

No. 17-7825

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IN THE  
**Supreme Court of the United States**

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**ERIC SCOTT BRANCH,**

*Petitioner,*

*vs.*

**STATE OF FLORIDA,**

*Respondent.*

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*On Petition for a Writ of Certiorari to  
the Supreme Court of Florida*

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**BRIEF OF *AMICI CURIAE* CONCERNED  
PSYCHIATRISTS, PSYCHOLOGISTS AND  
NEUROPSYCHOLOGISTS IN SUPPORT OF  
PETITION FOR WRIT OF *CERTIORARI***

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**TABLE OF CONTENTS**

IDENTITY AND INTEREST OF *AMICUS CURIAE*..... 1

SUMMARY OF ARGUMENT..... 5

ARGUMENT ..... 7

I. There is a new scientific consensus regarding brain development into the twenties ..... 7

II. Brain development must be evaluated on a case-by-case basis..... 10

III. In its recent authority, this Court has focused more closely on current science..... 12

CONCLUSION.....17

## TABLE OF AUTHORITIES

	<i>Page(s)</i>
<b>Federal Cases</b>	
<i>Atkins v. Virginia</i> , 536 U.S. 304 (2002).....	1
<i>Brumfield v. Cain</i> , 135 S. Ct. 2269 (2015) .....	13, 15
<i>Graham v. Florida</i> , 560 U.S. 48 (2010) .....	4
<i>Hall v. Florida</i> , 134 S. Ct. 1986 (2014) .....	1, 13
<i>Miller v. Alabama</i> , 567 U.S. 460 (2012) .....	5
<i>Moore v. Texas</i> , 137 S. Ct. 1039 (2017).....	13, 15
<i>Roper v. Simmons</i> , 543 U.S. 551 (2005) .....	1, 6
<b>Rules</b>	
U.S. Supreme Ct. R. 37.2(a).....	1
<b>State Cases</b>	
<i>Branch v. Jones</i> , No. SC18-218 (Fla. Feb. 15, 2018) .....	7
<i>Branch v. State</i> , No. SC18-190 (Fla. Feb. 15, 2018) .....	7
<b>Other Authorities</b>	
Center for Brain Health, <i>Starting Age of Marijuana Use May Have Long-Term Effects on Brain Development</i> , SCIENCE-DAILY (Feb. 10, 2016) .....	11
Eveline A. Crone & K. Richard Ridderinkhof, <i>The Developing Brain: From Theory to Neuroimaging and Back</i> , 1 DEV. COGNITIVE NEUROSCIENCE 101 (2011) .....	8

Anita Cservenka & Ty Brumback, <i>The Burden of Binge and Heavy Drinking on the Brain: Effects on Adolescent and Young Adult Neural Structure and Function</i> , 8 FRONTIERS IN PSYCHOL. 1111 (2017) .....	11
Franchesca M. Filbey, <i>et al.</i> , <i>Preliminary findings demonstrating latent effects of early adolescent marijuana use onset on cortical architecture</i> , 16 DEVELOPMENTAL COGNITIVE NEUROSCIENCE 16 (2015) .....	12
House of Commons Justice Committee, <i>Treatment of Young Adults in the Criminal Justice System</i> , Seventh Report of Session 2016-17 .....	7, 10, 11
Sara B. Johnson et al., <i>Adolescent Maturity and the Brain: The Promise and Pitfalls of Neuroscience Research in Adolescent Health Policy</i> , 45 J. ADOLESC. HEALTH 216 (2009) .....	8
Richard Robinson, <i>From Child to Young Adult, the Brain Changes Its Connections</i> , 7 PLOS BIOLOGY 7 (2009) .....	8, 9, 10
Elizabeth S. Scott, Richard J. Bonnie & Laurence Steinberg, <i>Young Adulthood as a Transitional Legal Authority: Science, Social Change, and Justice Policy</i> , 85 FORDHAM L. REV. 641 (Nov. 2016) .....	16
A. Rae Simpson, <i>Young Adult Development Project</i> , THE MIT WORK LIFE CENTER (2008) .....	8, 9
Leah H. Somerville, <i>Searching for Signatures of Brain Maturity: What are we Searching For?</i> , 92 NEURON 1164 (2016).....	7, 9, 11

K. Teipel, *Understanding Adolescence:  
Seeing Through a Developmental Lens*,  
State Adolescent Health Resource Center,  
Konopka Institute, University of Minnesota ..... 5

