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The Myth of Youth: Rethinking the Negligence Standard of Care for Minors in the Age of Neuroscience

Thomas Salazar*

“Until recently each generation found it more expedient to plead guilty to the charge of being young and ignorant. . .the command to grow up at once was more bearable than the faceless horror of wavering purpose, which was youth.”

* * *


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* J.D., University of the Pacific, McGeorge School of Law, 2022; M.S., Neuroscience, University of California Davis, 2017; B.S., Neuroscience, University of Miami, 2014. I would like to extend my profound thanks to Professor Levine and Professor Brown for their time and effort as faculty advisors to this Comment, and Professor Davies for introducing me to the fascinating world of torts. A thousand thanks to my family, friends, and UCD IRB for their continued support, encouragement, and friendship. I dedicate this article to my father Rafael, my grandfather Tomás, and my stepfather Ali, for being beacons of hope and light in my life.
I. INTRODUCTION

Joseph is a sophomore at his local university, proudly representing the most popular fraternity in school.¹ This year’s “Rush Week” was successful and even more pledges want to join the fraternity than last year.² However, in the spirit of tradition, the new pledges must endure a secret ritual known as “Hell Night” to formally become members of the fraternity.³ Hell Night is finally here: Joseph’s assignment involves pouring kitchen items on the pledges while the pledges walk

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1. See Goodwall Team, Greek Life 101: A Full Introduction into College Fraternities & Sororities, GOODWALL BLOG (June 23, 2021), https://www.goodwall.io/blog/greek-life-college-fraternities-sororities/ (on file with the University of the Pacific Law Review) (defining fraternities as “an invitation-only society for high academic achievers” in college but evolving to include those with “a more social purpose”).

2. See What is Rush?, CAMPUS EXPLORER (Sept. 27, 2021), https://www.campusexplorer.com/student-resources/rush-week/?ref=blog (on file with the University of the Pacific Law Review) (explaining that rush week is recruitment period for new fraternity members; interested recruits become pledges when they accept the invitation to join the fraternity).

3. See Pat Hagerty, Fraternity Hell Week, FRATERNITY ADVISOR (Jan. 23, 2010), https://thefraternaladvisor.com/fraternity-hell-week/ (on file with the University of the Pacific Law Review) (explaining that Hell Night occurs at the end of the new member period and involves various events to keep new members up until early morning); Furek v. Univ. of Del., 594 A.2d 506, 509 (Del. 1991).
blindfolded through the house.\(^4\) After rounds of pancake batter, flour, and ketchup, the other fraternity brothers encourage Joseph to scour the pantry for more kitchen items.\(^5\) In the heat of the moment, Joseph grabs the lye-based liquid oven cleaner and pours it on one of the pledges.\(^6\) The gravity of the situation becomes apparent within minutes.\(^7\) The pledge suffers an adverse reaction to the oven cleaner, which leads to first-degree burns.\(^8\) Consequently, the pledge sues Joseph, the University, and the fraternity for negligence.\(^9\) The jury found that Joseph’s conduct was below the standard required of a “reasonable adult” and held him liable for negligence.\(^10\) Ultimately, the University and the fraternity escaped liability through jurisdictional and post-trial rulings, leaving Joseph liable for the entire judgment.\(^11\)

This anecdote is not fictitious: it is actually the story of Joseph Donchez, who was an upperclassman at the University of Delaware when these incidents occurred.\(^12\) The facts of this case illustrate a fundamental problem with negligence law’s approach to the liability of young adults.\(^13\) Because Donchez was over eighteen years old, the jury judged Donchez under the standard of a reasonable adult, rather than the more relaxed standard of care required of minors.\(^14\) This approach remains the norm in courts across the country.\(^15\) However, modern advances in neuroscience and psychology indicate that adolescent cognitive development continues well into adulthood.\(^16\) While it is too late for Donchez, these scientific insights could expand current negligence standards and bring greater fairness to similarly situated young adults in the future.\(^17\)

The traditional premise for liability in negligence law is fault.\(^18\) Courts find legal fault when an actor’s conduct is unreasonable in light of the risks they perceived—or should have perceived—from their actions.\(^19\) Thus, negligence law

\(^4\) Hagerty, supra note 3.
\(^5\) Id.; Furek, 594 A.2d at 508–12.
\(^6\) Hagerty, supra note 3.
\(^7\) See Rik Helewell, Potential Dangers of Oven Cleaning Products, OVENU BLOG (Jan. 28, 2010), https://www.ovenu.co.uk/blog/potential-dangers-of-oven-cleaning-products/ (on file with the University of the Pacific Law Review) (noting that lye, also known as sodium hydroxide, can cause irritation and burning in humans).
\(^8\) Id.; Furek, 594 A.2d at 510.
\(^9\) See RESTATEMENT (THIRD) OF TORTS § 3 (AM. L. INST. 2010) (“A person acts negligently if the person does not exercise reasonable care under all circumstances.”); Furek, 594 A.2d at 508–12.
\(^10\) RESTATEMENT (THIRD) OF TORTS § 3 (AM. L. INST. 2010).
\(^11\) Id.
\(^12\) Furek, 594 A.2d at 508–12.
\(^13\) Id.
\(^14\) Id.
\(^15\) See OSCAR GRAY ET AL., HARPER, JAMES AND GRAY ON TORTS 149 (3d ed. 2021) (noting that child defendant must technically be a minor for the relaxed standard of care to apply).
\(^16\) See generally Sarah B. Johnson et al., Adolescent Maturity and the Brain: The Promise and Pitfalls of Neuroscience Research in Adolescent Health Policy, 45 J. ADOLESCENT HEALTH 216, 221 (2010).
\(^17\) Id. at 220.
\(^18\) GRAY ET AL., supra note 15, at 64.
\(^19\) Id. at 108–09 (noting that reasonable care is the level of care an individual with ordinary prudence
generally expects all actors to exercise reasonable care and courts rely on the
reasonable person standard to judge whether their conduct was negligent.\textsuperscript{20} However, when the actor is a minor, the law allows consideration of the minor’s
age, intelligence, and experience when determining negligence liability.\textsuperscript{21} One
exception to this rule applies when the minor engages in an adult or inherently
dangerous activity; in those cases, courts uniformly apply the reasonable adult
standard.\textsuperscript{22} Overall, negligence law’s approach to the liability of minors has
remained consistent for well over a century.\textsuperscript{23}
Recent developments in psychology and neuroscience have expanded the
understanding of adolescent cognitive development and their trajectory to
becoming fully mature adults.\textsuperscript{24} Such insights, in turn, hold the promise of future
growth in how the law treats adolescents.\textsuperscript{25} Notably, the scientific literature shows
protracted maturation of key brain regions, including the prefrontal cortex, the
amygdala, and grey and white matter.\textsuperscript{26} These structures are responsible for many
of the brain’s higher functions, and they play an important role in adolescent risk-
taking behavior and susceptibility to peer pressure.\textsuperscript{27} While the influence of
neuroscientific advances already started trickling into criminal law, applications in
the civil context remain sparse.\textsuperscript{28} However, since negligence liability hinges on
human behavior, negligence law represents another legal system ripe for
neuroscience-based reform.\textsuperscript{29}
Modern neuroscience and psychology insights into brain development support
expanding the current negligence standard of care for minors.\textsuperscript{30} This requirement
is consistent with core negligence principles of fault, risk assessment, justice, and
flexibility.\textsuperscript{31} Notably, the prevailing standard of care for minors provides a
workable framework for analyzing the conduct of young adults in negligence

