Law Hum. Behav.* 19:221–44
Scott E, Steinberg L. 2008. *Rethinking Juvenile Justice*. Cambridge, MA: Harvard Univ. Press
Sisk C, Foster D. 2004. The neural basis of puberty and adolescence. *Nat. Neurosci.* 7:1040–47
Sisk C, Zehr J. 2005. Pubertal hormones organize the adolescent brain and behavior. *Front. Neuroendocrinol.* 26:163–74
Smetana J, Campione-Barr N, Metzger A. 2006. Adolescent development in interpersonal and societal contexts. *Annu. Rev. Psychol.* 57:255–84
Steinberg L. 2004. Risk-taking in adolescence: What changes, and why? *Ann. N. Y. Acad. Sci.* 1021:51–58
Steinberg L. 2007. Risk-taking in adolescence: new perspectives from brain and behavioral science. *Curr. Dir. Psychol. Sci.* 16:55–59
Steinberg L. 2008. A social neuroscience perspective on adolescent risk-taking. *Dev. Rev.* 28:78–106
Steinberg L, Albert D, Cauffman E, Banich M, Graham S, Woolard J. 2008a. Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: evidence for a dual systems model. *Dev. Psychol.* In press
Steinberg L, Cauffman E. 1996. Maturity of judgment in adolescence: psychosocial factors in adolescent decisionmaking. *Law Hum. Behav.* 20:249–72
Steinberg L, Cauffman E, Woolard J, Graham S, Banich M. 2009. Are adolescents less mature than adults? Minors' access to abortion, the juvenile death penalty, and the alleged APA "flip-flop." *Am. Psychol.* In press

Provides a legal analysis of how the justice system might best take the developmental incompetence of juveniles into account. Argues that a lower standard of competence should be used in juvenile than in criminal court.

Calls for juvenile justice reform based on the scientific study of adolescent development. Supplies useful summaries of literatures on adolescents' criminal culpability, competence to stand trial, and response to intervention.

Discusses how brain development in adolescence affects risk taking and reckless behavior, in which the heightened vulnerability of middle adolescence is highlighted.

Steinberg L, Chung H, Little M. 2004. Reentry of young offenders from the justice system: a developmental perspective. *Youth Violence Juv. Just.* 1:21–38

Steinberg L, Graham S, O'Brien L, Woolard J, Cauffman E, Banich M. 2008b. Age differences in future orientation and delay discounting. *Child Dev.* In press

Steinberg L, Monahan K. 2007. Age differences in resistance to peer influence. *Dev. Psychol.* 43:1531–43

Steinberg L, Schwartz R. 2000. Developmental psychology goes to court. In *Youth on Trial: A Developmental Perspective on Juvenile Justice*, ed. T Grisso, R Schwartz, pp. 9–31. Chicago: Univ. Chicago Press

Steinberg L, Scott E. 2003. Less guilty by reason of adolescence: developmental immaturity, diminished responsibility, and the juvenile death penalty. *Am. Psychol.* 58:1009–18

Teicher M, Andersen S, Hostetter J. 1995. Evidence for dopamine receptor pruning between adolescence and adulthood in striatum but not nucleus accumbens. *Dev. Brain Res.* 89:167–72

Weithorn L, Campbell S. 1982. The competency of children and adolescents to make informed treatment decisions. *Child Dev.* 53:1589–98

Zimring F. 1998. *American Youth Violence*. New York: Oxford Univ. Press

Discusses why adolescents, by virtue of developmental immaturity, are inherently less culpable than adults. Cited multiple times by U.S. Supreme Court in its decision to abolish juvenile death penalty.

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Less Guilty by Reason of Adolescence

Developmental Immaturity, Diminished Responsibility, and the Juvenile Death Penalty

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The authors use a developmental perspective to examine questions about the criminal culpability of juveniles and the juvenile death penalty. Under principles of criminal law, culpability is mitigated when the actor's decision-making capacity is diminished, when the criminal act was coerced, or when the act was out of character. The authors argue that juveniles should not be held to the same standards of criminal responsibility as adults, because adolescents' decision-making capacity is diminished, they are less able to resist coercive influence, and their character is still undergoing change. The uniqueness of immaturity as a mitigating condition argues for a commitment to a legal environment under which most youths are dealt with in a separate justice system and none are eligible for capital punishment.

Since 1990, only a handful of countries in the world—Congo, Iran, Yemen, Saudi Arabia, Pakistan, Nigeria, and the United States—have executed individuals whose crimes were committed when they were juveniles (Bradley, 2002; de la Vega, 2002). Twenty-one states in the United States allow the execution of individuals under the age of 18, and in most of these states, adolescent offenders as young as 16 can be sentenced to death (Streib, 2002). The United States Supreme Court has held that the death penalty is unconstitutional for youths who are under 16 at the time of their offense (*Thompson v. Oklahoma*, 1998) but has declined to categorically prohibit capital punishment for 16- and 17-year-olds (*Stanford v. Kentucky*, 1989).

Several events have occurred recently that, considered together, suggest that it is time to reexamine the constitutionality of the juvenile death penalty. First, in *Atkins v. Virginia* (2002), the Supreme Court ruled that the execution of mentally retarded offenders violates the U.S. Constitution; some of the reasons offered by the Court for the ban may also apply to the capital punishment of juveniles. Second, following the *Atkins* decision, three Supreme Court justices took the unusual step of urging reconsideration of the constitutional status of the juvenile death penalty, suggesting considerable dissatisfaction at the highest level with current doctrine (Lane, 2002). Finally, after the apprehension of the Washington-area serial snipers, one of whom, Lee Malvo, was 17 years old, prosecutors vied for the right to try the case in their jurisdiction. It was widely speculated that Attorney General Ashcroft selected Virginia as the venue, in large part, because that jurisdiction permits the execution of juveniles, whereas Maryland, where the majority of the killings took place, does not (Lichtblau, 2002). Thus, this highly publicized case has focused national attention on the debate over the juvenile death penalty.

