

COMING OF AGE:
MODERN NEUROSCIENCE AND THE EXPANSION
OF JUVENILE SENTENCING PROTECTIONS

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Note

INTRODUCTION

Just weeks after his eighteenth birthday, Terrence Taylor entered the home of his former girlfriend armed with a knife. He had come to the house in a fit of rage with one goal: to assault his former girlfriend, Crystal, and her sister, Sarah. The sisters were inside the house with Crystal's new boyfriend, Edward. Terrence attacked Crystal with the knife, and he stabbed both Sarah and Edward when they attempted to intervene. All three occupants sustained serious stab wounds. The sisters recovered. Crystal's new boyfriend did not. Two years later, Terrence was convicted of first-degree murder. The law required the judge to sentence him to life in prison without the possibility of parole.¹

In the case described above, the judge had no opportunity to consider the young adult's² maturity before sentencing him to a guaranteed lifetime in prison. The judge could not treat this teenager's age as a mitigating factor impacting sentencing. When sentencing Terrence to life in a concrete box, the judge could not contemplate the fact that he likely still had the developing, malleable brain of a boy, not the fully formed brain of a man. Had the judge been able to consider the circumstances surrounding the crime, the judge would have noted that, in committing this offense, Terrence displayed impulsivity, immaturity, and a lack of consideration for the consequences of his actions—all characteristics associated with an adolescent brain, as this Note will explore.

Had Terrence acted just a few weeks earlier, the Supreme Court's holdings in several recent cases addressing juvenile sentencing could have protected him from a lifetime in prison. The Supreme Court has guaranteed individuals younger than eighteen years old freedom from the death penalty and an opportunity to have their youth and the many key attributes that come with it considered during sentencing. However, those rights halt at eighteen. Yet, the human brain often carries those features of youth well into young adulthood. The sentencing authority in a case should have an opportunity to consider those attributes when sentencing young-adult offenders.

1. Taylor v. Winn, No. 18-11711, 2019 WL 2464529, at *1 (E.D. Mich. June 13, 2019).

2. For the purposes of this Note, a young adult is an individual between the ages of eighteen and twenty-one years old. By contrast, a juvenile or minor is an individual younger than eighteen years old.

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Burgeoning neuroscientific research indicates that signatures of the adolescent brain, which the Supreme Court has determined warrant additional protections for juvenile offenders, often persist beyond the age of majority. Much scholarship exists acknowledging these new neuroscientific findings, and some advocates call for the expansion of the protections granted to minors by the Court to individuals older than eighteen years old.³ However, no scholarship currently attempts to provide a practical approach to this expansion. This Note aims to show that, because young adults' brains often maintain key traits of adolescence, a sentencing authority—be it judge or jury—should have an opportunity to apply those protections the Court has granted to juveniles when sentencing young adults. Further, this Note provides a schematic framework that a sentencing authority could use when sentencing a young adult to determine when application of those protections granted to juveniles is appropriate given the non-uniform nature of maturation.

Part I of this Note outlines the Supreme Court's line of juvenile sentencing cases, which have granted criminal offenders younger than eighteen years old increasing protections during sentencing over the course of recent decades. Following this overview, Part II describes the specific traits of the adolescent brain the Court considered in these seminal cases and presents evidence from recent studies showing that these traits often persist beyond the age of majority. With this foundation, Part III presents the argument that sentencing authorities should have the opportunity to consider the age of young offenders between the ages of eighteen and twenty-one years old to determine whether it is appropriate to apply those protections that the Court has granted to juveniles. Finally, Part IV presents a framework by which sentencing authorities may consistently consider these adolescent characteristics in young-adult offenders to aid in determining whether to apply those protections during sentencing.

I. A BRIEF HISTORY OF JUVENILE SENTENCING IN THE SUPREME COURT

The Eighth Amendment prohibits courts from issuing sentences that amount to “cruel and unusual punishment[.]”⁴ “Protection against disproportionate punishment is the central substantive guarantee of the Eighth Amendment,”⁵ and sentences disproportionate to the circumstances of a specific case amount to unconstitutional cruel and unusual punishment.⁶ In the past twenty years, the Supreme Court has articulated that, in cases involving

3. Brittany Cicirello, *Raising the Age of Juvenile Delinquency: What Science Has to Say About the Age of Maturity and Legal Culpability*, 53 PROSECUTOR 4, 4 (Oct. 2019).

4. U.S. CONST. amend. VIII.

5. *Montgomery v. Louisiana*, 136 S. Ct. 718, 732 (2016).

6. *See Graham v. Florida*, 560 U.S. 48, 59 (2010) (“The concept of proportionality is central to the Eighth Amendment.”); *Weems v. United States*, 217 U.S. 349, 366–67 (1910) (holding that a sentence of twelve years of hard labor for the crime of falsifying records was disproportionate and excessive punishment).

juveniles, a sentence is disproportionate and thus in violation of the Eighth Amendment if the court during sentencing fails to consider the juvenile's vulnerability to negative pressure and capacity for rehabilitation.⁷

The cases discussed in this Part present two fundamental principles that the Supreme Court has articulated in recent years. First, these cases define how juvenile offenders are constitutionally different from adults for criminal sentencing purposes. Juvenile offenders' underdeveloped neuroscientific capabilities lessen their criminal culpability.⁸ The Court has held that severe criminal punishment is disproportionate when applied to less culpable defendants,⁹ and these cases clarify this balance between severity and culpability and define what punishments are disproportionate when applied to young offenders.