\begin{itemize}
  \item \textsuperscript{20} Id.
  \item \textsuperscript{21} Donald Gee, \textit{The Liability of Children}, 35 TRIAL 52, 53 (1999).
  \item \textsuperscript{22} Id. at 54 (1999).
  \item \textsuperscript{23} Harry Shulman, \textit{The Standard of Care Required of Children}, 37 YALE L.J. 618, 621 (1927); Gee, supra
    note 21.
  \item \textsuperscript{24} Vicki Anderson, \textit{Development of Executive Functions Through Late Childhood and Adolescence in an
    Australian Sample}, 20 DEVELOPMENTAL NEUROPSYCHOLOGY 385, 388 (2001); Johnson et al., supra note 16, at
    220; B.J. Casey & Kristina Caudle, \textit{The Teenage Brain: Self Control}, 22 CURRENT DIRECTIONS PSYCH. SCI. 82,
    85 (2013).
  \item \textsuperscript{25} Johnson et al., supra note 16, at 219.
  \item \textsuperscript{26} See id. at 220 (noting that these brain regions reach full maturity later than previously thought).
  \item \textsuperscript{27} Id.
  \item \textsuperscript{28} See Tim Requarth, \textit{Neuroscience Is Changing the Debate Over What Role Age Should Play in the
    juvenile-inmates-criminal-justice-449000.html (on file with the \textit{University of the Pacific Law Review}) (noting
    that the Supreme Court has relied on neuroscience evidence in recent cases involving juvenile criminal justice).
  \item \textsuperscript{29} See GRAY ET AL., supra note 15, at 103 (“[N]egligence is conduct”).
  \item \textsuperscript{30} Johnson et al., supra note 16, at 220.
  \item \textsuperscript{31} Infra Part II.A.
\end{itemize}
cases.\textsuperscript{32} This Comment proposes courts should extend application of the relaxed standard of care for minors through age twenty-five while maintaining the adult activities doctrine as a critical safety net for negligence victims.\textsuperscript{33} Part II provides the basic framework and principles governing negligence liability.\textsuperscript{34} Part III considers the standard of care required of minors and the adult activities exception.\textsuperscript{35} Part IV explores the issues with negligence law’s current approach to minors and rationales for expanding the standard of care required of minors.\textsuperscript{36} Part V considers the adult activities doctrine in light of the scientific literature.\textsuperscript{37} Part VI discusses the role contributory negligence plays in cases applying the relaxed standard of care.\textsuperscript{38} Part VII articulates the scientific, legal, and cultural challenges associated with expanding the negligence standard of care for minors to age twenty-five.\textsuperscript{39}

II. ORIGINS AND EVOLUTION OF THE NEGLIGENCE STANDARD OF CARE

The Second Restatement of Torts defines negligence as “conduct which falls below the standard established by law for the protection of others against unreasonable risk of harm.”\textsuperscript{40} This standard is objective rather than subjective, which means courts scrutinize negligent conduct based on external behavior rather than the individual’s internal state of mind.\textsuperscript{41} Thus, an actor is negligent when their conduct does not comport with what a reasonable person would do under similar circumstances.\textsuperscript{42} Section A discusses the foundational principles of negligence liability originating from the common law.\textsuperscript{43} Section B describes the evolution of the reasonable person standard and introduces exceptions to the general standard.\textsuperscript{44}

\begin{thebibliography}{99}
\bibitem{32} Gee, supra note 21, at 53.
\bibitem{33} Id.
\bibitem{34} \textit{Infra} Part II.
\bibitem{35} \textit{Infra} Part III.
\bibitem{36} \textit{Infra} Part IV.
\bibitem{37} \textit{Infra} Part V.
\bibitem{38} \textit{Infra} Part VI.
\bibitem{39} \textit{Infra} Part VII.
\bibitem{40} \textit{RESTATEMENT (SECOND) OF TORTS} § 282 (AM. L. INST. 1965).
\bibitem{41} Id.
\bibitem{42} Id.
\bibitem{43} \textit{Infra} Section II.A.
\bibitem{44} \textit{Infra} Section II.B.
\end{thebibliography}
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A. Foundational Principles of Negligence Liability

At the core of negligence liability is the concept of fault: an actor’s conduct must be negligent to deserve legal condemnation. However, legal fault in negligence actions does not faithfully correspond with moral fault. Instead, courts developed a standard that inquires whether an actor’s conduct comports with societal standards of reasonable conduct. This societal standard is objective; thus, negligence suits require measuring an individual’s conduct against that of a reasonable person under similar circumstances. Because the reasonable person is an abstract ideal, courts generally do not consider an individual’s shortcomings—such as poor judgment or clumsiness—when assessing fault. For example, an absentminded law student who accidentally drops heavy books on the librarian is negligent if a reasonable, attentive student would not have dropped the books. Accordingly, some individuals suffer the legal consequences of negligence liability for failing to comply with a standard they cannot meet.

The fault principle relies on whether an individual perceived, or should have reasonably perceived, the risks of their actions. The next step requires determining whether the individual, despite those risks, acted unreasonably. Within this context, risk assessment is fundamental to negligence liability. For example, a railroad company is negligent for not providing security at the premises of a train station with a history of robbery and assault. A grocer who neither knew or should have known of a rattlesnake on market premises, however, is not liable for a customer’s rattlesnake bite injury. Thus, risk assessment is a matter of probability rather than possibility: it requires individuals to analyze the probable risks of their conduct considering the knowledge available to them.

46. See Gray et al., supra note 15, at 108 (noting that moral responsibility, recognizing the difference between right and wrong behavior, does not always equate to legal responsibility in negligence).
47. Id.
48. See Page Keeton et al., Prosser and Keeton on Torts § 32 (5th ed. 1984) (“The standard of conduct which the community demands must be an external and objective one, rather than the individual judgment.”).
50. Id.
51. Id. (noting that courts rejected subjective standards, and that whether the defendant exercised their best individual judgment is irrelevant for purposes of determining negligence liability).
52. See Page Keeton et al., supra note 48 (“[The standard] must make proper allowance for the risk apparent to the actor, for his capacity to meet it, and for the circumstances under which he must act.”).
53. Id.
54. See Foster v. City of Union, 129 S.C. 257 (1924) (holding that the “foundation of liability for negligence is knowledge”).
Just like the negligence fault principle relies on societal standards, negligence principles of justice and fairness also depend on public perception. The law presumes individuals have freedom of choice: an ability to reason and make autonomous behavioral decisions. While an actor can freely expose themselves to risk in pursuit of a goal, justice and fairness dictate that the actor cannot expose oblivious third-parties to involuntary risk. Further, fairness and justice require accountability for injuries and risks an actor should or could have prevented. These overarching principles ensure negligence law comports with community expectations.

Negligence law did not enter American jurisprudence fully developed. Instead, the law evolved over time in a piecemeal approach through a triangular interaction between law professors, judges, and legal practitioners. As society changed, so did negligence jurisprudence. This evolution continues today with the advent of America’s technological advances. However, negligence law has been particularly slow to embrace recent developments in neuroscience. For example, negligence law makes special accommodations for physical infirmities but not for mental illnesses, despite neuroscience showing how physical processes form the basis of mental disability. While inherent within negligence law is the flexibility to adapt to changing conditions, courts will dictate whether current paradigms will evolve in response to neuroscientific advances.

58. See id. at 37 (observing that a legal system must operate fairly to receive public acceptance).
59. See OLIVER WENDELL HOLMES, JR., THE COMMON LAW 87 (1881) (noting that negligence liability is appropriate where the injurer had the “power of avoiding the evil complained of”).
60. See Gregory Keating, Fairness and Two Fundamental Questions in the Tort Law of Accidents 6 (U.S.C. L. Sch. Olin, Working Paper No. 99-21, 2000) (“The circumstance where we voluntarily expose ourselves to risks in the pursuit of our own ends is very different from the circumstance where others involuntarily expose us to risks in the pursuit of their ends.”).
61. See id. (“Negligent risks are ones whose imposition it is fair to ask injurers to prevent; their prevention strikes a fair balance between the claims of liberty and security.”).
62. See GRAY ET AL., supra note 15, at 37 (observing that negligence law must “satisfy the ethical or moral sense of the community”).
63. See T. STREET, FOUNDATIONS OF LEGAL LIABILITY 182 (1906) (noting that the word “negligence” did not appear in any year books or digests of English law before Comyns’ (1762–1767)).
64. Id. at 182–90 (1906); GRAY ET AL., supra note 15, at 48.
65. See STREET, supra note 62, at 182–90 (1906) (noting that negligence developed from strict liability trespass actions, which included nuisance and property damage from spread of fire); GRAY ET AL., supra note 15, at 49 (observing that the shift from strict liability to negligence coincided with the industrial revolution).
67. See Betsy J. Grey, Implications of Neuroscience Advances in Tort Law: A General Overview, 12 IND. HEALTH L. REV. 671, 671 (2015) (“If you look at tort decisions in the last couple of decades and ask what role neuroscience had, the answer is almost none.”).
69. GRAY ET AL., supra note 15, at 118.
B. The Evolution of the Reasonable Person Standard

Renowned legal scholar and Supreme Court Justice Oliver Holmes described the standard for negligence liability as the reasonable “man of ordinary intelligence and prudence.”