The juvenile death penalty is a critically important issue in juvenile crime policy, but it is not our sole focus in this article. We are interested in the broader question of whether juveniles should be punished to the same extent as adults who have committed comparable crimes. Capital punishment is the extreme case, but in practical effect, it is not the most important one in an era in which youth crime policy has become increasingly punitive. The question of whether juveniles should be punished like adults is important to discussions about sentencing guidelines, the transfer of juvenile offenders into the adult criminal justice system, and the incarceration of juveniles in adult facilities (Fagan & Zimring, 2000). High-profile murder cases, like those involving Lee Malvo or Lionel Tate, the Florida 14-year-old who was sentenced to life in prison for killing a playmate during a wrestling match, generate public attention to these matters (e.g., Browning, 2001), but questions about the appropriate punishment of juvenile offenders arise in many less visible cases, including those involving nonviolent crimes such as drug selling (Clary, 2001).

In this article, we draw on research and theory about adolescent development to examine questions about the criminal culpability of juveniles. Recent shifts in juvenile justice policy and practice toward the harsher treatment of youthful offenders are grounded in concerns about public protection and the belief that there is no good reason to exercise leniency with young offenders. This view rejects

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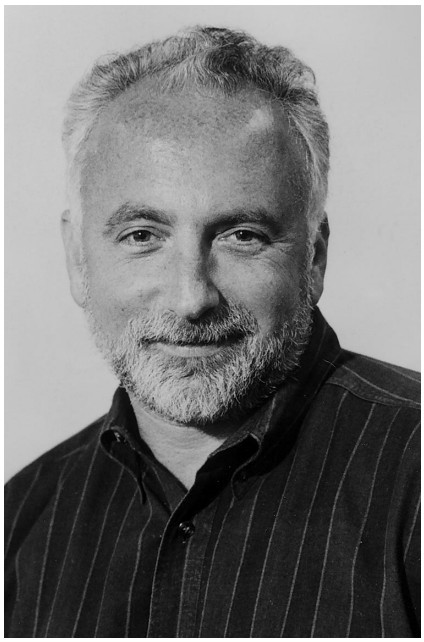

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the conventional wisdom behind traditional juvenile justice policy and challenges those who support reduced punishment for juveniles to justify a separate, more lenient justice regime for young offenders. We accept this challenge, and we argue that emerging knowledge about cognitive, psychosocial, and neurobiological development in adolescence supports the conclusion that juveniles should not be held to the same standards of criminal responsibility as adults. Under standard, well-accepted principles of criminal law, the developmental immaturity of juveniles mitigates their criminal culpability and, accordingly, should moderate the severity of their punishment.

Excuse and Mitigation in the Criminal Law

The starting point for our argument is the core principle of penal proportionality—the foundation of any legitimate system of state punishment (Bonnie, Coughlin, & Jeffries, 1997). Proportionality holds that fair criminal punishment is measured not only by the amount of harm caused or threatened by the actor but also by his or her blameworthiness. Thus, the question we address is whether, and in what ways, the immaturity of adolescent offenders is relevant to their blameworthiness and, in turn, to appropriate punishment for their criminal acts. Answering this question requires a careful examination of the developmental capacities and processes that are relevant to adolescent criminal choices, as well as the conditions and circumstances that reduce culpability in the criminal law (Scott & Steinberg, 2003).

As a preliminary matter, it is important to distinguish between excuse and mitigation, two constructs that are distinct within the law but that are often blurred in laypersons' discussions of crime and punishment (Hart, 1968). In legal parlance, *excuse* refers to the complete exculpation of a criminal defendant; he or she bears no responsibility for the crime and should receive no punishment. Not surprisingly, defenses that excuse actors altogether from criminal liability are very narrowly drawn. For example, crimes committed under extreme duress may be excused—one who acts with a gun to one's head, for instance—whereas crimes committed under less stressful conditions would not (Robinson, 1997; Wasik, 1977). Unlike excuse, which calls for a binary judgment—guilty or not guilty—*mitigation* places the culpability of a guilty actor somewhere on a continuum of criminal culpability and, by extension, a continuum of punishment. Thus, mitigation is a consideration when a harmful act is sufficiently blameworthy to meet the minimum threshold of criminal responsibility, but the actor's capacities are sufficiently compromised, or the circumstances of the crime sufficiently coercive, to warrant *less* punishment than the typical offender would receive. For example, mental illness that distorts an individual's decision making, but that is not severe enough to support an insanity defense, can reduce the grade of an offense or result in a less punitive disposition (Bonnie et al., 1997).

The public debate about the criminal punishment of juveniles is often heated and ill-informed, in part because the focus is typically on excuse when it should be on mitigation. It is often assumed, in other words, that the only alternative to adult punishment of juveniles is no punishment at all—or a slap on the hand. Instead, we argue that the developmental immaturity of adolescence mitigates culpability and justifies more lenient punishment, but that it is not, generally, a basis for excuse—except in the case of *very* young, preadolescent offenders. That is, a juvenile offender, owing to his or her developmental immaturity, should be viewed as *less* culpable than a comparable adult offender, but not as an actor who is without any responsibility for the crime. The public understandably wants to make sure that juvenile offenders are held responsible for their crimes, so that other would-be offenders receive a strong message about the costs of crime, and so that the community is protected from those who might offend again (Bennett, DiIulio, & Walters, 1996). A policy based on mitigation can achieve these goals; at the same time, however, such a policy recognizes that youths are less culpable than adults and punishes them less harshly.

Criminal law doctrine takes account of excuse and mitigation in many ways in calculating the seriousness of offenses and the amount of punishment that is appropriate. For example, defenses such as duress, insanity, and self-defense recognize that actors can cause the harm of the offense but be less culpable than the typical offender—or, in extreme cases, not culpable at all (Robinson, 1997). Also, under the law of homicide, punishment for causing the death of another varies dramatically depending on the blameworthiness of the actor (Michael & Wechsler, 1937). The actor who kills intentionally is deemed less culpable when he or she does so without premeditation and deliberation. One who kills in response to provocation or under extreme emotional disturbance is guilty only of manslaughter, not murder. And a person who causes a victim's death

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through negligence is punished less severely than one who actually intends to kill (Bonnie et al., 1997). Finally, mitigation plays a key role in sentencing. In most states, sentencing guidelines include a list of mitigating factors to be considered in the determination of the amount of punishment the convicted offender should receive. These mitigating factors include traits of the offender and circumstances surrounding the offense that may reduce culpability (Florida Annotated Statutes, 2001).

In general, factors that reduce criminal culpability can be grouped roughly into three categories. The first category includes endogenous impairments or deficiencies in the actor's decision-making capacity that affect his or her choice to engage in criminal activity. The incapacity—or diminished capacity—may be due to mental illness or mental retardation, extreme emotional distress, or susceptibility to influence or domination (Kadish, 1987).