Second, the following cases illustrate the principle that depriving juvenile offenders of the opportunity to demonstrate reformation by sentencing the juvenile to death or imprisonment for life without the possibility of parole generally fails to serve the traditional goals of criminal punishment—rehabilitation, deterrence, retribution, and incapacitation.¹⁰ Juvenile defendants possess brains that are still developing, and as such, the Court has found that these defendants' characteristics are less concrete and more amenable to rehabilitation.¹¹ Further, because an immature brain is more prone to impulsive and reckless decision-making,¹² severe punishment likely does little to deter juveniles in the future from committing similar offenses. The Supreme Court has held that “[t]he heart of the retribution rationale is that a criminal sentence must be directly related to the personal culpability of the criminal offender.”¹³ As such, “the case for retribution is not as strong with a minor as with an adult.”¹⁴ Finally, incapacitation does not support sentences with such finality in the case of juveniles, because a finding that a “juvenile offender forever will be a danger to society requires the sentencer to make a judgment that the juvenile is incorrigible.”¹⁵ This finding of “incorrigibility is inconsistent with youth.”¹⁶ Thus, as the cases below articulate, the penological justifications for criminal punishment—rehabilitation, deterrence, retribution, and incapacitation—generally are not furthered by sentencing juvenile offenders to severe

7. See *Graham*, 560 U.S. at 76; see also *Miller v. Alabama*, 567 U.S. 460, 474 (2012).

8. *Roper v. Simmons*, 543 U.S. 551, 553 (2005).

9. *Id.* at 554; see also *Atkins v. Virginia*, 536 U.S. 304, 320 (2002) (holding that criminal offenders with intellectual disabilities are less criminally culpable due to diminished intellectual capacity, and thus the death penalty is a disproportionate punishment for such offenders).

10. *Graham*, 560 U.S. at 71; see also *Roper*, 543 U.S. at 571–72; *Miller*, 567 U.S. at 472–73.

11. *Roper*, 543 U.S. at 569–70.

12. *Graham*, 560 U.S. at 78.

13. *Tison v. Arizona*, 481 U.S. 137, 149 (1987).

14. *Graham*, 560 U.S. at 71 (quoting *Roper*, 543 U.S. at 571).

15. *Id.* at 72.

16. *Workman v. Commonwealth*, 429 S.W.2d 374, 378 (Ky. 1968).

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punishments without affording them the opportunity to demonstrate reformation and obtain release.

A. The Supreme Court's Development of Juvenile Sentencing Case Law

In 2012, the Court held in *Miller v. Alabama* that a mandatory sentence of life without the possibility of parole for juveniles generally violates the Eighth Amendment regardless of the crime alleged.¹⁷ The Court based its reasoning in *Miller* on neuroscientific research indicating that young offenders are less capable of rationally evaluating consequences and processing information than adult offenders and are thus less culpable.¹⁸ The Court made clear that, because of this lessened criminal culpability and heightened capacity for positive personal growth, the state must grant the sentencing authority an opportunity during sentencing to evaluate the circumstances of the crime and specific youth-related characteristics of the juvenile offender.¹⁹ Four years after the Court's holding in *Miller*, the Court in *Montgomery v. Louisiana* retroactively applied the prohibition of mandatory life sentences to all juvenile cases.²⁰

The Court has laid a “foundation stone” of precedent for its reasoning in *Miller* that young offenders are less culpable and more receptive to rehabilitation than adult offenders.²¹ In 2002, before addressing juvenile offenders, the Court articulated the concept that individuals with less developed cognitive function should be treated differently for sentencing purposes in the context of sentencing individuals with mental disabilities. The Court held in *Atkins v. Virginia* that sentencing offenders with intellectual disabilities²² to death is a form of cruel and unusual punishment prohibited by the Eighth Amendment.²³ According to the Court, a lowered IQ²⁴ indicates “diminished capacities to understand and process information, to communicate, to abstract from

17. *Miller v. Alabama*, 567 U.S. 460, 470 (2012).

18. *Id.* at 470–71.

19. *Grubbs*, 560 U.S. at 50–51.

20. *Montgomery v. Louisiana*, 136 S. Ct. 718, 732 (2016).

21. *Id.* at 732–33.

22. “Intellectual disability is a disability characterized by significant limitations in both intellectual functioning and in adaptive behavior . . .” *Definition of Intellectual Disability*, AM. ASS'N ON INTELL. & DEVELOPMENTAL DISABILITIES, <https://www.aidd.org/intellectual-disability/definition> (last visited Sept. 8, 2020). An intellectual disability by definition begins to develop before an individual reaches eighteen years old. *Id.*

23. *Atkins v. Virginia*, 536 U.S. 304, 320 (2002).

24. While IQ test scores were once the sole determinant of the severity of an intellectual disability, the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) instead “emphasizes the need to use both clinical assessment and standardized testing of intelligence when diagnosing intellectual disability.” AM. PSYCHIATRIC ASS'N, DSM-5 INTELLECTUAL DISABILITY FACT SHEET 1 (2013). The DSM-5 (published eleven years after the Court's decision in *Atkins*) no longer employs IQ testing as the only method for determining intellectual disability, but a lowered IQ is still considered a factor in the analysis. *Id.* at 2. “[I]ntellectual disability is considered to be approximately two standard deviations or more below the population, which equals an IQ score of about 70 or below.” *Id.*

mistakes and learn from experience, to engage in logical reasoning, to control impulses, and to understand others' reactions."²⁵ Rather than exempt individuals with intellectual disabilities from punishment, the Court held that intellectual disability diminished criminal culpability.²⁶ Thus, the Court in *Atkins* articulated the principle that criminal culpability is diminished if, at the time an offense occurred, the defendant lacked the cognitive ability to fully comprehend the implications and consequences of their actions.²⁷

The Court began to expand application of its reasoning in *Atkins* three years later in *Roper v. Simmons*. The defendant in this case was seventeen years old—a junior in high school—when, accompanied by two fellow teenagers, he broke into a woman's home at night, bound her hands, placed duct tape over her mouth and eyes, and kidnapped her.²⁸ After taking the woman to a state park, the three teenagers threw the woman off a bridge, killing her.²⁹ The teen was convicted of murder and sentenced to death.³⁰ While a plurality of the Court previously determined in *Thompson v. Oklahoma* that execution was an impermissible punishment for defendants convicted of crimes committed when the defendant was younger than sixteen years old,³¹ uncertainty persisted as to whether the Eighth Amendment was violated when a child between the ages of sixteen and eighteen was sentenced to death.³²