Rationales for the universality of the objective standard in negligence courts include practicality, justice, and the protection of injured victims’ interests. Notwithstanding the prevalence of the reasonable person standard, scholars have advocated for a refined standard as new advances in science emerge. Further, several exceptions to the rule have evolved over time. For example, courts hold physically disabled persons to the standard of a reasonable person with a like disability. Certain states employ the negligence per se doctrine, where regulatory schemes concerning public safety often substitute the reasonable person standard. Courts hold professionals, such as doctors and lawyers, to the standard of care established by the custom of their profession. Lastly, courts apply a modified standard of care for minors: comparing a minor’s conduct to that of other reasonable children with like age, intelligence, experience, and maturity.

III. THE STANDARD OF CARE FOR MINORS IN NEGLIGENCE

The standard of care for minors developed early in negligence jurisprudence to recognize the capacity limitations of child defendants. Minors are immature, meaning they are incapable of exercising caution for their own safety and their actions are often impulsive. Typically, courts hold minors to the standard of care for ordinary minors of like age, intelligence, and experience under similar

70. OLIVER WENDELL HOLMES, JR., supra note 59, at 99.
71. See PAGE KEETON ET AL., supra note 48, at 174 (5th ed. 1984) (“[The law] must be, so far as possible, the same for all persons, since the law can have no favorites.”); GRAY ET AL., supra note 15, at 109 (observing that the interest of compensating injured victims is more important than the interest in personalizing the fault principle).
75. See RESTATEMENT (THIRD) OF TORTS § 14 (AM. L. INST. 2010) (“An actor is negligent if . . . the actor violates a statute . . . within the class of person the statute is designed to protect.”).
76. Id. at § 13.
77. Id. at § 10.
78. See Shulman, supra note 23, at 618 (observing that holding minor to the same standard as adults would be to ignore the “facts of life and to burden unduly the child’s growth to majority”).
79. Gee, supra note 21, at 52.
circumstances. 80 While no consensus exists between jurisdictions for an age cut-off to the reasonable person standard, the general threshold is the age of majority: eighteen in most states. 81 The literature provides several rationales for the relaxed standard of care for minors. 82 From a public policy perspective, it would be unfair for courts to hold minors liable based on the reasonable person standard when most minors cannot meet this standard. 83 From a welfare perspective, society wants to encourage minors to develop normally through childhood activities without the risk of adult burdens. 84 Lastly, from a developmental perspective, minors lack the capacity to appropriately appreciate the risks of their actions because their brains are still maturing. 85

While most jurisdictions adopted some variation of the relaxed standard for minors, a few states developed supplementary doctrines in furtherance of judicial expediency and efficiency. 86 For example, the Tender Years Doctrine posits that children under a certain age—which varies by jurisdiction—are legally incapable of negligence. 87 Several jurisdictions also adopted the Illinois Rule, which

80. See Oscar Gray, Standard of Care for Children Revisited, 45 Mo. L. REV. 597, 600 (1980) (noting that while courts typically examine age, intelligence, and experience, the catalog of factors varies by jurisdiction).

81. See Gray ET AL., supra note 15, at 149 (alluding to the concept that the child defendant must technically be a minor); RESTATEMENT (THIRD) OF TORTS § 10 (AM. L. INST. 2010) (noting that an individual above the age of majority does not receive the benefits of the relaxed standard of care); Elissa Suh, The Age of Majority and the UTMA Account Distribution Age in Every State, POLICY GENIUS (Dec. 1, 2021), https://www.policygenius.com/estate-planning/age-of-majority-by-statel (on file with the University of the Pacific Law Review) (explaining that the only states that do not set the age of majority at 18 are Alabama (19), Nebraska (19) and Mississippi (21)); Baker v. Helms, 527 So. 2d 1241, 1244 (Ala. 1988) (applying the reasonable person standard to an 18-year old defendant); Congini v. Portersville Valve Co., 470 A.2d 515, 518 (Pa. 1983) (holding that an eighteen year old defendant is “liable as an adult for the offenses which he commits”); Colwell v. Nygaard, 8 Wash 2d 462, 476 (1941) (“Persons eighteen years of age should be held to the exercise of the same judgment and discretion in caring for their own safety as persons more advanced in years.”); Goss v. Allen, 360 A.2d 388 (N.J. 1976) (“18 years of age is the age at which a person is to be held to adult responsibility in tort matters.”).


83. See Roth v. Union Depot Co., 43 P. 641, 647 (Wash. 1896) (“[I]t would be monstrous doctrine to hold that a child of inexperience—and experience can only come with years—should be held to the same degree of care in avoiding danger as a person of mature years and accumulated experience.”).


85. See Gray ET AL., supra note 15, at 149 (noting that negligence liability requires either that the actor appreciates an unreasonable risk of injury or could appreciate the risk if he conducted himself as a reasonable person).

86. Gee, supra note 21, at 52; e.g., Lutteman v. Martin, 135 A.2d 600, 602 (Conn. C.P. 1957) (“like age, intelligence and experience”); e.g., McGregor v. Marini, 256 So. 2d 542, 543 (Fla. Dist. Ct. App. 1972) (“a child of like age, intelligence, experience and training”); e.g., Grace v. Kumalaa, 386 P.2d 872 (Haw. 1963) (“appropriate to his age, experience, and mental capacity”); e.g., LaNoux v. Hagar, 308 N.E. 2d 873, 876 (Ind. Ct. App. 1974) (“like age, knowledge, and experience”).

proposes fixed, age-based presumptions. Under the Illinois Rule, children under the age of seven are incapable of negligence as a matter of law. Notwithstanding these minority age-based doctrines, the modern trend inquires whether the minor acted negligently based on case-specific facts rather than age-based presumptions.

The Adult Activities Doctrine—an important caveat in the standard of care for minors—holds minors to the reasonable person standard when they engage in adult activities. The leading case is Dellwo v. Pearson, where the court determined that operation of a motorboat was an adult activity. Courts justify the doctrine under the premise that adult activities are inherently dangerous and generally insured; thus, society expects minors to exercise due care when engaging in these activities. Examples of adult activities include operating a snowmobile, playing golf, and driving a farm tractor. Notably, courts apply different standards for determining whether an activity is an adult activity. Although the doctrine became entrenched in negligence law over time, scholars have criticized the approach as ambiguous and arbitrary.

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88. Gee, supra note 21, at 52.
89. Chicago City Railway Co. v. Tuohy, 95 Ill. App. 314, 319 (1901).
90. See Gee, supra note 21, at 54 (observing that the proper jury instruction requires factfinders to compare the minor defendant’s conduct to minors of like “age, judgment, and experience”).
93. See Robinson v. Lindsay, 598 P.2d 392, 394 (Wash. 1979) (noting that the doctrine discourages minors from engaging in inherently dangerous activities); Binchy, supra note 91, at 743–44 (observing that adult activities, such as driving a motor vehicle, are normally insured); Daniels v. Evans, 107 N.H. 407, 410 (1966) (noting that highway drivers expect other drivers to obey traffic laws and exercise due care).
94. See Robinson, 598 P.2d at 394 (holding a 13-year-old liable for a snowmobile accident under the reasonable person standard); Neumann v. Shlansky, 294 N.Y.S. 2d 628 (County Ct. 1968) (applying the reasonable person standard to an 11-year-old golfer); Jackson v. McCaustion, 448 S.W.2d 33, 35 (Ark. 1969) (applying the reasonable person standard to a minor operating the family farm tractor).
95. See Binchy, supra note 91, at 741–59 (explaining that the prevailing standards for determining whether the doctrine applies is whether the activity is inherently dangerous and whether the activity is one normally reserved for adults).
96. See id. at 775 (asserting that the adult activities doctrine is based on “questionable policy rationales”).
IV. NEUROSCIENCE AND PSYCHOLOGY INSIGHTS ON BRAIN DEVELOPMENT THROUGH YOUNG ADULTHOOD

American society is experiencing a cultural shift marked by a delay in adolescents’ developmental trajectory to adulthood.97 Today’s adolescents and young adults are less likely to obtain driver’s licenses compared to their counterparts fifty years ago.98 Similarly, teenagers today are less likely to engage in traditional adult activities, such as drinking alcohol, having sex, or working for pay, than their 1970s counterparts.99 These trends indicate that modern society perceives adolescents and young adults as cognitively immature, not fully-fledged adults.100 Concurrently, recent insights in psychology and neuroscience show adolescents continue their cognitive development beyond their teenage years.101 Scientific research substantiates what society is beginning to recognize: adolescents do not reach full cognitive maturity until their mid-twenties.102

In the field of cognitive psychology, adolescence is a developmental period extending into the early twenties; this period is also known as young adulthood.103 Several themes emerge as adolescents gradually reach full cognitive maturity.104 Compared to fully mature adults, developing adolescents are more likely to engage in risky behaviors and “less likely to anticipate the consequences of their actions.”105 Adolescents also display developmental immaturity on measures of


99. See Jean M. Twenge, The Decline in Adult Activities Among U.S. Adolescents, 1976–2016, 90 CHILD DEV. 638, 645 (relying on seven nationally representative surveys on over eight million adolescents to show that these trends are not a result of homework and extracurricular activities).