Under the second category, culpability is reduced when the external circumstances faced by the actor are so compelling that an ordinary (or "reasonable") person might have succumbed to the pressure in the same way as did the defendant (Morse, 1994). The extraordinary circumstances could involve duress, provocation, threatened injury, or extreme need. A person who commits a crime in response to these circumstances typically receives less punishment than one who commits a comparable crime under less compelling conditions.

The third category of mitigation includes evidence that the criminal act was out of character for the actor and that, unlike the typical criminal act, his or her crime was not the product of bad character. For example, a reduced sentence might result if the crime was a first offense; if the actor expressed genuine remorse or tried to mitigate the harm; if the actor had a history of steady employment, fulfillment of family obligations, and good citizenship; or, more generally, if the criminal act was aberrant in light of the defendant's established character traits and respect for the law's values (United States Sentencing Commission, 1998).

Developmental Immaturity and Mitigation

Each of the categories of mitigation described in the previous section is important to an assessment of the culpability of adolescents who become involved in crime, and each sheds light on differences between normative adolescents and adults. First, and most obviously, adolescents' levels of cognitive and psychosocial development are likely to shape their choices, including their criminal choices, in ways that distinguish them from adults and that may undermine competent decision making. Second, because adolescents' decision-making capacities are immature and their autonomy constrained, they are more vulnerable than are adults to the influence of coercive circumstances that mitigate culpability for all persons, such as provocation, duress, or threat. Finally, because adolescents are still in the process of forming their personal identity, their criminal behavior is less likely than that of an adult to reflect bad character. Thus, for each of the sources of mitigation in criminal law, typical adolescents are less culpable than are adults because adolescent criminal conduct is driven by transitory influences that are constitutive of this developmental stage.

Deficiencies in Decision-Making Capacity

It is well established that reasoning capabilities increase through childhood into adolescence and that preadolescents and younger teens differ substantially from adults in their cognitive abilities (Keating, 1990). These basic improvements in reasoning are complemented by increases in specific and general knowledge gained through education and experience and by improvements in basic information-processing skills, including attention, short- and long-term memory, and organization (Siegler, 1997)

Although few psychologists would challenge the assertion that most adults have better reasoning skills than preadolescent children, it is often asserted that, by mid-adolescence, teens' capacities for understanding and reasoning in making decisions roughly approximate those of adults (Fischhoff, 1992; Furby & Beyth-Marom, 1992). Indeed, advocates for adolescent self-determination made this argument in support of adolescent abortion rights (American Psychological Association, 1990; Melton, 1983). However, as we and our colleagues have argued in several recent articles, there is good reason to question whether age differences in decision making disappear by mid-adolescence, particularly as capacities may be manifested in the real-world settings in which choices about criminal activity are made (Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996). Laboratory studies that are the basis of the assertion that adolescents' reasoning ability is equivalent to that of adults are only modestly

useful in understanding how youths compare with adults in making choices that have salience to their lives or that are presented in stressful, unstructured settings in which decision makers must rely on personal experience, knowledge, and intuition (Cauffman & Steinberg, 2000; Scott et al., 1995; Steinberg, 2003; Steinberg & Cauffman, 1996). In typical laboratory studies of decision making, individual adolescents are presented with hypothetical dilemmas under conditions of low emotional arousal and then asked to make and explain their decisions. In the real world, and especially in situations in which crimes are committed, however, adolescents' decisions are not hypothetical, they are generally made under conditions of emotional arousal (whether negative or positive), and they usually are made in groups. In our view, it is an open and unstudied question whether, under real-world conditions, the decision making of mid-adolescents is truly comparable with that of adults.

More important, even when teenagers' cognitive capacities come close to those of adults, adolescent judgment and their actual decisions may differ from that of adults as a result of psychosocial immaturity. Among the psychosocial factors that are most relevant to understanding differences in judgment and decision making are (a) susceptibility to peer influence, (b) attitudes toward and perception of risk, (c) future orientation, and (d) the capacity for self-management. Whereas cognitive capacities shape the *process* of decision making, psychosocial immaturity can affect decision-making *outcomes*, because these psychosocial factors influence adolescent values and preferences in ways that drive the cost–benefit calculus in the making of choices. In other words, to the extent that adolescents are less psychosocially mature than adults, they are likely to be deficient in their decision-making capacity, even if their cognitive processes are mature (Cauffman & Steinberg, 2000; Scott et al., 1995; Steinberg & Cauffman, 1996).

There is considerable evidence that the four dimensions of psychosocial maturity described in the previous paragraph continue to develop during the adolescent years. First, substantial research supports the conventional wisdom that, even in middle adolescence, teenagers are more responsive to peer influence than are adults. Studies in which adolescents are presented with hypothetical dilemmas in which they are asked to choose between an antisocial course of action suggested by their peers and a prosocial one of their own choosing indicate that susceptibility to peer influence increases between childhood and early adolescence as adolescents begin to individuate from parental control, peaks around age 14, and declines slowly during the high school years (Berndt, 1979; Steinberg & Silverberg, 1986). Peer influence affects adolescent judgment both directly and indirectly. In some contexts, adolescents make choices in response to direct peer pressure to act in certain ways. More indirectly, adolescents' desire for peer approval—and fear of rejection—affect their choices, even without direct coercion. Peers also provide models for behavior that adolescents believe will assist them in accomplishing their own ends (Moffitt, 1993).

Second, it is well established that over an extended period between childhood and young adulthood, individuals become more future-oriented. Studies in which individuals are asked to envision themselves or their circumstances in the future find that adults project out their visions over a significantly longer time frame than do adolescents (Greene, 1986; Nurmi, 1991). In addition, in studies in which individuals are queried about their perceptions of the short-term and longer term pros and cons of various sorts of risk taking (e.g., the risk of having unprotected sex, Gardner & Herman, 1990) or asked to give advice to others about risky decisions (e.g., whether to have cosmetic surgery; Halpern-Felsher & Cauffman, 2001), adolescents tend to discount the future more than adults do and to weigh more heavily short-term consequences of decisions—both risks and benefits—in making choices. There are at least two plausible explanations for this age difference in future orientation. First, owing to cognitive limitations in their ability to think in hypothetical terms, adolescents simply may be less able than adults to think about events that have not yet occurred (i.e., events that may occur sometime in the future). Second, the weaker future orientation of adolescents may reflect their more limited life experience. For adolescents, a consequence 5 years in the future may seem very remote in relation to how long they have been alive; teens may simply attach more weight to short-term consequences because they seem more salient to their lives (Gardner, 1993).