The Court in *Roper* held that the execution of offenders who were younger than eighteen years old at the time they committed a crime is a prohibited disproportionate punishment.³³ In coming to this decision, the Court highlighted language from *Thompson* explaining why minors should be treated differently than adults during sentencing: “The reasons why 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.”³⁴ The Court held that young people are constitutionally different from adults for sentencing purposes in three general respects. First, juvenile defendants are distinct from adults because juveniles’ “lack of maturity and an underdeveloped sense of responsibility . . . often result in impetuous and ill-considered actions and decisions.”³⁵ Second, the Court explained that juvenile offenders, unlike their adult counterparts, are more susceptible to negative peer pressure and

25. *Atkins*, 536 U.S. at 305.

26. *Id.*

27. *Id.*

28. *Roper v. Simmons*, 543 U.S. 551, 556 (2005).

29. *Id.* at 556–57.

30. *Id.* at 556.

31. *Thompson v. Oklahoma*, 487 U.S. 815, 838 (1988) (plurality opinion).

32. *See Roper*, 543 U.S. at 562 (citing *Stanford v. Kentucky*, 492 U.S. 361, 370–71 (1989)).

33. *Id.* at 570–71.

34. *Id.* at 561 (alteration in original) (quoting *Thompson*, 487 U.S. at 835).

35. *Id.* at 569 (quoting *Johnson v. Texas*, 509 U.S. 350, 367 (1993)).

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environmental influences.³⁶ Third, the Court emphasized the high potential for rehabilitation in young offenders, pointing to brain development studies indicating that young peoples' characters are not as "well formed" as adults', their traits are "less fixed," and their actions are less likely to be "evidence of irretrievabl[e] deprav[ity]." ³⁷ These studies cited by the Court found that, among juveniles who engage in illegal activity, "[o]nly a relatively small proportion . . . develop entrenched patterns of problem behavior."³⁸ According to the Court, these three distinct attributes of juvenile offenders—immaturity, susceptibility to peer pressure, and increased potential for rehabilitation—make them less criminally culpable and thus inappropriate candidates for the death penalty.³⁹

The holding in *Roper* applied only to juveniles sentenced to execution.⁴⁰ However, the Supreme Court has continued this trend of expansion of Eighth Amendment protections for juveniles in the years following the *Roper* decision. In *Graham v. Florida*, the Court held that sentencing a minor to life without the possibility of parole for a non-homicide offense amounts to disproportionate punishment in violation of the Eighth Amendment.⁴¹ In this case, the defendant was a seventeen-year-old boy who was involved in a home invasion while on probation for a previous attempted robbery charge.⁴² The teen forcibly entered a home, threatened the owner with a pistol, locked the owner in a closet, and ransacked the house.⁴³ Later that night, the defendant was arrested while fleeing the police after attempting a second robbery.⁴⁴ The boy was convicted and sentenced to life in prison without the possibility of parole, the maximum sentence for the offense.⁴⁵

The Court in *Graham* reasoned that "because juveniles have lessened culpability they are less deserving of the most severe punishments"⁴⁶—here, a sentence of life without the possibility of parole. The Court held that, in non-homicide cases, sentencing a juvenile to life in prison without the possibility of parole violates the Eighth Amendment, basing this holding in large part on "developments in psychology and brain science . . . show[ing] fundamental differences between juvenile and adult minds."⁴⁷ This research

36. *Id.*

37. *Id.* at 570.

38. *Id.* (quoting Laurence Steinberg & Elizabeth S. Scott, *Less Guilty by Reason of Adolescence: Developmental Immaturity, Diminished Responsibility, and the Juvenile Death Penalty*, 58 AM. PSYCH. 1009, 1014 (2003)).

39. *Id.* at 570–71.

40. *Id.*

41. *Graham v. Florida*, 560 U.S. 48, 74 (2010).

42. *Id.* at 54–55.

43. *Id.* at 54.

44. *Id.* at 55.

45. *Id.* at 57.

46. *Id.* at 68 (citing *Roper v. Simmons*, 543 U.S. 551, 569 (2005)).

47. *Id.* at 68, 74; *see also* *Miller v. Alabama*, 567 U.S. 460, 471–72 (2012).

found that features of an immature brain include “transient rashness, proclivity for risk, and inability to assess consequences.”⁴⁸ Mirroring its reasoning in *Atkins* and *Roper*, the Court in *Graham* held that a young person’s immature brain lessens “moral culpability”⁴⁹ and enhances the prospect that, as the young person ages and neurological development continues, the young person’s “deficiencies will be reformed.”⁵⁰ The Court further reasoned that a sentence of life without the possibility of parole “forfeits altogether the rehabilitative ideal,”⁵¹ conflicting with the average young person’s scientifically proven ability to change.⁵² Likening a sentence of life without the possibility of parole to a death sentence,⁵³ the Court concluded that sentencing a juvenile to imprisonment for life without any reasonable opportunity for release constitutes disproportionate punishment.⁵⁴ While this holding does not guarantee that the young offender will be released during their natural life, it does ensure that offenders younger than eighteen years old at the time of an offense are given a realistic opportunity to demonstrate rehabilitation and gain release through the parole system. The Court made clear in *Graham* that “[a]n offender’s age is relevant to the Eighth Amendment, and criminal procedure laws that fail to take defendants’ youthfulness into account at all would be flawed.”⁵⁵

Most recently, the Court articulated in *Miller v. Alabama* that a mandatory sentence of life without the possibility of parole for juveniles generally violates the Eighth Amendment regardless of the crime alleged.⁵⁶ The Court considered two cases involving fourteen-year-old offenders, each convicted of murder and sentenced to life without the possibility of parole under a mandatory sentencing scheme.⁵⁷ The Court considered both its previous holdings in *Graham* and *Roper* and its reasoning in a line of Supreme Court cases developing the principle that individualized sentencing is required for defendants facing the most severe penalties. In *Graham*, the Court likened life without the possibility of parole for juvenile offenders to the death penalty, the most severe punishment available.⁵⁸ This likeness, according to the Court in *Miller*, signaled the requirement for an individualized consideration of an offender’s characteristics during sentencing

48. *Miller*, 567 U.S. at 472 (citing *Graham*, 560 U.S. at 68).