100. Id.

101. See generally Johnson et al., supra note 16 (summarizing recent neuroscience research on brain development which shows that the adolescent brain continues maturing into the mid-twenties).

102. Johnson et al., supra note 16.

103. See Elizabeth S. Scott & Laurence Steinberg, Blaming Youth, 81 TEX. L. REV. 799, 811 (2003) (noting that adolescence is the “bridge between childhood and adulthood”).

104. Id.

105. See Laurence Steinberg et al., Age Differences in Future Orientation and Delay Discounting, 80 CHILD DEV. 28, 28 (2009) (showing that older adults are more adept at anticipating future consequences than adolescents and young adults); Elizabeth Cauffman, Age Differences in Affective Decision Making as Indexed by
temperance, defined as “the ability to evaluate a situation before acting.”106 With respect to peer pressure, adolescents are more vulnerable to coercion from their peers than older adults.107 While individuals vary, these tendencies are characteristic of adolescent behavior and development.108

Neuroscience research provides an anatomical and physiological basis for the behavioral trends observed in adolescents as they develop into fully mature adults.109 Recent advances in neuroimaging technology led to the discovery that children’s brains do not fully mature, on average, until age twenty-five.110 Particularly, the prefrontal cortex—the area of the brain that coordinates executive functioning—is among the last to mature.111 Studies using magnetic resonance imaging (MRI) techniques show that adolescent cognitive immaturity is a result of an underdeveloped prefrontal cortex.112 The prefrontal cortex is essential for controlling voluntary behavior, assessing risk, controlling impulses, and evaluating rewards and punishments.113 In addition to the prefrontal cortex, the brain region associated with emotional control and stress management, the amygdala, also plays an important developmental role.114 Together, the prefrontal cortex and the amygdala are responsible for an adolescent’s maturity of judgment.115


109. See Johnson et al., supra note 16, at 216 (summarizing recent neuroscience research on brain development which shows that the adolescent brain continues maturing into the mid-twenties).

110. See id. at 218 (noting that executive functioning refers to the skills needed for goal-directed behavior, which includes planning, memory, and attention).

111. See Anderson, supra note 24, at 401 (noting that executive functioning refers to the skills needed for goal-directed behavior, which includes planning, memory, and attention).

112. Mariam Arain, Maturation of the Adolescent Brain, 9 NEUROPSYCHIATRIC DISEASE & TREATMENT 449, 449–61 (Apr. 3, 2013); see also Prefrontal Cortex, GOODTHERAPY.ORG, https://www.goodtherapy.org/blog/psychpedia/prefrontal-cortex (on file with the University of the Pacific Law Review) (noting that the prefrontal cortex is the area located in the front of the brain).

113. Anderson, supra note 24, at 401.

114. See Johnson et al., supra note 16, at 219 (noting that the amygdala is linked to emotional maturity: “the ability to regulate and to interpret emotions”).

115. See id. (“The prefrontal cortex coordinates higher-order cognitive processes and executive functioning . . . Poor executive functioning leads to difficulty with planning, attention, using feedback, and mental inflexibility, all of which could undermine judgment and decision making.”).
Neuroimaging studies also reveal brain connectivity plays an important role in brain maturation. The neural processing and communication engines of the brain—gray matter and white matter—do not fully mature until the mid-twenties. Gray and white matter are composed of brain cells that allow the brain to process information more quickly and efficiently. While the volume of gray matter peaks early in adolescence, a process known as “pruning” selectively removes superfluous neural connections in response to environmental demands through adulthood. Connection “pruning,” as opposed to gray matter, is important in determining brain maturation because it represents a person’s ability to learn and adapt. On the other hand, white matter continues to increase from childhood to adulthood. These dual neural systems work in tandem to facilitate the integration of brain activity and ensure efficient brain functioning. Ultimately, scientific research illuminates the neural mechanisms responsible for brain maturation and reflects the transitory, yet fundamental, transition of adolescents into adulthood. Given the mounting evidence showing adolescents continue cognitive development until age twenty-five, it is time for courts to rethink the negligence standard of care for minors.

V. EXPANDING THE NEGLIGENCE STANDARD OF CARE FOR MINORS

Pioneering American psychologist G. Stanley Hall introduced American society to the concept of “adolescence” in 1904. Hall described adolescence as a distinct developmental period between childhood and adulthood, characterized by cognitive and emotional maturation. This notion was revolutionary at the

116. See id. (“[R]ecent work has broadened [brain development discussion] to the increasing ‘connectivity’ of the brain.”).
117. See Jay N. Giedd, Brain Development During Childhood and Adolescence: A Longitudinal MRI Study, 2 NATURE NEUROSCIENCE 861, 862–63 (1999) (observing that gray matter, the area primarily responsible for information processing, continues to increase through adolescence); Peter Anderson, Assessment and Development Executive Function (EF) During Childhood, 8 CHILD NEUROPSYCHOLOGY 71, 75 (2002) (noting that white matter is composed of myelin sheath, which allows nerve impulses to travel rapidly).
119. See Johnson et al., supra note 16, at 219 (showing that pruning, which reduces gray matter volume, also results in the specialization of brain regions).
121. See Johnson et al., supra note 16, at 219 (observing that an increase in white matter, a process known as myelination, corresponds with more efficient brain communication).
122. Id.
123. Id.
125. See Jeffrey Jensen Arnett, G. Stanley Hall’s Adolescence: Brilliance and Nonsense, 9 HIST. PSYCH. 186, 186 (2006) (explaining that Hall’s work focused on childhood development and evolutionary theory).
126. Id. at 187.
time and quickly became ingrained in popular culture and scientific discourse. In response to this scientific and cultural development, courts and legislatures began treating adolescents differently than fully mature adults. Recent neuroscience insights into brain maturation signal a new shift in how society and science view adolescents. Negligence law should follow suit. Section A describes the problems with the current standard of care for minors’ liability in negligence law. Section B explains how contemporary neuroscience advances support extending the negligence standard of care for minors to age twenty-five. Section C discusses how expanding the standard of care for minors comports with fundamental negligence principles. Section D evaluates whether expanding the minor standard of care will frustrate negligence law’s aim to compensate victims.

A. Problems with the Current Negligence Standard of Care for Minors

The prevailing standard for determining whether a minor is negligent requires judging the minor’s ability to perceive risk according to their own experience, intelligence, and capacity. This standard is both subjective and objective, which means courts can consider the minor’s individual shortcomings in making this determination. In application, courts generally stop applying the minor standard at the age of majority; beyond this age, courts judge individuals based on the objective reasonable person standard. This approach ignores recent scientific

127. Id.
128. See Rhonda Gay Hartman, Adolescent Autonomy: Clarifying an Ageless Conundrum, 51 HASTINGS L.J. 1265, 1271–86 (2000) (observing that laws regarding contractual capacity, marital capacity, and criminal culpability changed as the concept of adolescence took hold within the legal system).
129. See generally Johnson et al., supra note 16, at 216 (summarizing recent neuroscience research on brain development which shows that the adolescent brain continues maturing into the mid-twenties).
130. See Grey, supra note 67, at 671 (“As advances occur, we will need to address whether the new neuroscience will shift paradigms in tort law.”); Eggen & Laury, supra note 72, at 235 (“As the courts become saturated with neuroimaging evidence, it is imperative to be prepared with a framework for addressing the many legal questions that the new neuroscience will pose.”).
131. Infra Section IV.A.
132. Infra Section IV.B.
133. Infra Section IV.C.
134. Infra Section IV.D.
135. See GRAY ET AL., supra note 15, at 149 (referring to the standard as a “well-respected academic view”).
136. Id.
137. See Baker v. Helms, 527 So. 2d 1241, 1244 (Ala. 1988) (applying the reasonable person standard to an 18-year-old defendant); Congini by Congini v. Portersville Valve Co., 470 A.2d 515, 518 (Pa. 1983) (holding that an eighteen year old defendant is “liable as an adult for the offenses which he commits”); Colwell v. Nygaard, 8 Wash. 2d 462, 476 (Wash. 1941) (“Persons eighteen years of age should be held to the exercise of the same judgment and discretion in caring for their own safety as persons more advanced in years.”).
advances regarding adolescent development, unfairly imposes liability on adolescents that cannot meet the adult standard, and is a stark contrast to earlier, more flexible iterations.\textsuperscript{138}