Third, adolescents differ from adults in their assessment of and attitude toward risk. In general, adolescents use a risk–reward calculus that places relatively less weight on risk, in relation to reward, than that used by adults. When asked to advise peers on making a potentially risky decision, for example (e.g., whether to participate in a study of an experimental drug), adults spontaneously mentioned more potential risks than did adolescents (Halpern-Felsher & Cauffman, 2001). In addition, experimental studies that use gambling tasks show that, compared with those of adults, adolescents' decisions are more driven by rewards and less by risks (see Furby & Beyth-Marom, 1992).

A number of explanations for this age difference have been offered. First, youths' relatively weaker risk aversion may be related to their more limited time perspective, because taking risks is less costly for those with a smaller stake in the future (Gardner & Herman, 1990). Second, adolescents may have different values and goals than do adults, leading them to calculate risks and rewards differently (Furby & Beyth-Marom, 1992). For example, the danger of some types of risk taking (e.g., driving well over the speed limit) could constitute reward for an adolescent but a cost to an adult. In addition, considerable evidence indicates that people generally make riskier decisions in groups than they do alone (Vinokur, 1971); there is evidence both that adolescents spend more time in groups than do adults and, as noted earlier, that adolescents are relatively more susceptible to the influence of others.

Fourth, although more research is needed, the widely held stereotype that adolescents are more impulsive than adults finds some support in research on developmental changes in impulsivity and self-reliance over the course of adolescence. As assessed on standardized self-report per-

sonality measures, impulsivity increases between middle adolescence and early adulthood and declines thereafter, and gains in self-management skills take place during early, middle, and late adolescence (Greenberger, 1982; Steinberg & Cauffman, 1996). Studies using the Experience Sampling Method, in which individuals are paged several times each day and asked to report on their emotions and activities, indicate that adolescents have more rapid and more extreme mood swings (both positive and negative) than adults, which may lead them to act more impulsively (Larson, Csikszentmihalyi, & Graef, 1980). Taken together, these findings indicate that adolescents may have more difficulty regulating their moods, impulses, and behaviors than do adults.

Most of the developmental research on cognitive and psychosocial functioning in adolescence measures behaviors, self-perceptions, or attitudes, but mounting evidence suggests that at least some of the differences between adults and adolescents have neuropsychological and neurobiological underpinnings. What is most interesting is that studies of brain development during adolescence, and of differences in patterns of brain activation between adolescents and adults, indicate that the most important developments during adolescence occur in regions that are implicated in processes of long-term planning, the regulation of emotion, impulse control, and the evaluation of risk and reward (Spear, 2000). For example, changes in the limbic system around puberty may stimulate adolescents to seek higher levels of novelty and to take more risks and may contribute to increased emotionality and vulnerability to stress (Dahl, 2001). At the same time, patterns of development in the prefrontal cortex, which is active during the performance of complicated tasks involving long-term planning and judgment and decision making, suggest that these higher order cognitive capacities may be immature well into late adolescence (Geidd et al., 1999; Sowell, Thompson, Holmes, Jernigan, & Toga, 1999).

At this point, the connection between neurobiological and psychological evidence of age differences in decision-making capacity is indirect and suggestive. However, the results of studies using paper-and-pencil measures of future orientation, impulsivity, and susceptibility to peer pressure point in the same direction as the neurobiological evidence, namely, that brain systems implicated in planning, judgment, impulse control, and decision making continue to mature into late adolescence. Thus, there is good reason to believe that adolescents, as compared with adults, are more susceptible to influence, less future oriented, less risk averse, and less able to manage their impulses and behavior, and that these differences likely have a neurobiological basis. The important conclusion for our purposes is that juveniles may have diminished decision-making capacity compared with adults because of differences in psychosocial capacities that are likely biological in origin.

It is easy to see how psychosocial immaturity can contribute to youthful choices to get involved in crime. Consider the following scenario (adapted from Scott & Grisso, 1997). An adolescent is hanging out with his friends, when one member of the peer group, on spur of the moment, suggests that they rob a passer-by to get money to buy beer. The adolescent does not really go through a deliberative decision-making process but "chooses" to go along, despite having mixed feelings, because he assumes that his standing in the group will suffer if he declines to participate—a negative consequence to which he attaches considerable weight. Although a more mature person might think of options to extricate himself from the situation, the adolescent may not, because he lacks experience in similar circumstances, because the choice is made so quickly, or because he has difficulty projecting the course of events into the future. On top of this, the "adventure" of the hold-up and the possibility of getting some money from it are appealing. These immediate and concrete rewards, along with the reward of peer approval, weigh more heavily in his decision than the abstract and temporally remote possibility of apprehension by the police. The last thing the adolescent considers is the long-term costs associated with conviction of a serious crime.

The available evidence supports the conclusion that, like offenders who are mentally retarded and mentally ill, adolescents are less culpable than typical adults because of diminished decision-making capacity. To some extent, jurists have acknowledged this. In *Thompson v. Oklahoma* (1998), for example, the Supreme Court pointed to the immature judgment of youth in prohibiting the execution of juveniles whose offenses occurred before their 16th birthday. Justice Stevens concluded that to impose the death penalty on youths below this age violates the principle of proportionality:

> Less culpability should attach to a crime committed by a juvenile than to a comparable crime committed by an adult. The basis of this conclusion is too obvious to require extensive explanation. Inexperience, less intelligence and less education make a teenager less able to evaluate the consequences of his or her conduct while at the same time he or she is more apt to be motivated by mere emotion or peer pressure than is an adult. The reasons that juveniles are not trusted with the privileges and responsibilities of an adult also explain why their irresponsible conduct is not as morally reprehensible as that of an adult. (*Thompson v. Oklahoma,* 1998, p. 835)

The Supreme Court decision in *Thompson* does not speak explicitly in the language of adolescent development or support its arguments with scientific research on adolescents' capacities. Nonetheless, the Court's pronouncement can best be understood as a recognition that psychosocial immaturity compromises adolescents' decision making in ways that mitigate criminal blameworthiness.