49. *Graham*, 560 U.S. at 69.

50. *Id.* at 68 (quoting *Roper*, 543 U.S. at 570).

51. *Id.* at 74.

52. *Id.*

53. *Id.* at 69.

54. *Id.* at 73.

55. *Id.* at 76.

56. *Miller v. Alabama*, 567 U.S. 460, 479 (2012).

57. *Id.* at 465.

58. *Graham*, 560 U.S. at 69.

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when severe punishment is a possibility.⁵⁹ Because severe punishment requires individualized sentencing, and because life without the possibility of parole is a severe punishment in the case of juveniles, any sentencing scheme that does not allow a sentencing authority to consider the particular characteristics of a juvenile offender before sentencing that offender to life in prison without the possibility of parole constitutes cruel and unusual punishment. Thus, any mandatory sentence of life without the possibility of parole for a juvenile violates the Eighth Amendment.

The Court's holding in *Miller* does not eliminate the possibility that a juvenile offender will be denied a chance at parole.⁶⁰ This holding instead requires, before a sentence of life without the possibility of parole is entered for a juvenile, that a sentencing authority has the opportunity to consider the hallmark characteristics of juvenile offenders—"among them, immaturity, impetuosity, and failure to appreciate risks and consequences."⁶¹ As the Court made clear in *Graham*, youthfulness is a key trait to be considered in these circumstances, and *Miller* notes the importance of a sentencer's "ability to consider the 'mitigating qualities of youth.'"⁶² The Court found that a mandatory sentence of life without the possibility of parole for juveniles "prevents those meting out punishment from considering a juvenile's 'lessened culpability' and greater 'capacity for change.'"⁶³

The Court solidified through this series of cases the principle that youth and the many attributes that come with it are mitigating factors that courts must consider when determining a sentence that is constitutionally proportionate to the crime given the defendant's immature brain. These cases dictate that an immature brain, a signature of children and young adults, lessens culpability and heightens capacity for reform. The Court has emphasized repeatedly that "the distinctive attributes of youth diminish the penological justifications for imposing the harshest sentences on juvenile offenders, even when they commit terrible crimes."⁶⁴

59. See *Woodson v. North Carolina*, 428 U.S. 280, 304 (1976) (holding that a sentencing scheme that mandated capital punishment without granting sentencing authorities the opportunity to consider the circumstances of the crime and characteristics of the offender constituted cruel and unusual punishment in violation of the Eighth Amendment).

60. *Miller*, 567 U.S. at 480.

61. *Id.* at 477.

62. *Id.* at 476 (quoting *Johnson v. Texas*, 509 U.S. 350, 367 (1993)).

63. *Id.* at 465 (quoting *Graham*, 560 U.S. at 68).

64. *Id.* at 461; see also *Graham*, 460 U.S. at 72 (noting that young offenders' "diminished moral responsibility" limits the deterrent goals of harsh sentences, such as a sentence of life without the possibility of parole); *Roper v. Simmons*, 543 U.S. 551, 554 (2005) (reasoning that "[w]hen a juvenile commits a heinous crime, the State can exact forfeiture of some of the most basic liberties, but the State cannot extinguish his life and his potential to attain a mature understanding of his own humanity").

II. THE NEUROSCIENCE BEHIND *MILLER*, *GRAHAM*, AND *ROPER*

Miller, *Graham*, and *Roper* dictate that judges have the opportunity to consider decreased culpability and high potential for rehabilitation, key features of an immature brain, when determining a proportionate sentence for a young person.⁶⁵ The line of cases described above generally prohibit permanent deprivation of life without the possibility to demonstrate rehabilitation and obtain release in cases involving young people whose brains are still pliable and susceptible to reform. Their holdings are based in large part on the neuroscientific studies that were available at the time each opinion was published. Thus, a brief overview of the current state of neuroscientific research in the field of adolescent brain development is appropriate and useful to evaluate the argument posited by this Note.

More recent studies considered by lower courts that have expanded the Supreme Court's reasoning in *Miller* indicate that the brain does not suddenly become mature at the age of majority.⁶⁶ In fact, many neuroscientists today agree that the human brain is often still developing in significant regions after eighteen years old, making young adults vulnerable to negative stressors and moldable by environmental factors well into the third decade of life.⁶⁷ The brain often continues to mature after the age of majority, and a sentencer should have the opportunity to consider the impact of a still-developing brain on young offenders' criminal culpability and potential for rehabilitation even if those young people are older than eighteen.

A. Signatures of the Developing Brain: Impulsivity and Neural Plasticity

The human brain generally develops and matures "from back to front."⁶⁸ In other words, the brain becomes fully developed first toward the back of the skull in cortical areas associated with sensory and motor tasks.⁶⁹ While this more basic aspect of brain function becomes fully developed earlier in life, the prefrontal cortex toward the front of the skull—associated with higher cognitive function such as behavioral control, planning, and assessing the risks of a decision⁷⁰—does not fully mature until much later during adolescence and

65. *Miller*, 567 U.S. at 472.

66. See *State v. O'Dell*, 358 P.3d 359, 364 (Wash. 2015) (citing "psychological and neurological studies showing that the 'parts of the brain involved in behavior control' continue to develop well into a person's 20s") (quoting *Miller*, 567 U.S. at 477).