Broad generalizations and archaic assumptions about child development form the current age-based negligence standards.\textsuperscript{139} However, negligence law must evolve as the scientific community broadens its understanding of the adolescent brain.\textsuperscript{140} Adolescent maturation into adulthood does not occur at the moment of turning age eighteen, but is rather a slow neurological process peaking when an adolescent reaches twenty-five years of age.\textsuperscript{141} Indeed, Congress already recognizes eighteen-year-olds are not fully mature adults.\textsuperscript{142} Most recently, Congress enacted the Foster Care Act of 2008, providing states financial incentives to extend foster care services to individuals between the ages of eighteen and twenty-one.\textsuperscript{143} Because judicial decisions create most negligence law, courts must develop new negligence standards in response to changes in science and society.\textsuperscript{144}

In terms of fault, applying the adult standard of care to adolescents over eighteen in negligence actions imposes liability when there is no culpability.\textsuperscript{145} Because the prefrontal cortex of adolescents does not fully develop until age twenty-five, this population is more prone to risky behavior and peer pressure.\textsuperscript{146} For example, courts should apply the relaxed standard of care when a student under twenty-five pours various kitchen items on another, as a form of hazing, and an adverse reaction occurs.\textsuperscript{147} Courts should also apply the relaxed standard of care when a young adult attempts a risky TikTok challenge or prank resulting in injuries to unsuspecting victims.\textsuperscript{148} Whether the individual was unable to assess the risk of their actions due to their developmental immaturity is a matter better suited for

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\item \textsuperscript{138} Johnson et al., supra note 16, at 216.
\item \textsuperscript{139} See Gee, supra note 21, at 52 (noting that the tender years doctrine sets an arbitrary age limit for when courts presume a child to lack capacity for negligence and observing that the Illinois rule, establishing age-based presumptions in multiples of seven, has origins in the common law and the Bible).
\item \textsuperscript{140} Grey, supra note 67, at 693; Eggen & Laury, supra note 72, at 294–95; Eggen, supra note 72, at 642.
\item \textsuperscript{141} See Johnson et al., supra note 16, at 216 (observing that the latest regions to develop in the brain—the prefrontal cortex, the amygdala, and grey and white matter—complete maturation at around age twenty-five).
\item \textsuperscript{143} Fostering Connections to Success and Increasing Adoptions Act of 2008, Pub. L. No. 110–351, § 201, 122 Stat. 3949.
\item \textsuperscript{144} See GRAY ET AL., supra note 15, at 118 (noting that negligence law, unlike criminal law, is not codified).
\item \textsuperscript{145} See WILLIAM PROSSER, HANDBOOK OF THE LAW OF TORTS § 32 (4th ed. 1971) (noting that the subjective negligence standard used for children equates closely to moral fault).
\item \textsuperscript{146} See Johnson et al., supra note 16, at 219 (noting that the prefrontal cortex helps individuals inhibit impulses and organize behavior to reach a goal).
\item \textsuperscript{147} Furek, 594 A.2d at 508–12.
\item \textsuperscript{148} See Jane Wakefield, TikTok Skull-breaker Challenge Danger Warning, BBC (Mar. 4, 2020), https://www.bbc.com/news/technology-51742854 (on file with the University of the Pacific Law Review) (reporting that the TikTok skull-breaker challenge can result in serious injuries).
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jury evaluation.\textsuperscript{149} Instead, courts invariably analyze these cases under the reasonable adult standard, even if the young adult cannot meet this standard.\textsuperscript{150} Morality has historically played a prominent part in shaping public policy and legal doctrine.\textsuperscript{151} Thus, from a public policy perspective, courts should not apply the reasonable person standard to adolescents who lack the capacity to assess risks as fully mature adults.\textsuperscript{152}

Perhaps the most critical issue with the current application of the standard of care for minors is its inflexibility.\textsuperscript{153} Today, the application of the relaxed standard for minors ends with the age of majority.\textsuperscript{154} However, early twentieth century courts first developing the relaxed standard for minors recognized the age of majority was not dispositive in determining its application.\textsuperscript{155} For example, in 1906, the California Supreme Court applied the relaxed standard of care to a nineteen-year-old girl who sustained injuries operating a fabric machine.\textsuperscript{156} The court acknowledged that while the age of majority signals physical maturity, adolescents do not possess the cognitive prowess of fully mature adults.\textsuperscript{157} Similarly, in 1873, the Michigan Supreme Court applied the relaxed standard of care to a twenty-year-old girl that collided with a carriage while horse-riding.\textsuperscript{158} The Missouri Supreme Court also applied the relaxed standard to an eighteen-year-old boy operating a shoe factory machine in a 1915 case.\textsuperscript{159} In its holding, the court noted that “boy[s] 18 or 19 years of age . . . should [not] be held to the full accountability of adult[s].”\textsuperscript{160} These cases display how the standard of care for minors developed as a flexible framework, not bound by the constraints of the age

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\textsuperscript{149} Gray et al., supra note 15, at 149–50.

\textsuperscript{150} See generally Gray et al., supra note 15; see Restatement (Third) of Torts § 10 (Am. L. Inst. 2010) (noting that an individual above the age of majority does not receive the benefits of the relaxed standard of care).

\textsuperscript{151} See James Fishkin, Moral Principles and Public Policy, 108 Daedalus 55 (1979) (observing that morality “played a major role” in slavery, Prohibition, abortion, affirmative action, and discrimination debates).

\textsuperscript{152} Johnson et al., supra note 16, at 216.

\textsuperscript{153} Restatement (Third) of Torts § 10 (Am. L. Inst. 2010).

\textsuperscript{154} E.g., Baker v. Helms, 527 So. 2d 1241, 1244 (Ala. 1988) (applying the reasonable person standard to an eighteen year old defendant); Congini by Congini v. Portersville Valve Co., 470 A.2d 515, 519 (Pa. 1983) (holding that an eighteen year old defendant is “liable as an adult for the offenses which he commits”); Colwell v. Nygaard, 8 Wash. 2d 462, 476 (Wash. 1941) (“[P]ersons eighteen years of age should be held to the exercise of the same judgment and discretion in caring for their own safety as persons more advanced in years.”).


\textsuperscript{156} See Guyer, 171 Cal. At 763 (“[L]egal majority] cannot change the facts of existence. . . no one will argue that merely because a [minor] . . . attained legal majority they [are] . . . endowed with the care and discretion and judgment of full maturity.”).

\textsuperscript{157} Guyer, 171 Cal. At 764; see also Lehmuth v. Long Beach Unified Sch. Dist., 53 Cal. 2d 544, 555 (1960) (holding again that “a minor’s age alone, though it be 18 years, does not as a matter of law establish maturity such as to impose upon him or her the standard of care applicable to an adult”).

\textsuperscript{158} See Daniels, 28 Mich. At 40 (noting that the appellate court was correct in considering the age of the girl when deciding whether she exercised reasonable care).

\textsuperscript{159} Bulson, 191 Mo. App. At 130.

\textsuperscript{160} Id. at 130.
of majority.161 It is possible that, over time, courts perceived a risk of inconsistency in applying the standard of care for minors to individuals over eighteen, justifying a departure from this early flexible framework.162 Notwithstanding, recent scientific insights on adolescent development justify the adoption of a flexible and adaptable standard of care for minors.163

B. Science Supports Extending the Negligence Standard of Care for Minors to Age Twenty-Five

Negligence law already recognizes that courts should not hold children to exercise the same degree of care as fully mature adults.164 Modern courts rely on the age of majority when determining whether to apply the relaxed standard of care.165 However, a burgeoning body of scientific literature supports the notion that children’s cognitive development continues through the mid-twenties.166 These scientific insights have already influenced criminal law jurisprudence, with the U.S. Supreme Court relying on scientific evidence to recognize the diminished culpability of juvenile offenders.167 The latest of these Supreme Court cases is Miller v. Alabama, where the Court noted juveniles “lack maturity” and “are more vulnerable. . . to peer pressure.”168 The Court further stated, “developments in psychology and brain science continue to show fundamental differences between juvenile and adult minds.”169 Negligence jurisprudence should follow in criminal law’s steps and adopt the Supreme Court’s view of juvenile offenders in light of