The Court's recent rejection in *Atkins v. Virginia* (2002) of imposing the death penalty on mentally retarded offenders points more explicitly to the mitigating character of attributes that characterize adolescent decision making as well as those of retarded persons:

> Because of their impairments, . . . [mentally retarded offenders] have diminished capacities to understand and process information, to communicate, to abstract from mistakes and learn from experience, to engage in logical reasoning, to control impulses, and to understand the reactions of others. There is . . . abundant

evidence that they often act on impulse rather than pursuant to a premeditated plan, and that in group settings, they are followers rather than leaders. Their deficiencies do not warrant an exemption from criminal sanctions, but diminish their personal culpability. (*Atkins v. Virginia*, 2002, p. 2250)

Many factors that influence youthful decision making and distinguish adolescents from typical adults are similar to those that compromise the criminal choices of actors who are mentally retarded. Moreover, like offenders who are mentally retarded, there is good reason to believe that the deficiencies of adolescent judgment are organic in nature—although, among adolescents, poor judgment is shaped by transitory developmental factors and, unlike mentally retarded persons, most adolescents will mature out of their tendency to make unwise choices that are driven by the psychosocial influences. Nonetheless, during adolescence, immature judgment is likely no more subject to the volitional control of the youth than is the poor judgment of adults who are mentally retarded.

Heightened Vulnerability to Coercive Circumstances

The psychosocial immaturity of adolescents contributes to their diminished capacity (the first category of mitigation), but it is important to another source of mitigation as well. As we noted earlier, criminal culpability can be reduced on the basis of circumstances that impose extraordinary pressures on the actor. The criminal law does not require exceptional fortitude or bravery of citizens and, in general, recognizes mitigation where an ordinary (or in legal parlance, "reasonable") person might have responded in the same way as the defendant under similar circumstances. In evaluating the behavior of an adolescent in responding to extenuating circumstances, however, the correct basis for evaluation is not comparison of the actor's behavior with that of an "ordinary" adult but rather with that of an "ordinary" adolescent (*In re William G.*, 1987; Scott & Steinberg, 2003).

Because of their developmental immaturity, normative (i.e., "ordinary") adolescents may respond adversely to external pressures that adults are able to resist. If adolescents are more susceptible to *hypothetical* peer pressure than are adults (as noted earlier), it stands to reason that age differences in susceptibility to *real* peer pressure will be even more considerable. Thus, it seems reasonable to hypothesize that a youth would succumb more readily to peer influence than would an adult in the same situation. Similarly, if adolescents are more impulsive than adults, it may take less of a threat to provoke an aggressive response from a juvenile. And, because adolescents are less likely than adults to think through the future consequences of their actions, the same level of duress may have a more disruptive impact on juveniles' decision making than on that of adults. In general, legal judgments about mitigation should consider the extent to which developmentally normal adolescents are more susceptible to external pressures than are adults. Adolescents' claim to mitigation on this ground is particularly compelling in that, as legal minors, they lack the freedom that adults have to extricate themselves from a criminogenic setting (Fagan, 2000).

Although plausible inferences can be drawn about how developmental influences may affect adolescents' responses to external pressures, we do not have sufficient research comparing the behavior of adolescents and adults at varying levels of duress, provocation, or coercion. Some social psychological research has examined contextual influences on decision making—for example, the literature on the *risky shift*, which shows that individuals take more risks in groups than when alone (Vinokur, 1971)—but this research has not examined whether the impact of different contextual factors varies as a function of the decision maker's age. Further, as we noted earlier, studies comparing the decision making of adolescents with that of adults have intentionally minimized the influence of contextual factors that could affect the decision-making process differently for individuals of different ages. Recent evidence on age differences in the processing of emotionally arousing information supports the hypothesis that adolescents may tend to respond to threats more viscerally and emotionally than adults (Baird, Gruber, & Fein, 1999), but far more research on this topic is needed.

Unformed Character as Mitigation

In addition to the mitigating effects of adolescents' diminished decision-making capacity and greater vulnerability to external pressures, youthful culpability is also mitigated by the relatively unformed nature of their characters. As we have noted, the criminal law implicitly assumes that harmful conduct reflects the actor's bad character and treats evidence that this assumption is inaccurate as mitigating of culpability (Duff, 1993; Vuoso, 1986). For most adolescents, the assumption *is* inaccurate, and thus their crimes are less culpable than those of typical criminals.

The emergence of personal identity is an important developmental task of adolescence and one in which the aspects of psychosocial development discussed earlier play a key role. As documented in many empirical tests of Erikson's (1968) theory of the adolescent *identity crisis*, the process of identity formation includes considerable exploration and experimentation over the course of adolescence (Steinberg, 2002a). Although the identity crisis may occur in middle adolescence, the resolution of this crisis, with the coherent integration of the various retained elements of identity into a developed *self*, does not occur until late adolescence or early adulthood (Waterman, 1982). Often this experimentation involves risky, illegal, or dangerous activities like alcohol use, drug use, unsafe sex, and antisocial behavior. For most teens, these behaviors are fleeting; they cease with maturity as individual identity becomes settled. Only a relatively small proportion of adolescents who experiment in risky or illegal activities develop entrenched patterns of problem behavior that persist into adulthood (Farrington, 1986; Moffitt, 1993). Thus, making predictions about the development of relatively more permanent and enduring traits on the basis of patterns of risky behavior observed in adolescence is an uncertain business. At least until late adolescence, individuals' val-

ues, attitudes, beliefs, and plans are likely to be tentative and exploratory expressions rather than enduring representations of personhood. Thus, research on identity development in adolescence supports the view that much youth crime stems from normative experimentation with risky behavior and not from deep-seated moral deficiency reflective of "bad" character. One reason the typical delinquent youth does not grow up to be an adult criminal is that the developmentally linked values and preferences that drive his or her criminal choices as a teenager change in predictable ways as the youth matures.

The distinction between youthful criminal behavior that is attributable to characteristics that adolescents outgrow and conduct that is attributable to relatively more permanent elements of personality is captured in Moffitt's (1993) work on the developmental trajectories of antisocial behavior. In her view, adolescent offenders fall into one of two broad categories: adolescence-limited offenders, whose antisocial behavior begins and ends during adolescence, and a much smaller group of life-course-persistent offenders, whose antisocial behavior begins in childhood and continues through adolescence and into adulthood. According to Moffitt, the criminal activity of both groups during adolescence is similar, but the underlying causes of their behavior are very different. Life-course-persistent offenders show longstanding patterns of antisocial behavior that appear to be rooted, at least in part, in relatively stable psychological attributes that are present early in development and that are attributable to deficient socialization or neurobiological anomalies. Adolescence-limited offending, in contrast, is the product of forces that are inherent features of adolescence as a developmental period, including peer pressure, experimentation with risk, and demonstrations of bravado aimed at enhancing one's status in the social hierarchy of the peer group. By definition, the causes of adolescence-limited offending weaken as individuals mature into adulthood.