Ellen Witt, *Research on Alcohol and  
Adolescent Brain Development:  
Opportunities and Future Directions*, 44  
ALCOHOL 119 (2010) ..... 12

## IDENTITY AND INTEREST OF *AMICUS CURIAE*

*Amici curiae* are a group of professionals with expertise in the fields of psychiatry, neuropsychology, and neurology. They are listed at the conclusion of this section.<sup>1</sup>

*Amici* recognize that certain individuals in their late teens and early twenties are functionally indistinguishable from the classes protected by this Court's Eighth-Amendment jurisprudence. *Amici* have a vital professional interest in ensuring procedural protections for late adolescents and young adults who, by virtue of their age viewed in tandem with other cognitive-developmental vulnerabilities, are similarly-situated to those protected by *Atkins v. Virginia*, 536 U.S. 304 (2002), and *Roper v. Simmons*, 543 U.S. 551 (2005). This Court's recent decisions in *Hall v. Florida*, 134 S. Ct. 1986 (2014), and its progeny mandate that a numerical cutoff not be used to prevent a death-sentenced individual from being meaningfully heard on a claim that he is exempt from execution. This line of jurisprudence is in keeping with the med-

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<sup>1</sup> *Amici curiae* certify that no counsel for any party authored this brief in whole or in part, no party or its counsel made any monetary contribution intended to fund the preparation or submission of this brief and that no person or entity other than the *amici* or their counsel made such a contribution.

*Amici curiae* certify that counsel for the parties have consented to the filing of this brief. *Amici curiae* also certify that the 10-day notice described in U.S. Supreme Ct. R. 37.2(a) is not required in this case as the *amici curiae* are filing this brief more than 10 days before the due date set out in the rule.

*Amici curiae* join this brief as individual professionals rather than as representatives of the institutions at which they are employed.

ical and psychological standards *amici* adhere to in their varied professions.

The *amici* include the following:

Dr. Regina Bussing is an academic child and adolescent psychiatrist, teacher, and researcher at the University of Florida. She graduated from Justus Liebig medical school in Germany and completed her psychiatry residency and child and adolescent fellowship training at the University of Florida and a Master's degree at the UCLA School of Public Health. Dr. Bussing has served on advisory boards and held office in professional organizations, including the American Academy of Child and Adolescent Psychiatry.

Dr. Brian Cahill is a lecturer in the University of Florida Department of Psychology. His research focuses on the ways in which social and cognitive psychology interact with the legal system. Dr. Cahill has a Ph.D. from Florida International University and a Master of Arts Degree in experimental psychology from the University of Colorado at Colorado Springs. He has published numerous empirical papers investigating the measurement of various psychopathologies (particularly in prison inmates), eyewitness decision making, and juror decision-making in capital cases and has given numerous talks at various national conferences on topics related to the application of psychology to the legal system.

Dr. Andreas Keil is a professor of psychology at the University of Florida. Dr. Keil has published more than 120 peer-reviewed articles on interactions between the brain, body, and human mind, with a focus on emotional behavior and experience, in healthy individuals as well as in patients diagnosed with men-

tal-health problems. He has served on the editorial boards of several journals in his disciplines and on expert panels for the National Institutes of Health (the “NIH”), and his scholarly work has been funded by NIH, the National Science Foundation, and the Office for Naval research.

Dr. James McGovern has spent more than 30 years in five hospitals and three clinics assessing and treating individuals of all ages with actual or suspected neurologic/neurocognitive problems. For the last two decades, he has provided his expertise to state and federal courts in civil and criminal matters. Dr. McGovern completed his doctoral work at the Florida Institute of Technology and is board certified in clinical neuropsychology by the American Board of Clinical Neuropsychology, which is a division of the American Board of Professional Psychology.

Dr. Eugenio Rothe is an internationally renowned expert on the mental-health issues of immigrants and refugees, an area in which he has published extensively and received national awards. He is trained in adult, adolescent, child, and forensic psychiatry, as well as psychoanalysis. He collaborates in research with the College of Public Health/Division of Promotion and Disease Prevention and the Cuban Research Institute at Florida International University. He is president of the district branch for South Florida of the American Academy of Child and Adolescent Psychiatry and is president elect of the American Association for Social Psychiatry.