161. Guyer, 171 Cal. at 763; Lehmuth, 53 Cal. 2d at 550; Daniels, 28 Mich. at 34; Bulson, 191 Mo. App. at 130.
162. Guyer, 171 Cal. at 763; Lehmuth, 53 Cal. 2d at 550; Daniels, 28 Mich. at 34; Bulson, 191 Mo. App. at 130.
163. Johnson et al., supra note 16.
164. Gee, supra note 21, at 52.
165. E.g., Baker v. Helms, 527 So. 2d 1241, 1244 (Ala. 1988) (applying the reasonable person standard to an eighteen year old defendant); Congini by Congini v. Portersville Valve Co., 470 A.2d 515, 518 (Pa. 1983) (holding that an eighteen year old defendant is “liable as an adult for the offenses which he commits”); Colwell v. Nygaard, 8 Wash. 2d 462, 476 (Wash. 1941) (“Persons eighteen years of age should be held to the exercise of the same judgment and discretion in caring for their own safety as persons more advanced in years.”).
167. See Roper v. Simmons, 543 U.S. 551 (2005) (holding that imposing capital punishment to offenders for crimes committed while under the age of eighteen was unconstitutional); Graham v. Florida, 560 U.S. 48 (2010) (holding that sentencing juvenile offenders to life imprisonment without parole for non-homicide offenses was unconstitutional).
169. Id. at 471.
scientific advances.170 If implemented, negligence courts would judge the behavior of adolescents in the early twenties against their peers of like age, intelligence, and experience.171

Neuroscience research provides a quantitative measure to trends observed in psychology: until age twenty-five, adolescents cannot appropriately assess risk because key brain areas are still developing.172 An underdeveloped prefrontal cortex links to adolescent propensity for engaging in risky behavior.173 Put simply, adolescents are not fully mature in their ability to differentiate between positive and negative rewards until age twenty-five—an ability often called “good judgment.”174 Because developing adolescents cannot perceive risk like fully mature adults, courts should not hold them to the same standard of care.175 Given that risk appreciation is essential for determining negligence liability, these insights on prefrontal cortex development provide a basis for expanding the current standard of care for minors.176

Another key brain region linked to adolescent brain development is the amygdala: a structure responsible for emotional regulation.177 While the amygdala is well developed at birth, structural and functional changes continue through adulthood.178 Most strikingly, the neural connections between the amygdala and the prefrontal cortex become denser in late adolescence.179 This discovery suggests adolescents do not have the ability to properly integrate their emotional and cognitive processes until their mid-twenties.180 Further, because the amygdala plays an important role in how peer influences impact decision-making, these underdeveloped connections prevent adolescents from properly assessing risk in

170. See generally Grey, supra note 67; Eggen & Laury, supra note 72, at 235; Eggen, supra note 72, at 651.
171. Gee, supra note 21, at 53.
172. See Johnson et al., supra note 16, at 219 (noting that one key brain area is the prefrontal cortex, which is responsible for long-term planning, controlling impulsive behavior, and analyzing risk); Melissa S. Caulum, Post-adolescent Brain Development: A Disconnect Between Neuroscience, Emerging Adults, and the Corrections System, 2007 Wis. L. REV. 729, 743 (2007) (“Evidence shows that the prefrontal cortex does not fully mature until the mid-twenties . . .”).
173. See Anderson, supra note 24, at 386 (“The incomplete development of frontal lobes during childhood and adolescence implies that a limited ability to apply effective executive skills may be present.”).
174. Id. at 400 (2001); see Alexandra Sifferlin, Why Teenage Brains Are So Hard to Understand, TIME (Sept. 8, 2017), http://time.com/4929170/inside-teen-teenage-brain/ (on file with the University of the Pacific Law Review) (noting that adolescents are unable to weigh the pros and cons of their actions).
175. Anderson, supra note 24, at 400.
176. Id.
177. See Johnson et al., supra note 16, at 219 (noting that the amygdala is linked to emotional maturity: “the ability to regulate and to interpret emotions”).
178. Id. at 219. But see generally Thomas Avino, Neuron Numbers Increase in the Human Amygdala from Birth to Adulthood, but Not in Autism, 115 PROC. NAT’L ACAD. SCI. USA 3710 (Apr. 3, 2018) (reporting from childhood to adulthood the amygdala increases in size by 40% and the number of neurons increase by 11%).
180. See id. (referring to this phenomenon as “starting the engine of a car without the benefit of a skilled driver”).
social settings. Accordingly, the amygdala’s salient role in risk-taking and peer influence, which develops through early adulthood, provides another basis for expanding the current standard of care for minors.

The maturation of the neural connections between the prefrontal cortex and the amygdala is a small part of a much wider process occurring throughout the brain. During adolescence, the development of gray and white matter helps explain why adolescents tend to engage in riskier behavior than adults. Recent scientific studies also indicate incomplete white matter myelination makes adolescents more vulnerable to peer pressure, and thus more likely to engage in dangerous behavior. These findings corroborate and strengthen previous evidence demonstrating an underdeveloped prefrontal cortex and amygdala hinder risk perception in the adolescent population.

One of the most significant conclusions from the scientific literature is that adolescent risk-taking behavior and susceptibility to peer pressure is the norm across the population—not an anomaly. Until age twenty-five, adolescents are categorically worse at weighing the risks and likely consequences of their actions than fully mature adults. This universality gives credence to extending application of the relaxed standard of care for minors through age twenty-five.

C. Expanding the Negligence Standard of Care for Minors Comports with Fundamental Principles of Negligence

Negligence law developed from fundamental concepts of societal fault, risk assessment, flexibility, and fairness. Any adjustments to existing negligence standards, then, should comport with these core principles. Because courts

181. See Dustin Albert, The Teenage Brain: Peer Influences on Adolescent Decision Making, 22 SAGE J. 114, 115 (2013) (discussing how peer influence on teenage behavior is prevalent due, in part, by heightened hormonal influx to the amygdala); Carolyn Johnson et al., Long-range Orbitofrontal and Amygdala Axons Show Divergent Patterns of Maturation in the Frontal Cortex Across Adolescence, 18 DEVELOPMENTAL COGNITIVE NEUROSCIENCE 113 (2016) (demonstrating how the amygdala’s development from juvenile to adult is a functional remodeling of the fundamental structure of the amygdala).


183. Id.

184. Giedd, supra note 117, at 861–63; see also Peter Anderson, Assessment and Development Executive Function (EF) During Childhood, 8 CHILD NEUROPSYCHOLOGY 71, 75 (2002) (noting that white matter is composed of myelin, which allows nerve impulses to travel more quickly and efficiently).


187. See Casey & Caudle, supra note 24, at 82 (noting that lack of impulse control and risk-taking behavior mark adolescent development).


189. Shulman, supra note 23, at 618.

190. Supra Section II.A.

191. Supra Section II.A.
already make special allowances for minors due to their immaturity, extending the standard of care to age twenty-five falls within the concept of societal fault. As evidenced by their propensity for risky behavior and susceptibility to peer pressure, adolescents are unable to properly assess the risks of their actions like fully mature adults. Thus, it is unfair to hold adolescents under twenty-five to the same standard of care as fully mature adults. Finally, negligence law’s intrinsic ability to change in response to scientific and cultural progress provides another basis for extending the current standard of care for minors. While negligence law has been slow to respond to recent neuroscientific advances, it can easily adapt the frameworks developed from Supreme Court decisions on juvenile criminal justice. As the scientific community’s understanding of adolescent development continues to evolve, so should negligence law.