67. Mariam Arain et al., *Maturation of the Adolescent Brain*, 9 NEUROPSYCHIATRIC DISEASE & TREATMENT 449, 452 (2013).

68. Kerstin Konrad et al., *Brain Development During Adolescence: Neuroscientific Insights into This Developmental Period*, 110(25) DEUTSCHES ARZTEBLATT INT'L 425, 427 (2013) (Ger.).

69. *Id.*

70. *Id.*

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early adulthood.⁷¹ Because the prefrontal cortex is still developing during adolescence, a young person may instead rely on the amygdala for decision-making and behavioral responses.⁷² The amygdala is the portion of the brain responsible for processing fear and sending signals that trigger the “fight-or-flight response.”⁷³ This portion of the brain, unlike the prefrontal cortex that is associated with the more controlled responses, is associated with instinctive, emotional, and impulsive responses to stressors.⁷⁴ While an adult with a fully developed prefrontal cortex is capable of rationally evaluating situations and forming appropriate behavioral responses, a younger individual with a less developed prefrontal cortex will instead often base responses to stressful situations on aggression, impulsion, or emotion, leading in many instances to high-risk or violent decision-making.⁷⁵

Profound emotional and cognitive changes occur during this later period of brain development.⁷⁶ The adolescent brain develops advanced cognitive processes controlling thought and behavior, allowing a young adult to exhibit flexibility and adaptability.⁷⁷ This new neural plasticity which presents in late adolescence makes young people “more vulnerable to harmful environmental influences,”⁷⁸ such as negative peer pressure, community violence, and parental neglect or abuse. However, while a young person’s brain is more vulnerable to negative emotional influence, this plasticity phase of development simultaneously makes a young person particularly receptive to emotionally positive models and capable of behavioral change in response to intentional training.⁷⁹ Thus, while the brain in the later phases of development is vulnerable to negative influence, this vulnerability at the same time creates an opportunity to present a young person with positive influences to correct unhealthy habits and attitudes.

B. *Persistence of Developmental Signatures into Young Adulthood*

The protections the Supreme Court afforded juvenile offenders in *Roper*, *Graham*, and *Miller* apply only to offenders below the age of eighteen years old.⁸⁰

71. *Id.*

72. Arain et. al., *supra* note 67, at 455.

73. *Understanding the Stress Response*, HARV. HEALTH PUBL’G. (Mar. 2011), <https://www.health.harvard.edu/staying-healthy/understanding-the-stress-response>.

74. *Id.*

75. See Mara Mather et al., *Amygdala Responses to Emotionally Valenced Stimuli in Older and Younger Adults*, 15 PSYCH. SCI. 259, 259 (2004).

76. Arain et al., *supra* note 67, at 453.

77. *Id.*

78. Konrad et al., *supra* note 68, at 430.

79. *Id.*

80. In choosing to draw the line at 18 years old, the Supreme Court in *Roper* noted:

The qualities that distinguish juveniles from adults do not disappear when an individual turns 18. By the same token, some under 18 have already attained a level of maturity some adults will never

The Supreme Court based its holdings in part on scientific research, which shows that individuals under the age of eighteen possess brains undergoing physical changes that impair decision-making and increase potential for rehabilitation.⁸¹ However, more recent neuroscientific studies show that those physical changes are generally not complete after eighteen years and tend to continue into early adulthood.

In a neuroscientific study published in 2016, individuals aged eighteen to twenty-one years old exhibited diminished cognitive performance under negative emotional arousal relative to individuals older than twenty-one years old.⁸² Researchers found that this decrease in cognitive performance among eighteen- to twenty-one-year-olds was “paralleled by decreased activity in fronto-parietal circuitry, implicated in cognitive control, and increased sustained activity in the ventromedial prefrontal cortex, involved in emotional processes.”⁸³ In other words, reduction in cognitive performance was mirrored by a reduction of activity in the part of the brain responsible for cognitive control and an increase in the activity of the part of the brain responsible for emotional responses. Under negative emotional pressure, eighteen- to twenty-one-year-olds’ brains reverted to emotional rather than logical responses, and this shift in brain activity correlates with decreased cognitive performance generally not seen in individuals older than twenty-one years old.⁸⁴ These results “suggest that young adulthood is a time when cognitive control is still vulnerable to negative emotional influences, in part as a result of continued development of lateral and medial prefrontal circuitry.”⁸⁵ Thus, like juveniles, this study indicates that young adults’ decision-making ability is also highly influenced by their environment.

Young adults are also more prone to risky behavior than individuals older than twenty-one years old.⁸⁶ In a 2008 study of the adolescent brain and its propensity for taking risks, Laurence Steinberg found that “rates of risk-taking are high among 18- to 21-year-olds.”⁸⁷ Steinberg further explained that adolescents and young adults are more likely than adults over twenty-five years

reach. For the reasons we have discussed, however, a line must be drawn The age of 18 is the point where society draws the line for many purposes between childhood and adulthood.

Roper v. Simmons, 543 U.S. 551, 574 (2005).

81. See *Miller v. Alabama*, 567 U.S. 460, 471–72 (2012).

82. Alexandra O. Cohen et al., *When Is an Adolescent an Adult? Assessing Cognitive Control in Emotional and Nonemotional Contexts*, 27 PSYCH. SCI. 549, 559 (2016).

83. *Id.* at 594.

84. *Id.* at 559.

85. *Id.*

86. Laurence Steinberg, *A Social Neuroscience Perspective on Adolescent Risk-Taking*, 28 DEVELOPMENTAL REV. 78, 78 (2008).

87. *Id.* at 78–79.