Dr. Elias Sarkis graduated from the City College of New York and the Faculty of Medicine in Lille, France, and completed his residency and fellowship in



Psychiatry and in Child and Adolescent Psychiatry at the University of Florida. He founded a multidisciplinary group practice and a clinical trials office. He has served as president of the Florida Psychiatric Society and has been credited with multiple publications and awards.

Dr. Shari Schwartz is a forensic psychologist and an instructor of legal psychology at Florida International University. She also serves as program chair for the Social and Criminal Justice program at Ashford University. Dr. Schwartz earned a Ph.D. in legal psychology and a post-doctoral master's degree in clinical mental health counseling from Florida International University. As a forensic psychologist, Dr. Schwartz devotes much of her practice to capital murder mitigation. In this capacity, she has worked on many death-penalty and juvenile-resentencing cases in which human brain development is a central issue. Dr. Schwartz is a frequently invited lecturer and has spoken at numerous conferences on issues regarding issues in capital murder mitigation, victim outreach, eyewitness memory, jury instructions, and many other legal and forensic psychology topics.

Dr. Karim Yamout is a licensed psychologist in Florida, and he is board certified in clinical neuropsychology. He has particular expertise in understanding how the state of the brain (brain development, brain injury) affects the way an individual acts, feels, and thinks. Dr. Yamout has served as an expert witness in criminal proceedings with the task of educating courts on matters of brain development and how it affects adolescent and young adult defendants' behaviors (*e.g.*, mitigation, resentencing in response to *Gra-*

*ham v. Florida*, 560 U.S. 48 (2010), and *Miller v. Alabama*, 567 U.S. 460 (2012).

### SUMMARY OF ARGUMENT

What was once surmised is now a matter of scientific consensus: the development of the human brain in critical ways is not complete in the teenage years but continues into the mid-twenties. Although medical and psychological researchers have previously theorized about the length of time it takes for the brain to fully form, previous research was postulatory in nature. The psychological and neuropsychological communities have, in just the most recent two or three years, reached more detailed and certain conclusions about the behavioral effects of continuing brain development in the late adolescent and young adulthood years.<sup>2</sup>

Additionally, we are now aware that childhood and adolescent exposure to repetitive trauma; physical, emotional or sexual abuse; neglect and alcohol or other substance abuse creates further delays in brain development. Again, these are conclusions that some scientists have believed to be true in the past, or that have been supportable through “common sense” or

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<sup>2</sup> The terms “late adolescence” and “young adulthood” are used interchangeably to refer to the ages of 18 through 24. *See, e.g.*, K. Teipel, *Understanding Adolescence: Seeing Through a Developmental Lens*. State Adolescent Health Resource Center, Konopka Institute, University of Minnesota, at 1 (*Amici* are including as an appendix to this brief a list of the source materials cited in this brief that are available on the World Wide Web.)

For ease of reference, *amici* will refer to this age range as “late adolescence” unless quoting a document that uses alternative terminology.

anecdote, but that have not been consistently, empirically demonstrable until recently.

Tenets of medicine, psychology, and science are not rooted in conjecture—no matter how sensible. Rigorous study, objective testing, refinement of theories, and peer review are all necessary to transition from hypotheses to establish a consensus. This process is gradual, and it necessarily draws and builds upon previously known information. What was surmised at the time of this Court’s decision in *Roper v. Simmons*, 543 U.S. 551 (2005), can now be stated as fact: an individual in his young twenties who has experienced lifelong trauma, been subjected to extensive abuse and neglect, and engaged in substance abuse is likely to bear many of the same cognitive and emotional characteristics as the juveniles at issue in *Roper*.

The undersigned join as *amici* in this case because it appears that the state courts tasked with reviewing the constitutionality of Eric Branch’s death sentence fundamentally misunderstood (or ignored) the new science underlying Mr. Branch’s claim and accordingly denied him a crucial, individualized hearing.

*Amici* urge the Court to stay Mr. Branch’s scheduled execution, grant his petition for a writ of *certiorari*, and then use his case as a vehicle to determine that the Eighth Amendment requires individualized attention to a defendant’s age in combination with other cognitive-developmental vulnerabilities he might be able to prove with respect to whether the

Eighth Amendment renders him ineligible for the death penalty.<sup>3</sup>

## ARGUMENT

### I. **There is a new scientific consensus regarding brain development into the twenties.**

As discussed below, a recent scientific consensus compels the conclusion that the factors that lead to the Court's holding in *Roper* continue to exist in certain individuals into their early twenties. The medical and psychological communities have explicitly recognized that “young adults are distinct from older adults in terms of both their needs and their outcomes. Its evidence base is founded on three main bodies of research: criminology, neurology and psychology.” House of Commons Justice Committee, *The Treatment of Young Adults in the Criminal Justice System*, Seventh Report of Session 2016-17 at 7 (“House of Commons”).