D. Expanding the Negligence Standard of Care for Minors Does Not Significantly Frustrate Negligence Law’s Goals of Victim Compensation and Deterrence

The primary aims of negligence law are to compensate victims and deter individuals from engaging in unsafe conduct. It is within these goals that negligence liability principles of fault, risk assessment, flexibility, and fairness intersect. However, there is a natural tension between negligence law’s core principles and goals. Expanding the relaxed standard of care for minors to age twenty-five illustrates this tension. On the one hand, expanding the standard of care for minors will more closely equate culpability to negligence liability. Courts will judge the conduct of young adults based on other young adults of like age, intelligence, and experience while accounting for fault, risk perception, and fairness. Conversely, expanding the standard of care for minors could

192. See Shulman, supra note 23, at 618 (noting that society does not expect minors to exercise the same degree of care as adults due to their cognitive immaturity).
193. Anderson, supra note 24, at 400; Johnson et al., supra note 16; Casey & Caudle, supra note 24, at 82.
194. Keating, supra note 60, at 33.
197. See generally Grey, supra note 67, at 693; Eggen & Laury, supra note 72, at 294–95; Eggen, supra note 72, at 642–43.
199. Id.
200. Id. (noting that if liability matched culpability, “a greatly increased number of victims would go uncompensated”).
201. Id.
202. See GRAY ET AL., supra note 15, at 52–53 (observing that negligence liability should attach to those individuals guilty of a moral shortcoming but not those who are free from blame).
203. Gee, supra note 21, at 53.
theoretically impose a higher financial burden on victims and promote unsafe conduct.\textsuperscript{204} While these concerns are valid, they are readily addressed by current safeguards in negligence law.\textsuperscript{205}

Courts expect increased maturity from minors as they age; in most cases involving young adults, applying the relaxed standard will likely not yield a different result.\textsuperscript{206} Notably, expanding the relaxed standard of care to age twenty-five will make a legal difference exactly where it should—cases involving risk perception and peer pressure.\textsuperscript{207} The adult activities doctrine provides another safeguard for protecting victims’ financial interests and deterring unsafe conduct.\textsuperscript{208} Given the large umbrella of conduct covered under the adult activities doctrine, the reasonable adult standard will continue to feature prominently in negligence cases involving young adults.\textsuperscript{209}

VI. THE ADULT ACTIVITIES DOCTRINE

Courts have identified two main policy rationales for implementing the adult activities exception to the minor standard of care: insurance and victims’ reasonable expectations.\textsuperscript{210} The insurance rationale posits that because adult activities normally require insurance, children engaging in these activities do not need protection from liability.\textsuperscript{211} But not all adult activities require insurance; thus, the reasonable expectations rationale fills the gaps.\textsuperscript{212} The reasonable expectations rationale proposes that victims expect individuals engaging in adult activities, regardless of age, to exercise the care of a reasonable adult.\textsuperscript{213} Together, the insurance and reasonable expectations rationales justify imposing an adult standard on children for injuries resulting from adult activities.\textsuperscript{214}

\begin{itemize}
\item \textsuperscript{204} GRAY ET AL., supra note 15, at 52–53.
\item \textsuperscript{205} Id.
\item \textsuperscript{206} See Dorais v. Paquin, 304 A.2d 369, 372 (N.H. 1973) (“The closer a child comes to majority, and the more common and obvious the risk, the more likely it is that the youth will be held to the adult standard of care.”); Hamilton v. Southern Nevada Power Co., 273 P.2d 760 (Nev. 1954) (finding a 16-year-old who hit a power line with a pipe negligent because he was capable of appreciating the risk of his actions); Heinis v. Lawrence, 71 N.W. 2d 127 (Neb. 1955) (finding that a 17-year-old did not act with ordinary care when jumping off the back of a grain truck onto the road); But see Goss v. Allen, 360 A.2d 388, 388–89 (N.J. 1976) (judging a 17-year-old novice skier under the relaxed standard of care for minors due to his inexperience).
\item \textsuperscript{207} Johnson et al., supra note 16, at 219.
\item \textsuperscript{208} See generally Binchy, supra note 91.
\item \textsuperscript{209} See RESTATEMENT (THIRD) OF TORTS § 10 (AM. L. INST. 2010) (noting that courts consider adult activities the operation of any motor vehicle, handling of firearms, and engaging in sports such as golfing).
\item \textsuperscript{210} Binchy, supra note 91, at 761–65.
\item \textsuperscript{211} Id. at 761–62; see also Bruce Dunlop, Torts Relating to Infants, 5 W. L. REV. 116, 119 (1966) (“[I]n view of the availability of liability insurance . . . the child should be held to the standard of an adult.”).
\item \textsuperscript{212} See Binchy, supra note 91, at 762 (noting that the insurance rationale loses credibility “once we leave the highway”).
\item \textsuperscript{213} Id. at 762–64.
\item \textsuperscript{214} Id. at 761–69.
\end{itemize}
While these rationales are not immune from criticism, their widespread acceptance cements the adult activities doctrine’s place in negligence law. Further, these rationales would continue applying with equal force should courts expand the relaxed standard of care to age twenty-five. Due to young adults’ proximity to full cognitive maturity, the apparent injustice of imposing an adult standard on young adults for adult activities becomes less concerning. With respect to insurance, “all states have financial responsibility laws” for motor vehicle drivers, usually requiring drivers to obtain auto insurance. In the future, states may also begin requiring firearm liability insurance. Young adults engaging in these adult activities would not need protection from liability. Finally, society reasonably expects young adults, compared to their younger counterparts, to exercise greater care when engaging in adult activities. Given these considerations, expanding the negligence standard of care would smoothly integrate the adult activities doctrine.

VII. Dual Standard: The Standard of Care for Minors and Contributory Negligence

Before the advent of comparative negligence, traditional negligence doctrine established contributory negligence as a complete bar to recovery. Thus, a dual standard arose early in negligence jurisprudence: minor plaintiffs would receive the benefit of the relaxed standard of care while courts would judge minor defendants under the reasonable adult standard. While the doctrine of comparative negligence weakened the dual standard regime, the adult activities doctrine remains a driving force for applying the adult standard to minor

215. *See id.* (criticizing the insurance rationale as limited in application and the reasonable expectations rationale as ignoring the “contingent and surprising ways in which accidents occur when minors are engaging in childhood activities”).

216. *Id.*

217. *Id.* at 754–55; *see* Dorais v. Paquin, 304 A.2d 369, 372 (1973) (“The closer a child comes to majority, and the more common and obvious the risk, the more likely it is that the youth will be held to the adult standard of care.”).


221. *Id.;* GRAY ET AL., *supra* note 15, at 149 (noting that child defendant must technically be a minor for the relaxed standard of care to apply).


223. *RESTATEMENT (THIRD) OF TORTS* § 10 (AM. L. INST. 2010).

224. *Id.* (“While the circumstance of childhood should not preclude the liability of an evidently negligent child defendant for harm caused, this circumstance should not defeat the tort claim of the child victimized by the negligence of a third-party adult.”).
defendants. Notwithstanding, the literature shows most negligence cases involving minors deal with contributory negligence. Extending the relaxed standard of care to age twenty-five could justify a resurgence of the dual standard in contributory negligence cases. At a minimum, negligence plaintiffs under twenty-five should receive the benefits of the relaxed standard. This dichotomy will have the most impact in states where contributory negligence is still a complete bar to recovery for plaintiffs: Alabama, Maryland, North Carolina, Virginia, and Washington, D.C.

VIII. CHALLENGES OF EXTENDING THE NEGLIGENCE STANDARD OF CARE FOR MINORS TO AGE TWENTY-FIVE

While neuroscience advances could lead to more refined negligence standards, it is critical to recognize important caveats of expanding the current standard of care for minors. Section A explores societal expectations of young adults through a public policy lens. Section B discusses the limitations of using neuroscience data in the courtroom, including evidentiary and pragmatic concerns. Section C describes why, despite these limitations, neuroscience should lead to reform negligence doctrine by expanding the standard of care for minors.

A. Society Largely Expects Adolescents Over Eighteen to Behave Like Fully Mature Adults

While society is beginning to recognize that adolescents do not have the cognitive prowess of fully mature adults, public policy still largely dictates societal expectations. America’s enshrinement of age eighteen as a signal of adulthood

225. Binchy, supra note 91, at 747–49 (1985); see also RESTATEMENT (THIRD) OF TORTS § 10 (AM. L. INST. 2010) (noting that comparative negligence merely diminishes recovery and juries attach less weight to the negligence of younger parties).
226. GRAY ET AL., supra note 15, at 150.
227. RESTATEMENT (THIRD) OF TORTS § 10 (AM. L. INST. 2010).
228. RESTATEMENT (THIRD) OF TORTS § 10 (AM. L. INST. 2010).
231. Infra Section VII.A.
232. Infra Section VII.B.
233. Infra Section VII.C.
234. Twenge, supra note 99, at 645.
The Myth of Youth

permeates many areas of law. Negligence doctrine is no exception. However, it would not be the first time public policy recognized young adults lack cognitive maturity. Car rental companies historically did not rent cars to drivers under twenty-five years of age; today, most charge high daily underage fees for these services. Similarly, the Constitution contains several age of candidacy requirements. One notable example is candidacy for the House of Representatives, which holds a minimum age requirement of twenty-five years. Once ahead of their time, these policies now match neuroscience research on adolescent development. Conversely, laws codifying age eighteen as a manifestation of cognitive maturity represent a systemwide failure to account for recent neuroscience advances. It is time for a comprehensive overhaul of age-based presumptions within the legal system.