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old to engage in risky behaviors such as smoking, binge drinking, or engaging in unprotected sex.⁸⁸

III. EXPANDING SENTENCING PROTECTIONS BEYOND THE AGE OF MAJORITY

Considering these neuroscientific findings, the line of demarcation at eighteen years old, which the Supreme Court has set for application of sentencing protections, should be reexamined. In *Miller*, the Supreme Court held, as it had in *Graham* and *Roper*, that the sentencing protections articulated should not be applied to offenders older than eighteen years old at the time of the offense.⁸⁹ The Court in these cases, however, left space to expand the application of its holdings, acknowledging the arbitrary nature of the age of majority.⁹⁰ If the Court held that a sentencing authority must have an opportunity to consider the hallmarks of youth when sentencing individuals with immature brains, and if trustworthy scientific evidence indicates that the brains of individuals between eighteen and twenty-one years old are often still immature, logically the protections outlined in *Miller*, *Graham*, and *Roper* should be applied at least in some form to young offenders older than eighteen years old.

A. *State Law and the Arbitrary Nature of the Age of Majority*

The historic fluctuation of the accepted age of majority highlights both the arbitrary nature of this delineation and a marked precedent of adjusting the definition of “juvenile” in response to changing societal norms and concerns. Today, most states within the United States set the age of legal majority at eighteen years old.⁹¹ However, throughout most of United States history, legal adulthood was generally set at twenty-one years old.⁹² The reasoning for setting the age of majority at twenty-one can be traced to feudal English common law. Under feudal English common law, twenty-one years old was determined to be the age at which a boy could manage the weight of a full suit of armor in battle,⁹³ an exceptionally arbitrary benchmark by modern standards.

88. *Id.* at 79.

89. *See Roper v. Simmons*, 543 U.S. 551, 574 (2005); *Miller v. Alabama*, 567 U.S. 460, 475 (2012).

90. *Id.*

91. While most states set the age of majority at eighteen, Alabama and Nebraska both set their age of majority at nineteen while Mississippi sets its at twenty-one. ALA. CODE § 26-1-1 (2018); NEB. REV. STAT. § 43-2101 (2018); MISS. CODE ANN. § 1-3-27 (1972).

92. Vivian E. Hamilton, *Adulthood in Law and Culture*, WM. & MARY L. SCH. SCHOLARSHIP REPOSITORY 57, 64 (2016).

93. *Id.*

Following the passage of the Twenty-Sixth Amendment in 1971, which set the minimum voting age in federal and state elections at eighteen years old,⁹⁴ nearly all states lowered their age of majority from twenty-one to eighteen.⁹⁵ Still, Alabama, Mississippi, and Nebraska do not consider individuals “adults” within their jurisdictions until after eighteen years old.⁹⁶ Further, while the age of majority is set by most states at eighteen, many states still treat young adults older than eighteen years old as minors with regard to certain activities in which society has deemed it too risky to allow young adults to participate. For example, while the age of majority in most states is set at eighteen years old, no state allows individuals under the age of twenty-one to purchase, possess, or consume alcoholic beverages.⁹⁷ These state statutes illustrate a legal and societal acknowledgement of young adults’ continued susceptibility to peer pressure and inability to clearly assess risks.

B. Case Law Expanding Sentencing Protections

While the Supreme Court has not explicitly applied the reasoning in *Miller* to cases involving offenders older than eighteen at the time of an offense, several lower courts have held that permanently taking the life or liberty of a young adult older than the age of eighteen without consideration of the offender’s developmental immaturity constitutes cruel and unusual punishment.⁹⁸ While most courts have declined to extend the Supreme Court’s holding in *Miller* or its precedential cases to defendants older than eighteen years old, some have begun to recognize that mitigating factors related to youth should be considered when sentencing young adults.

For example, a Kentucky circuit court in *Commonwealth v. Bredhold* expanded the Supreme Court’s reasoning in *Roper*, holding that sentencing any offender younger than twenty-one years old to death was cruel and unusual punishment “given the recent studies by the scientific community.”⁹⁹ This court relied heavily on neuroscientific testimony to conclude that the death penalty is a disproportionate punishment for individuals younger than twenty-one years old because these offenders are demonstrably less criminally culpable and more receptive to rehabilitation efforts than offenders older than twenty-one years

94. U.S. CONST. amend. XXVI.

95. Hamilton, *supra* note 92, at 64–65.

96. *Supra* note 91.

97. Hamilton, *supra* note 92, at 78.

98. See *Com. v. Bredhold*, No. 14-CR-161, 2017 WL 8792559, at *4 (Ky. Cir. Ct. Aug. 1, 2017); *State v. Norris*, No. A-3008-15T4, 2017 WL 2062145, at *5 (N.J. Super. Ct. App. Div. June 17, 2019); *Cruz v. United States*, No. 11-cv-787(JCH), 2018 WL 1541898 (D. Conn. 2018) (applying *Miller* to an eighteen-year-old offender and noting that courts who have chosen not to expand *Miller* have not considered the realities of adolescent brain development).

99. *Bredhold*, 2017 WL 8792559, at *6.

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old.¹⁰⁰ The court in *Bredbold* based its holding on brain development research conducted over the past decade that show that neuroplasticity, the brain’s ability to reorganize in response to environmental changes, continues beyond the legal age of majority.¹⁰¹ The court acknowledged the concept—“now widely accepted among neuroscientists”¹⁰²—that these brain development studies show “key brain systems and structures actually continue to mature well into the mid-twenties.”¹⁰³

In another example, a New Jersey court in May 2017 expanded the Supreme Court’s reasoning in *Miller*, holding that sentencing a twenty-one-year-old to a seventy-five-year sentence violated *Miller* if the court did not “consider at sentencing a youthful offender’s ‘failure to appreciate risks and consequences’ as well as other factors often peculiar to young offenders.”¹⁰⁴ The court held that, in sentencing young adults older than eighteen years old, key mitigating factors of a maturing brain such as poor decision-making, propensity for risk-taking, and amiability to rehabilitation, should be considered to protect the offender’s Eighth Amendment right to freedom from cruel and unusual punishment.¹⁰⁵