Although previous science has hinted at these differences, as recently as 2016, there were “inexcusable gaps in the research evidence” regarding the impact of this delayed brain development as it pertained to the criminal-justice system. *Id.* at 70; Leah H. Somerville, *Searching for Signatures of Brain Maturity: What are we Searching For?*, 92 NEURON. 1164 (2016)

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<sup>3</sup> *Amici* note that, in denying Mr. Branch relief, the Florida Supreme Court made clear that it would leave it to this Court to determine whether *Roper*'s principle should be extended for defendants older than 18. See *Branch v. State* and *Branch v. Jones*, Nos. SC18-190, SC18-218, at Typescript 11-12 (Fla. Feb. 15, 2018).

(stating that in 2016 there was a “lack of consensus” regarding when a brain could be considered “mature”).

At the time, “neuroimaging research [was] in its infancy[.]” Sara B. Johnson *et al.*, *Adolescent Maturity and the Brain: The Promise and Pitfalls of Neuroscience Research in Adolescent Health Policy*, 45 J. ADOLESC. HEALTH 216, 218 (2009). “Despite the large body of evidence about structural brain development, much less [wa]s known about how these changes map[ped] onto the development of cognitive functions which are observed across childhood and adolescence.” Eveline A. Crone & K. Richard Ridderinkhof, *The Developing Brain: From Theory to Neuroimaging and Back*, 1 DEV. COGNITIVE NEUROSCIENCE 101, 103 (2011); *see also* Johnson, *supra*, at 220 (calling for the scientific community to “advance collaborative, multidisciplinary research agendas that are explicit in the desire to link brain structure to function as well as adolescent behavior”); Richard Robinson, *From Child to Young Adult, the Brain Changes Its Connections*, 7 PLOS BIOLOGY 7 (2009) (“Though more research will be needed to make the case, developmental changes in functional connectivity suggest several behavioral consequences”); Teipel, *supra*, at 1 (“Although scientists have documented brain development in adolescence and young adulthood, they are less sure about what it means for changes in cognitive development, behavior, intelligence, and capacity to learn.”); A. Rae Simpson, *Young Adult Development Project*, THE MIT WORK LIFE CENTER (2008) (stating that although recent findings suggest “the human brain does not reach full maturity until at least the mid-20s...[t]he specific changes that follow young adulthood are not

yet well studied” and characterizing the study of young adulthood as its own developmental period as a “new” and “emerging” field).

Because of this, certain patterns were recognized among late adolescents and young adults, but those patterns were not yet correctly identified as developmental brain immaturity. “Despite their mutual interest, the two research areas ([of] developmental psychology and neuroscience) [were] still segregated and a gap remain[ed] between our knowledge of brain development and cognitive development.” *Id.* at 101-02. Importantly, even in studies drawing a bright line distinction between those seventeen years of age and under, and “adults”:

One of the main problems with [knowledge of brain development in 2011 lay] in the selection of age groups.... Even though the studies report differences in behavior between children and adults, it remain[ed] to be determined whether these changes are predominantly driven by the youngest children within the selected age group or occur across the whole child group. In future studies, it [would] be important to carefully select age groups based on theoretical predictions about when the changes are expected to occur.

*Id.* at 106-07.

However, as one authority has noted, there has been a recent “surge” of scientific interest in brain development in “emerging adults”—those persons between 18 and 22 years old. *See* Somerville, *supra*, at 1165. In 2016, for example, scientists tested the degree to which the brains of 18-to-21 year-old persons functioned as compared to adolescents or adults with

respect to critical regulatory tasks, and in “key brain areas,” those studies found that the 18-21 year olds’ brain activity during threat conditions was more similar to that of teenagers. *Id.*

Accordingly, now, instead of research results being “limited to the observation that a certain brain area which is important for behaviour in adults is not yet activated to the same level in children,” *id.* at 106, new scientific evidence has identified “a distinctive phase of development occurring between the ages of 18 and 24.” House of Commons, *supra*, at 6. This new knowledge demonstrates that “[y]oung adults are still developing neurologically up to the age of 25 and have a high prevalence of atypical brain development[.]” *Id.* at 61.