B. Evidentiary and Pragmatic Concerns of Using Neuroscience Data in the Courtroom

The primary evidentiary concern of implementing neuroscience data in negligence cases is reliability. Particularly, extrapolating the knowledge derived from generalized studies to specific cases will call into question the accuracy of neuroscience technology. Because the bounds of normal development vary from case to case, a court must be able to determine whether a defendant behaved in a manner consistent with their developmental stage.

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235. See Life-Changing Privileges of Turning 18, L. DICTIONARY, https://thelawdictionary.org/article/privileges-of-turning-18/ (last visited Oct. 15, 2022) (observing that turning eighteen grants an individual a number of privileges, including the ability to enter into a contract, vote in elections, join the military, and make personal medical decisions).

236. See GRAY ET AL., supra note 15, at 149 (alluding to the concept that the child defendant must technically be a minor under eighteen for the child standard of care to apply); RESTATEMENT (THIRD) OF TORTS § 10 (Am. L. Inst. 2010) (noting that an individual above the age of majority does not receive the benefits of the relaxed standard of care).

237. Life-Changing Privileges of Turning 18, supra note 235; see also GRAY ET AL., supra note 15, at 37 (observing that negligence law must comport with community expectations).


239. See id. (citing adolescent propensity for risky driving as the reason for these policies).

240. E.g., U.S. CONST. art. II, § 1 (declaring that presidential and vice-presidential candidates must be at least thirty-five years old).

241. Id.


243. Id.

244. See generally Clare Ryan, The Law of Emerging Adults, 97 WASH. U. L. REV. 1131 (2020) (proposing that young adults should be treated as a distinct legal category, separate from fully mature adults).

245. See Johnson et al., supra note 16, at 221 (“[N]euroimaging studies do not allow a chronologic cut-point for behavioral or cognitive maturity at either the individual or population level.”).

246. See Henry T. Greely, Neuroscience, Mindreading, and the Courts: The Example of Pain, 18 J. HEALTH CARE L. & POL’Y 171, 183 (2015) (“It is unlikely that everyone’s brain will react the same way to exactly the same stimulus, particularly with a complex stimulus or behavior.”).
person to person, relying on neuroscience data may result in false positives or false
negatives.\textsuperscript{247} A court evaluating negligence may erroneously attribute
peer-pressure-susceptibility to an adolescent’s conduct when, in fact, this trait did not
dictate their actions.\textsuperscript{248} However, the trier-of-fact bears the burden of assessing all
the relevant evidence to determine whether an individual breached their standard
of care.\textsuperscript{249}

While fact finders play a vital role in determining negligence liability, their
role is vulnerable to pollution from neuroscience data’s purported objectivity.\textsuperscript{250}
Put simply, fact-finders are more likely to find neuroscience data credible because
they believe neuroscience is objective.\textsuperscript{251} Because neuroscience also involves
elements of subjectivity, courts may be reluctant to introduce neuroscience
evidence in the courtroom.\textsuperscript{252} Federal Rule of Evidence 403 allows courts to
“exclude relevant evidence if its probative value is substantially outweighed” by
dangers of unfair prejudice or misleading the jury.\textsuperscript{253} If history is any indication,
neuropscience data on adolescent development will likely overcome this hurdle.\textsuperscript{254}

From a pragmatic standpoint, expanding the relaxed standard of care for
minors to age twenty-five faces two major hurdles: expert testimony use and
administrative burdens.\textsuperscript{255} While federal courts exclusively rely on the
comprehensive Dauber test to determine the admissibility of expert evidence, state
courts are split between Dauber and the lenient Frye test.\textsuperscript{256} This dichotomy will
result in forum shopping and inequitable results in negligence cases involving

\textsuperscript{247} Id.
\textsuperscript{248} Id.
\textsuperscript{249} Gray et al., supra note 15, at 108–09.
\textsuperscript{250} See Johnson et al., supra note 16, at 221 (“Despite being popularly viewed as revealing the ‘objective
truth,’ neuroimaging techniques involve an element of subjectivity.”).\textsuperscript{251}
\textsuperscript{251} See David McCabe, Seeing Is Believing: The Effect of Brain Images on Judgments of Scientific
Reasoning, 107 COGNITION 343, 343 (2008) (finding subjects who read a story embedding neuroscience images
found it more compelling than stories lacking neuroscience data); Deena Weisberg, The Seductive Allure of
Neuroscience Explanations, 20 J. COGNITIVE NEUROSCIENCE 470, 470 (2008) (finding that even referring to
neuroscience data verbally, even when logically irrelevant, increases persuasiveness). See also Nicholas J.
Schweitzer, Neuroimages as Evidence in a Mens Rea Defense: No Impact, 17 PSYCH. PUB. POL’Y & L. 357, 357
(2011) (finding in criminal settings that neuroimaging data did not unduly influence juries compared to verbal
references of neuroscience data).
\textsuperscript{252} See Johnson et al., supra note 16, at 220 (noting neuroscience data highlight correlations rather than
causations and that research techniques depend on the investigator’s preferences).
\textsuperscript{253} Fed. R. Evid. 403.
\textsuperscript{254} See David Seminowicz et al., Panel 1: Legal and Neuroscientific Perspectives on Chronic Pain, 18
J. HEALTH CARE L. & POL’Y 207, 231 (2015) (citing similar concerns to the initial use of DNA, forensic science,
and ballistics evidence in the legal system, which eventually became commonplace in the courtroom).
\textsuperscript{255} See generally Darby Aono, Neuroscientific Evidence in the Courtroom: A Review, 4 COGNITIVE
\textsuperscript{256} See Anjelica Cappellino, Dauber vs. Frye: Navigating the Standards of Admissibility for Expert
Testimony, EXPERT INST. (Sept. 7, 2021), https://www.expertinstitute.com/resources/insights/dauber-vs-frye-
navigating-the-standards-of-admissibility-for-expert-testimony/ (on file with the University of the Pacific Law
Review) (noting that the Dauber test requires a comprehensive balancing of factors while the Frye test only asks
whether the expert opinion is “generally accepted” as reliable in the relevant scientific community).
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young adults. Additionally, increased reliance on neuroscience expert testimony in the courtroom will disadvantage litigants who cannot afford to produce this evidence. Because scientific expert testimony will become commonplace in negligence cases involving young adults, there may be a higher administrative burden on the courts. However, as more neuroscience evidence floods the courtrooms, courts will become more experienced in tackling this domain.

C. Despite These Limitations, Neuroscience Should Reform Negligence Doctrine

Expanding the negligence standard of care for minors to age twenty-five will require overcoming evidentiary and pragmatic hurdles, as well as societal expectations of adolescent behavior. However, these limitations do not justify completely barring neuroscience evidence in negligence cases involving young adults. As neuroscience continues to evolve, so will its legal value. In the courtroom, neuroscience evidence on adolescent development should be one of many factors courts will consider to determine negligence liability. Further, adopting robust jury instructions will alleviate the prejudicial concerns of using complex neuroscience data. Although neuroscience evidence on its own will not define negligence liability, it will provide adolescents greater access to justice in cases hinging on risk perception and peer pressure.

IX. Conclusion

Recent neuroscience advances show that adolescents under twenty-five years old are cognitively different than fully mature adults; a difference carrying legal significance. Adolescent faulty risk-perception and susceptibility to peer pressure are necessary components of their development to adulthood. Now that

257. Id.
260. Id.
261. Supra Section VII.B.
262. Supra Section VII.B.
263. See generally Johnson et al., supra note 16.
264. See Gray ET AL., supra note 15, at 112 (“Age, sex, color, temperament, indifference, courage, intelligence, power of observation, judgment, quickness of reaction, self control, imagination, memory, deliberation, prejudices, experience, health, education, ignorance, attractiveness, weakness, strength, poverty, and any of the other possible assortments of qualities and characteristics of the persons involved may each be a factor in the jury’s judgment on the negligence issue.”)
265. Id.
266. Johnson et al., supra note 16.
267. Johnson et al., supra note 16.
268. See Casey & Caudle, supra note 24, at 84 (noting that lack of impulse control and risk-taking behavior...
neuroscience has established the baseline knowledge to develop a new framework, negligence law should follow suit.269 Accordingly, courts should extend application of the negligence standard of care for minors to age twenty-five.270 While there are limitations to this proposal, neuroscience will only become more sophisticated and more prevalent with time.271 As neuroscience begins to infiltrate negligence doctrine, courts will need to balance the scientific literature with the social, administrative, and ethical goals of negligence law.272

269. Johnson et al., supra note 16.
270. Gee, supra note 21, at 54.
271. Supra Part VI.
272. Supra Part II.