An Illinois appellate court in 2015 directly addressed the issue of expanding the consideration of youth-related mitigating factors to offenders older than eighteen.¹⁰⁶ In *People v. House*, the Illinois court considered a habeas case involving a defendant sentenced at nineteen years old to life without the possibility of parole following conviction for multiple murders.¹⁰⁷ The defendant argued, as this Note does, that the Supreme Court, through its reasoning in *Miller*, *Graham*, and *Roper*, created space to expand application to young adults older than eighteen years old.¹⁰⁸ The appellate court agreed, noting that the language used by the Court in *Miller* and its precedential cases demonstrate a rejection of “the notion of looking at sentencing ‘through a historical prism’ in favor of the evolving moral and ethical standards of society.”¹⁰⁹ The court further noted that, while *Miller*, *Graham*, and *Roper* delineated eighteen as the threshold for adulthood, the court did not “believe that this demarcation [] created a bright line rule.”¹¹⁰

100. *Id.*

101. *Id.*

102. *Id.*

103. *Id.*

104. *State v. Norris*, No. A-3008-15T4, 2017 WL 2062145, at *5 (N.J. Super. Ct. App. Div. Jun. 17, 2019) (quoting *Miller v. Alabama*, 567 U.S. 460, 476 (2012)).

105. *Id.*

106. *People v. House*, 72 N.E.3d 357, 384 (Ill. App. Ct. Dec. 24, 2015).

107. *Id.* at 385.

108. *Id.* at 383.

109. *Id.* at 386 (quoting Maureen Dowling, *Juvenile Sentencing in Illinois: Addressing the Supreme Court Trend Away From Harsh Punishments for Juvenile Offenders*, 35 N. ILL. U. L. REV. 611, 619 (2015)).

110. *Id.*

IV. AN INDIVIDUALIZED APPROACH TO THE EXPANSION OF SENTENCING PROTECTIONS TO YOUNG ADULTS

As Chief Justice Earl Warren explained, “The basic concept underlying the Eighth Amendment is nothing less than the dignity of man The Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society.”¹¹¹ Courts now are faced with yet another evolving standard: the neuroscientific community now accepts that traits of adolescence often extend beyond the age of majority. The Supreme Court has held that distinctions between a developing and mature brain are material and must be considered during sentencing. While the Supreme Court halted this required consideration at the age of majority, recent neuroscientific studies indicate that differences between a juvenile and an adult—differences such as increased immaturity, increased susceptibility to peer pressure, and heightened capacity for rehabilitation—often persist into a young person’s twenties.

As the studies described above show, the brains of young adults between eighteen and twenty-one years old often retain hallmarks of adolescence distinct from the more fully-developed brains of individuals older than twenty-one years old.¹¹² These studies indicate that some individuals within this age range possess signatures of an immature brain—diminished responsibility, susceptibility to negative environmental pressure, and amiability to rehabilitation—which the Supreme Court contemplated when articulating sentencing protections for juveniles.

Because some individuals within this age range retain key characteristics of adolescence, sentencing schemes should allow for the extension of the protections the Court has granted to juveniles to individuals between eighteen and twenty-one years old. In other words, in cases in which an individual is convicted of a crime that they committed while between the ages of eighteen and twenty-one years old, the law should leave space for the sentencing authority (be it a judge or jury) to determine, based on the specific circumstances of the case and characteristics of the offender, whether the offender exhibited at the time of the offense traits associated with youth. If, after this preliminary inquiry, the sentencing authority determines that the offender exhibited traits indicating an immature brain, sentencing should proceed as if the offender was a juvenile at the time of the offense, and the sentencing protections, which the Court has articulated in *Miller*, *Graham*, and *Roper*, should apply. Thus, if the sentencing authority finds that the offender likely possesses character traits such as lack of maturity, susceptibility to peer pressure, and inability to perceive risks, that offender should not be eligible for

111. *Trop v. Dulles*, 356 U.S. 86, 100–01 (1958).

112. Cohen et al., *supra* note 82; Steinberg, *supra* note 86.

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capital punishment or a mandatory sentence of life in prison without the possibility of parole.

A blanket application of the protections articulated in *Miller*, *Graham*, and *Roper* to all offenders between the ages of eighteen and twenty-one is inappropriate. The brains of many offenders aged eighteen to twenty-one have clear similarities to those of juveniles protected by the Court's rulings in these cases, but, as the Court and the studies discussed above recognize, individuals reach maturity at different ages.¹¹³ While some young brains exhibit maturity at nineteen years old, others are still developing at twenty-one.¹¹⁴ Instead of a blanket application, in cases involving offenders within this specified age range, the law should account for the non-uniformity inherent in the maturation process and allow a judge to consider specific factors related to the offender's youth on a case-by-case basis to determine whether the sentencing protections available to juveniles should apply in the case before them. Through a balancing of factors, a judge can determine if the offender before them exhibits the hallmarks of youth and thus should be granted the same protections granted to juvenile offenders.