The science teaches that one’s brain may “reach an age of ‘baseline cognitive maturity,’” defined as “the capacity to engage in goal-directed behavior under neutral, non-distracted circumstances,” substantially earlier than reaching “an age of ‘cognitive-emotional maturity,’” defined as “the capacity to maintain goal-directed behavior in the face of competing emotional cues.” *Id.* at 1166. So, one’s environment shapes the way one’s brain development manifests itself in behavior. And again, science has only formed a consensus regarding this in the past year or so.

## **II. Brain development must be evaluated on a case-by-case basis.**

We now know the temporal divide between adolescence and adulthood is not a “one-size-fits-all” determination. The medical and psychological communities recognize that a late adolescent’s “maturity may be

significantly hindered or delayed” by external factors particular to the developing individual. *See* House of Commons, *supra*, at 61. “[B]rain maturation is a multi-layered process that does not map on to a single developmental timeline.” Somerville, *supra*, at 1164. Specifically, the individual vulnerabilities that may be present in a still-developing brain “co-exist and compound each other, [and are] exacerbated by the trauma” an individual has previously suffered. House of Commons, *supra*, at 67. This creates “challenges [in] applying general patterns of neurodevelopment from group-based to individual inference, as there is substantial variance in brain network connectivity that is unrelated to age.” Somerville, *supra*, at 1165. This means that determining whether a particular person’s brain is “mature” or “immature” requires application of general scientific principles regarding brain development to the individual in question.

This also involves a new medical consensus. For example, we now know that alcohol and drug exposure in adolescence hinders brain development. However, this knowledge has only become concrete within the past couple of years. *See* Anita Cservenka & Ty Brumback, *The Burden of Binge and Heavy Drinking on the Brain: Effects on Adolescent and Young Adult Neural Structure and Function*, 8 FRONTIERS IN PSYCHOL. 1111 (2017) (finding that heavy drinking by adolescents alters brain structure); Center for Brain Health, *Starting Age of Marijuana Use May Have Long-Term Effects on Brain Development*, SCIENCE-DAILY, Feb. 10, 2016 (adolescents “who began using marijuana at the age of 16 or younger demonstrated brain variations that indicate arrested brain development in the prefrontal cortex, the part of the brain



responsible for judgment, reasoning, and complex thinking”) (citing to Franchesca M. Filbey *et al.*, *Preliminary findings demonstrating latent effects of early adolescent marijuana use onset on cortical architecture*, 16 DEVELOPMENTAL COGNITIVE NEUROSCIENCE 16–22 (2015)); Ellen Witt, *Research on Alcohol and Adolescent Brain Development: Opportunities and Future Directions*, 44 ALCOHOL 119 (2010) (finding that despite important advances, there are still significant gaps in our understanding of the etiology and consequences of heavy adolescent drinking, including whether alcohol interferes with normal adolescent brain development at the cellular and molecular level).

Science explicitly recognizes the necessity of applying this general knowledge to a particular individual. “The ability to designate an adolescent as ‘mature’ or ‘immature’ neurologically is complicated by the fact that neuroscientific data are continuous and highly variable from person to person[.]” Johnson, *supra*, at 218. The only way that the judicial system can make an informed, accurate decision about whether a particular defendant such as Eric Branch deserves the protections of *Roper* is for the trial court to hold a hearing on an individual’s particular brain development. That is not something a judge can simply decide without hearing from experts. There is a “peril” in “leaving nonscientists to arbitrate and translate neuroscience for policy.” *Id.* at 220.

### **III. In its recent authority, this Court has focused more closely on current science.**

Additionally, this Court has adopted a new approach to the way in which medical and scientific

knowledge must be integrated into a legal framework. Its recent Eighth-Amendment jurisprudence regarding intellectual disability demonstrates a shift away from strict application of numerical cutoffs. *Hall v. Florida*, 134 S. Ct. 1986 (2014), and its progeny caution against strict application of a numerical boundary to deny sentencing relief in death-penalty cases where an individual asserts that he is categorically barred from execution due to intellectual disability. *See id.* at 1995 (advising that legal decisions should follow “established medical practice[s]”); *see also*, *Moore v. Texas*, 137 S. Ct. 1039, 1049 (2017) (stating that the Court’s precedent does not “license disregard of current medical standards” and criticizing the state court’s failure to follow “the medical community’s consensus”); *Brumfield v. Cain*, 135 S. Ct. 2269, 2278 (2015) (stating that it is unconstitutional to prevent further consideration of whether an individual is intellectually disabled “simply because a capital defendant is deemed to have an IQ above [the previous threshold]”).

