

Psychology gives courts, policymakers evidence to help judge adolescents' actions

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Determining when a teenage brain becomes an adult brain is not an exact science but it's getting closer, according to an expert in adolescent developmental psychology, speaking at the American Psychological Association's 120th Annual Convention.

Important changes in adolescent [brain anatomy](#) and activity take place far later in development than previously thought, and those findings could impact how policymakers and the highest courts are treating teenagers, said Laurence Steinberg, PhD. "Explicit reference to the science of [adolescent brain](#) development is making its way into the national conversation," said Steinberg, a professor of psychology at Temple University.

He referred to the recent [Supreme Court](#) ruling in *Miller v. Alabama*, which cited APA's amicus brief explaining the current research. The ruling found that even in cases involving homicide, statutes that provide for mandatory life without parole for juveniles are unconstitutional. APA also filed amicus briefs in two prior Supreme Court cases in which the court ruled that the death penalty and life without parole in non-homicide cases are never constitutional where juveniles are involved.

"The Supreme Court decision that eliminated mandatory life without parole sentences for juveniles in homicide cases was certainly a step in the right direction but might have gone further as it is still possible for an adolescent to receive a sentence of life without parole, even though it isn't mandatory," Steinberg said

Many adolescents developmentally do not have the same control over their actions as mature adults and should be treated differently, according to Steinberg. Specific structural changes occur in the brain during adolescence, as do tremendous changes in how the brain works, he said. For example, from adolescence into early adulthood, there is a strengthening of activity in [brain systems](#)

involving self-regulation, and functional MRIs have shown that reward centers in the adolescent brain are activated more than in children or adults, he said.

"Heightened sensitivity to anticipated rewards motivates adolescents to engage in risky acts, such as unprotected sex, fast driving or drugs when the potential for pleasure is high. This hypersensitivity to reward is particularly pronounced when they're with their friends," he said.

Policymakers face the question of when teenagers are responsible for their actions or can make reasoned decisions, such as in medical situations, and there is no simple answer because it is possible that an adolescent may be mature enough for some but not all decisions, according to Steinberg. The circumstances under which a 16-year-old makes medical decisions or commits crimes are very different and place different demands on their brains and abilities, he said. Brain systems implicated in basic cognitive processes reach adult levels of maturity by mid-adolescence, whereas those that are active in self-regulation do not fully mature until late adolescence or even [early adulthood](#), he noted.

"In other words, adolescents mature intellectually before they mature socially or emotionally, a fact that helps explain why teenagers who are so smart in some respects sometimes do surprisingly dumb things," he said. "From a neuroscientific standpoint, it therefore makes perfect sense to have a lower age for autonomous medical decision-making than for eligibility for capital punishment, because certain [brain](#) systems mature earlier than others."

How the research should be interpreted and applied by policymakers and the courts is an issue behavioral researchers and scientists are considering as their discipline becomes more prominently featured in top legal and policy arguments, Steinberg added. "Some will use this

evidence to argue in favor of restricting adolescents' rights, and others will use it to advocate for policies that protect adolescents from harm," he said. "In either case, scientists should welcome the opportunity to inform policy and legal discussions with the best available empirical evidence."

More information: Presentation: "Should the Science of Adolescent Brain Development Influence Public Policy?" Session 2291, Friday, Aug. 3, 3 p.m., Room W205A, Orange County Convention Center

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