In view of what we know about identity development, it seems likely that the criminal conduct of most young wrongdoers is quite different from that of typical adult criminals. Most adults who engage in criminal conduct act on subjectively defined preferences and values, and their choices can fairly be charged to deficient moral character. This cannot be said of typical juvenile actors, whose behaviors are more likely to be shaped by developmental forces that are constitutive of adolescence. To be sure, some adolescents may be in the early stages of developing a criminal identity and reprehensible moral character traits, but most are not. Indeed, studies of criminal careers indicate that the vast majority of adolescents who engage in criminal or delinquent behavior desist from crime as they mature into adulthood (Farrington, 1986). Thus the criminal choices of typical young offenders differ from those of adults not only because the choice, *qua* choice, is deficient as the product of immature judgment, but also because the adolescent's criminal act does not express the actor's bad character.

The notion that individuals are less blameworthy when their crimes are out of character is significant in assessing the culpability of typical young offenders. In one sense, young wrongdoers are not like adults whose acts are less culpable on this ground. A claim that an adult's criminal act was out of character requires a demonstration that his or her established character is good. The criminal choice of the typical adolescent cannot be evaluated in this manner because the adolescent's personal identity is in flux and his or her character has not yet stabilized. However, like the adult offender whose crime is mitigated because it is out of character, adolescent offenders lack an important component of culpability—the connection between a bad act and a bad character.

The fact that antisocial activity in adolescence is not usually indicative of bad character also raises important questions about the construct validity of *juvenile psychopathy*, a "diagnosis" that has recently received considerable attention (Edens, Skeem, Cruise, & Cauffman, 2001; Forth & Burke, 1998; Seagrave & Grisso, 2002; Steinberg, 2002b). Labeling an individual as a *psychopath*—perhaps the quintessential case of "bad character"—implies that the individual's antisocial behavior is due to fixed aspects of his or her personality. But, as we have suggested, this assumption is difficult to defend as applied to individuals whose identity development is still under way. (Indeed, it is for this very reason that the diagnosis of antisocial personality disorder is not made prior to the age of 18; American Psychiatric Association, 1994). Although the notion that some juvenile offenders are actual or "fledgling" psychopaths has become increasingly popular in legal and psychological circles, no data exist on the stability or continuity of psychopathy between adolescence and adulthood. In the absence of evidence that juveniles who, on the surface, resemble adult psychopaths (e.g., juveniles who are callous, manipulative, and antisocial) actually become adult psychopaths, it would seem unwise to use this label when describing an adolescent.

Our analysis also clarifies why the crime of the adult actor with "adolescent" traits warrants a different response than does that of the typical young offender. Although most impulsive young risk takers who focus on immediate consequences will mature into adults with different values, some adult criminals have traits that are similar to their younger counterparts. In the case of the adult, however, the predispositions, values, and preferences that motivate him or her most likely are characterological and are unlikely to change predictably with the passage of time. Adolescent traits that contribute to criminal conduct are normative in adolescence, but they are not typical of adulthood. In an adult, these traits are often part of the personal identity of an individual who is not respectful of the values of the criminal law and who deserves full punishment when he or she violates its prohibitions.

Developmental Immaturity, Diminished Culpability, and the Juvenile Crime Policy

The adolescent who commits a crime typically is not so deficient in his or her decision-making capacity that the

adolescent cannot understand the immediate harmful consequences of his or her choice or its wrongfulness, as might be true of a mentally disordered person or a child. Yet, in ways that we have described, the developmental factors that drive adolescent decision making may predictably contribute to choices reflective of immature judgment and unformed character. Thus, youthful criminal choices may share much in common with those of adults whose criminal behavior is treated as less blameworthy than that of the typical offender, because their criminal behavior is out of character, their decision-making capacities are impaired by emotional disturbance, mental illness, or retardation, or their criminal choices were influenced by unusually coercive circumstances.

If, in fact, adolescent offenders are generally less culpable than their adult counterparts, how should the legal system recognize their diminished responsibility? An important policy choice is whether immaturity should be considered on an individualized basis, as is typical of most mitigating conditions, or as the basis for treating young law violators as a separate category of offenders (Scott & Steinberg, 2003).

We believe that the uniqueness of immaturity as a mitigating condition argues for the adoption of, or renewed commitment to, a categorical approach, under which most youths are dealt with in a separate justice system, in which rehabilitation is a central aim, and none are eligible for the ultimate punishment of death. Other mitigators—emotional disturbance and coercive external circumstances, for example—affect criminal choices with endless variety and have idiosyncratic effects on behavior; thus, individualized consideration of mitigation is appropriate where these phenomena are involved. In contrast, the capacities and processes associated with adolescence are characteristic of individuals in a relatively defined group, whose development follows a roughly systematic course to maturity, and whose criminal choices are affected in predictable ways. Although individual variations exist within the age cohort of adolescence, of course, coherent boundaries can delineate a minimum age for adult adjudication, as well as a period of years beyond this when a strong presumption of reduced culpability operates to keep most youths in a separate system. The age boundary is justified if the presumption of immaturity can be applied confidently to most individuals in the group, as we believe is the case for juveniles. Moreover, a categorical approach to the separation of juveniles and adults offers substantial practical efficiencies over one in which immaturity must be assessed on a case-by-case basis.

A developmentally informed boundary restricting the dispositions that can be imposed on juveniles who have entered the criminal justice system represents a precommitment to taking into account the mitigating character of youth in assigning blame. Without such a commitment, immaturity often may be ignored when the exigencies of a particular case engender a punitive response, as in the case of the accused sniper Lee Malvo. Indeed, absent such a commitment, immaturity is likely to count as mitigating only when the juvenile otherwise presents a sympathetic case or when other, irrelevant factors, such as a childlike physical appearance, lead others to view the offender as relatively less blameworthy. This is a critical concern, given the evidence that racial and ethnic biases influence attitudes about the punishment of young offenders and that decision makers are more likely to discount the mitigating impact of immaturity when judging the behavior of minority youths (Bridges & Steen, 1998; Graham, 2002). A structural boundary that hinders adult adjudication of young offenders and that prohibits the use of the death penalty altogether for juveniles is justified as a counterweight to this pernicious influence.