To aid in this determination, sentencing schemes should outline certain factors related to exhibition of the characteristics of youth for the sentencing authority to consider. As an example of potential guideposts a scheme could include, consider the following. In an amicus brief, the Juvenile Justice Center presented the following factors that the organization argued a judge should consider in sentencing children. The organization argued that a judge should consider whether:

- The nature and circumstances of the offense are unrelated to the hallmarks of adolescent development and reflect the [offender's] irreparable corruption;
- The nature and circumstances of the offense are unrelated to the [offender's] family and home environment and reflect the [offender's] irreparable corruption;
- The [offender's] participation in the offense, including the extent of his participation, were unrelated to family and/or peer pressures;
- The [offender's] level of participation in the offense, including the [offender's] participation in both the planning and commission of the offense, reflect the [offender's] irreparable corruption;
- The [offender] possessed the sophistication to competently negotiate the criminal justice system, including his interactions with law enforcement; and

113. See *Roper v. Simmons*, 543 U.S. 551, 574 (2005).

114. Cohen et al., *supra* note 82.

- The [offender's] culpability, age, mental capacity, maturity, criminal sophistication, and other factors dictate a finding that the [offender] cannot be rehabilitated.¹¹⁵

This list of considerations is an ideal example of the factors a sentencing scheme could outline for a sentencing authority to consider when making the preliminary determination of whether to apply the protections the Supreme Court has granted to juveniles. While the Juvenile Justice Center did not develop this list of factors with young adults in mind, these factors illustrate indicators of a mature and fully-developed brain, a brain of an adult that should not be afforded the protections granted to juvenile offenders. A deeper look at the basic concepts underlying these factors illuminates their usefulness as guideposts that sentencing authorities can consider when determining whether sentencing protections should apply to a particular young adult offender.

The six factors listed above reflect three key traits of juvenile offenders: susceptibility to external pressures, inability to perceive risks, and capacity for rehabilitation. Each factor serves as a guidepost, directing a judge or jury to consider the specific facts in each case to determine if this particular eighteen-to twenty-one-year-old offender exhibits these juvenile traits. These considerations need not generate a definitive “yes” or “no” answer; of course, each scenario will be nuanced, and often answers to these questions will not be binary, but instead land on a scale. However, these factors are a helpful tool to guide a judge or jury as they evaluate the totality of the circumstances of a case and characteristics of an offender.

In making this preliminary determination, a presumption would exist—aligning with the current sentencing approach—that an individual reaches maturity (and thus loses the protections granted to juveniles) at the age of majority. Based on the totality of circumstances in a particular case, the sentencing authority must determine whether the facts substantially indicate that this offender exhibited characteristics of a still-developing brain, characteristics which the Supreme Court has held ensure juvenile offenders certain protections during sentencing. If the judge or jury finds that the facts of the case substantially indicate that the presumption of maturity is not appropriate in the case before them, sentencing should proceed as if the offender was a juvenile. In such instances, capital punishment or a mandatory life sentence would constitute cruel and unusual punishment. Instead, the sentencing authority would have the opportunity to consider the offender's youthfulness before determining an appropriate sentence. Just as *Miller* held regarding juvenile offenders, the sentencing authority may still sentence the young adult offender to life in prison without the possibility of parole. However, that decision must be made with the knowledge that the offender

115. Brief for Juvenile Law Ctr. et al. as Amici Curiae Supporting Petitioner at 8, *State v. Long*, 8 N.E.3d 890 (Ohio 2014) (No. 2012-1410).

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would be an exception to the general rule that young people exhibiting the traits of adolescence are generally amicable to reform and rehabilitation.

CONCLUSION

The Supreme Court has in recent decades articulated increasing protections for juvenile offenders during sentencing. Most notably, in *Miller v. Alabama*, the Court held that, in order to avoid a cruel and unusual punishment in violation of the Eighth Amendment, judges should not be forced to sentence juveniles (even juveniles convicted of homicide) to life without the possibility of parole. Instead, the Court held that the sentencing authority must have some opportunity to consider the offender's youthfulness before reaching a decision.

The Court's holdings in *Miller*, *Graham*, and *Roper* centered around a common concept: young people have brains that are still developing, and the characteristics associated with immature brains diminish these young offenders' criminal culpability. These character traits include impulsivity, susceptibility to peer pressure and negative external stimuli, diminished ability to perceive risks, and high propensity for rehabilitation. The Court in these cases drew a bright line for application of its protections at eighteen years old, choosing not to consider the non-uniformity inherent in individual maturation through a more case-specific approach. However, neuroscientific research following the Court's decision in *Miller* has produced what has become a commonplace concept among modern neuroscientists—the human brain is not completely mature by eighteen years old. Current studies show that the human brain continues to display those key character traits of youth well beyond the arbitrary age of majority.

Our judicial system is built to develop and adapt as society's views progress. With this new knowledge about the realities of human brain development, our treatment of young people older than eighteen should adapt. Considering the Court's reasoning that individuals with still-developing brains should be afforded an opportunity to have their youthfulness considered at sentencing, it follows that some level of protection should be granted in certain cases to those older than eighteen years old who have exhibited traits of still-developing brains. Because each brain develops at a different rate, a bright-line rule is inappropriate, as some brains develop fully by eighteen while others do not mature until years later. Research indicates that many brains still indicate some proclivity for traits of youth between the ages of eighteen and twenty-one years old. Thus, a more malleable standard for determining application of the sentencing protection articulated by the Supreme Court is appropriate.

When discussing the parameters of its holding in *Roper*, Justice Anthony Kennedy wrote that "a line must be drawn."¹¹⁶ Instead of a hard line, this Note

116. *Roper*, 543 U.S. at 574.

proposes a balancing scale for those members of society still very likely to possess signature traits of youth. In light of modern neuroscientific advances, the law should account for the individual nature of maturation. Judges should not be required to sentence an individual between eighteen and twenty-one to life in prison without the possibility of parole without first having the discretion to consider the offender's age and whether that offender's actions indicate a still-developing brain. For offenders within this age range, judges should be able to consider factors similar to the six factors presented in this Note to determine if the offender has demonstrated characteristics of an immature brain and thus should be afforded the protections granted to juvenile offenders. As the Court noted in *Miller*, “[Y]outh matters in determining the appropriateness of a lifetime of incarceration without the possibility of parole.”¹¹⁷ Modern neuroscience shows us that the hallmarks of youth do not always end at eighteen years old. Thus, the sentencing protections associated with youth should not always end at eighteen either.

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117. *Miller v. Alabama*, 567 U.S. 460, 474 (2012).