Maintaining a categorical distinction between juvenile and adult offenders does not mean that all youths are less mature than adults in their decision-making capacity or that all juveniles are unformed in their identity development. Some individuals exhibit mature judgment at an early age (most are not offenders, however), and among others, antisocial tendencies that begin in childhood continue in a stable pattern of criminal conduct that defines their adult character. Adult punishment of psychologically mature youths might be fair if these individuals could be identified with some degree of certainty. But we currently lack the diagnostic tools to evaluate psychosocial immaturity reliably on an individualized basis or to distinguish young career criminals from ordinary adolescents who will repudiate their reckless experimentation as adults. As a consequence, litigating maturity on a case-by-case basis is likely to be an error-prone undertaking. This risk of error is problematic as a general matter, but it is unacceptable when the stakes are life and death. In our view, this risk of error argues against ever imposing the death penalty on young offenders.

A policy that treats immaturity as a mitigating condition is viable only to the extent that public protection is not seriously compromised, and public safety concerns dictate that the small group of young recidivists who inflict large amounts of social harm must be incapacitated as adults. That is not to say that we should "throw away the key" when we incapacitate these youths, however. Given the uncertainty of predicting adult character during adolescence, efforts should be made to protect against the iatrogenic effects of incarceration in prison and to invest in the future postincarceration lives of even serious chronic offenders (Scott & Grisso, 1997).

Ongoing research on the links between brain maturation and psychological development in adolescence has begun to shed light on why adolescents are not as planful, thoughtful, or self-controlled as adults, and, more importantly, it clarifies that these "deficiencies" may be physiological as well as psychological in nature. Nevertheless, we are a long way from comprehensive scientific understanding in this area, and research findings are unlikely to ever be sufficiently precise to draw a chronological age boundary between those who have adult decision-making capacity and those who do not. Some of the relevant abilities (e.g., logical reasoning) may reach adultlike levels in middle adolescence, whereas others (e.g., the ability to resist peer influence or think through the future consequences of

one's actions) may not become fully mature until young adulthood.

Many perspectives can inform debates about youth crime policy and the juvenile death penalty, but surely one should be the science of developmental psychology. Psychologists have much to contribute to discussions about the underpinnings, biological bases, and developmental course of the capacities and competencies relevant to criminal culpability and to the appropriateness of capital punishment for juveniles. Especially needed are studies that link developmental changes in decision making to changes in brain structure and function, and studies that examine age differences in decision making under more ecologically valid conditions.

In our view, however, there is sufficient indirect and suggestive evidence of age differences in capacities that are relevant to criminal blameworthiness to support the position that youths who commit crimes should be punished more leniently than their adult counterparts. Although, as we have noted, the definitive developmental research has not yet been conducted, until we have better and more conclusive data, it would be prudent to err on the side of caution, especially when life and death decisions are concerned. The Supreme Court has repeatedly emphasized that the death penalty is acceptable punishment only for the most blameworthy killers (*Gregg v. Georgia*, 1976; *Lockett v. Ohio*, 1978). All other developed countries have adopted a policy that assumes that adolescents, because of developmental immaturity, simply do not satisfy this criterion. The United States should join the majority of countries around the world in prohibiting the execution of individuals for crimes committed under the age of 18.

REFERENCES

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

American Psychological Association. (1990). *Brief for Amicus Curiae in support of appellees, Hodgson v. Minnesota, 497 U.S. 417, No. 88-805.* Washington, DC: Author.

Atkins v. Virginia, 122 S. Ct. 2242 (2002).

Baird A., Gruber, S., & Fein, D. (1999). Functional magnetic resonance imaging of facial affect recognition in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38,* 195–199.

Bennett, W., DiIulio, J., Jr., & Walters, W. (1996). *Body count.* New York: Simon & Shuster.

Berndt, T. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology, 15,* 608–616.

Bonnie, R., Coughlin, A., & Jeffries, J. (Eds.). (1997). *Criminal law.* New York: Foundation Press.

Bradley, C. A. (2002). The juvenile death penalty and international law. *Duke Law Journal, 52,* 485.

Bridges, G., & Steen, S. (1998). Racial disparities in official assessments of juvenile offenders: Attributional stereotypes as mediating mechanisms. *American Sociological Review, 63,* 554–570.

Browning, M. (2001, March 10). Boy, 14, gets life in TV wrestling death: Killing of 6-yr.-old playmate wasn't just horseplay, Florida judge says. *Chicago Sun-Times,* p. 1.

Cauffman, E., & Steinberg, L. (2000). (Im)maturity of judgment in adolescence: Why adolescents may be less culpable than adults. *Behavioral Sciences and the Law, 18,* 1–21.

Clary, M. (2001, March 20). Boy's life term puts focus on youth punishment. *Los Angeles Times,* p. 1A.

Dahl, R. (2001). Affect regulation, brain development, and behavioral/emotional health in adolescence. *CNS Spectrums, 6,* 1–12.

de la Vega, C. (2002). Amici Curaie urge the U.S. Supreme Court to consider international human rights law in juvenile death penalty case. *Santa Clara Law Review, 42,* 1041–1042.

Duff, R. (1993). Choice, character, and criminal liability. *Law and Philosophy, 12,* 345–383.

Edens, J., Skeem, J., Cruise, K., & Cauffman, E. (2001). The assessment of juvenile psychopathy and its association with violence: A critical review. *Behavioral Sciences and the Law, 19,* 53–80.

Erikson, E. (1968). *Identity: Youth and crisis.* New York: Norton.

Fagan, J. (2000). Contexts of choice by adolescents in criminal events. In T. Grisso & R. Schwartz (Eds.), *Youth on trial: A developmental perspective on juvenile justice* (pp. 371–401). Chicago: University of Chicago Press.

Fagan, J., & Zimring, F. (2000). *The changing borders of juvenile justice: Transfer of adolescents to the criminal court.* Chicago: University of Chicago Press.

Farrington, D. (1986). Age and crime. In M. Tonry & N. Morris (Eds.), *Crime and justice: An annual review of research* (pp. 189–217). Chicago: University of Chicago Press.

Fischhoff, B. (1992). Risk taking: A developmental perspective. In J. Yates (Ed.), *Risk-taking behavior* (pp. 133–162). New York: Wiley.

Florida Annotated Statutes. (2001). *Section 921.0026.* St. Paul, MN: West.

Forth, A., & Burke, H. (1998). Psychopathy in adolescence: Assessment, violence and developmental precursors. In D. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research and implications for society* (pp. 205–229). Boston: Kluwer Academic.

Furby, L., & Beyth-Marom, R. (1992). Risk taking in adolescence: A decision-making perspective. *Developmental Review, 12,* 1–44.

Gardner, W. (1993). A life-span rational choice theory of risk taking. In N. Bell & R. Bell (Eds.), *Adolescent risk taking* (pp. 66–83). Newbury Park, CA: Sage.

Gardner, W., & Herman, J. (1990). Adolescents' AIDS risk taking: A rational choice perspective. In W. Gardner, S. Millstein, & B. Wilcox (Eds.), *Adolescents in the AIDS epidemic* (pp. 17–34). San Francisco: Jossey-Bass.

Gregg v. Georgia, 428 U.S. 153 (1976).

Giedd, J., Blumenthal, J., Jeffries, N., Castllanos, F., Liu, H., Zijdenbos, A., et al. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience, 2,* 861–863.

Graham, S. (2002, March). *Racial stereotypes in the juvenile justice system.* Paper presented at the biennial meeting of the American Psychology-Law Society, Austin, TX.

Greenberger, E. (1982). Education and the acquisition of psychosocial maturity. In D. McClelland (Ed.), *The development of social maturity* (pp. 155–189). New York: Irvington.

Greene, A. (1986). Future-time perspective in adolescence: The present of things future revisited. *Journal of Youth and Adolescence, 15,* 99–113.

Halpern-Felsher, B., & Cauffman, E. (2001). Costs and benefits of a decision: Decision-making competence in adolescents and adults. *Journal of Applied Developmental Psychology, 22,* 257–273.

Hart, H. L. A. (1968). *Punishment and responsibility: Essays in the philosophy of law.* New York: Oxford University Press.

In re William G. (1987) 963 Pacific Reporter 2d 187 (Ariz. App. Div.).

Kadish, S. (1987). Excusing crime. *California Law Review, 75,* 257–296.

Keating, D. (1990). Adolescent thinking. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 54–89). Cambridge, MA: Harvard University Press.

Lane, C. (2002, October 22). For justices, doubts on death penalty. *The Washington Post,* p. A03.

Larson, R., Csikszentmihalyi, M., & Graef, R. (1980). Mood variability and the psychosocial adjustment of adolescents. *Journal of Youth and Adolescence, 9,* 469–490.

Lichtblau, E. (2002, November 3). Feds may let Virginia try sniper case first. *The New York Times,* p. A1.

Lockett v. Ohio, 438 U.S. 586 (1978).

Melton, G. B. (1983). Toward "personhood" for adolescents: Autonomy and privacy as values in public policy. *American Psychologist, 39,* 99–103.

Michael, J., & Wechsler, H. (1937). A rationale of the law of homicide. *Columbia Law Review, 37,* 1267–1350.

Moffitt, T. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100,* 674–701.
Morse, S. (1994). Culpability and control. *Pennsylvania Law Review.* 142, 1587–1660.
Nurmi, J. (1991). How do adolescents see their future? A review of the development of future orientation and planning. *Developmental Review, 11,* 1–59.
Robinson, P. (1997). *Criminal law.* New York: Aspen
Scott, E., & Grisso, T. (1997). The evolution of adolescence: A developmental perspective on juvenile justice reform. *Journal of Criminal Law and Criminology, 88,* 137–189.
Scott, E., Reppucci, N., & Woolard, J. (1995). Evaluating adolescent decision making in legal contexts. *Law and Human Behavior, 19,* 221–244.
Scott, E., & Steinberg, L. (2003). Blaming youth. *Texas Law Review, 81,* 799–840.
Seagrave, D., & Grisso, T. (2002). Adolescent development and the measurement of juvenile psychopathy. *Law and Human Behavior, 26,* 219–239.
Siegler, R. (1997). *Children's thinking* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
Sowell, E., Thompson, P., Holmes, C., Jernigan, T., & Toga, A. (1999). In vivo evidence for post-adolescent brain maturation in frontal and striatal regions. *Nature Neuroscience, 2,* 859–861.
Spear, P. (2000). The adolescent brain and age-related behavioral manifestations. *Neuroscience and Biobehavioral Reviews, 24,* 417–463.
Stanford v. Kentucky, 492 U.S. 361 (1989).
Steinberg, L. (2002a). *Adolescence* (6th ed.). New York: McGraw-Hill.
Steinberg, L. (2002b). The juvenile psychopath: Fads, fictions, and facts. *National Institute of Justice Perspectives on Crime and Justice: 2001 Lecture Series, 5,* 35–64.
Steinberg, L. (2003). Is decision-making the right framework for the study of adolescent risk-taking? In D. Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 18–24). Thousand Oaks, CA: Sage.
Steinberg, L., & Cauffman, E. (1996). Maturity of judgment in adolescence: Psychosocial factors in adolescent decision-making. *Law and Human Behavior, 20,* 249–272.
Steinberg, L., & Silverberg, S. (1986). The vicissitudes of autonomy in early adolescence. *Child Development, 57,* 841–851.
Streib, V. (2002). *The juvenile death penalty today: Death sentences and executions for juvenile crimes, January 1, 1973–November 15, 2002* [Unpublished report]. Retrieved from http://www.law.onu.edu/faculty/streib/juvdeath.pdf
Thompson v. Oklahoma, 487 U.S. 815 (1998).
United States Sentencing Commission. (1998). *United States sentencing guidelines manual: Section 5K2.20.* Washington, DC: Author.
Vinokur, A. (1971). Review and theoretical analysis of the effects of group processes upon individual and group decisions involving risk. *Psychological Bulletin, 76,* 231–250.
Vuoso, G. (1986). Background, responsibility, and excuse. *Yale Law Review, 96,* 1661–1686.
Wasik, M. (1977). Duress and criminal responsibility. *Criminal Law Review,* 453–74.
Waterman, A. (1982). Identity development from adolescence to adulthood: An extension of theory and a review of research. *Developmental Psychology, 18,* 341–358.