Instead, the Court has focused on an individual’s “condition, not a number,” and eschewed the practice of barring death-sentenced defendants from presenting evidence “that the Constitution prohibits their execution” simply because those defendants did not fit within a bright-line numerical cutoff. *See Hall*, 134 S. Ct. at 2001.

The information upon which Eric Branch’s claim relies was neither acknowledged in the general medical and scientific communities when *Roper* was decided nor squarely addressed by this Court in the context of age since then. But, the spirit of *Hall* and similar cas-

es is clear: individuals who do not fit into an arbitrary numerical cutoff must be given an opportunity to demonstrate their entitlement to the same relief as similarly situated individuals who do fit into that cutoff. Thus, the idea that *Roper* would still be interpreted as requiring a strict chronological age cutoff at 18 years is contrary both to this Court's more recent decisions and to the recently-emerged scientific consensus that "there is an irrefutable body of evidence from advances in behavioural neuro-science that the typical adult male brain is not fully formed until at least the mid-20s, meaning that young adult males typically have more psycho-social similarities to children than to older adults." House of Commons, *supra*, at 8.

This new knowledge should inform consideration of Eric Branch's case. *Amici* concur with expert reports stating that "science now recognizes that the cutoff of 18 years is arbitrary and not in accord with the current understanding of the scientific community." Record on Appeal ("ROA") at 342. The reports of Drs. Faye Sultan and John Garbarino unambiguously assert that "[t]here is a new mental health professional consensus that brain development continues into the twenties" (ROA at 335, *see also* 343) and that this consensus was not available for Eric Branch to have raised earlier. ROA 340, 342. *Amici* agree with these contentions as they are validated by *amicus's* own professional experience and the recent, authoritative professional literature.

Further, this case exemplifies the need for science to inform judicial decisions. "Both age and maturity should be taken into significantly greater account within the criminal justice system ... [and] trauma-

informed approaches should be mandatory.” House of Commons, *supra*, at 67. Based upon recent advances in “[s]cientific and sociological understanding of the development of young people...[one] should presume that up to the age of 25 young adults are typically still maturing.” *Id.* at p. 66-67.

It bears reiteration that the crucial inquiry at this juncture is not whether this Court believes Eric Branch will assuredly be able to prove that he was functionally equivalent to a juvenile at the time of his offense or that he is entitled to the protections of *Roper*. At this stage, the question is whether Mr. Branch should be permitted to put on proper evidence of those matters and have a court consider that evidence in light of the recent scientific consensus.<sup>4</sup> See *Brumfield*, 135 S. Ct. at 2281 (“It is critical to remember, however, that in seeking an evidentiary hearing, *Brumfield* was not obligated to show that he was intellectually disabled, or even that he would likely be able to prove as much.”).

Anything less would be discounting the new medical and psychological consensus in contravention of this Court’s Eighth-Amendment precedent.

An Eighth-Amendment determination regarding whether an individual is ineligible for the death penalty due to their cognitive-developmental status “should be ‘informed by the views of medical experts.’” *Moore*, 137 S. Ct. at 1044 (quoting *Hall*, 134 S. Ct. at 2000). That instruction cannot sensibly be read to give courts leave to diminish the force of the medical

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<sup>4</sup> It should be noted that Mr. Branch proffered such evidence to the Florida courts, but they apparently did not consider it.

community's consensus." *Id.* Thus, it is particularly concerning to *amici* that a judge would refuse to hear expert opinions on this issue, and instead rely on his own lay opinions regarding late-adolescent development. Equally unsettling is that the judge's lay opinion lacked any basis in science.

In summary, while it might have been known at the time of *Roper* that brain development continues into the twenties, only very recently have the medical and psychological communities developed a robust understanding of and consensus regarding the consequences of that delayed development. See Elizabeth S. Scott, Richard J. Bonnie & Laurence Steinberg, *Young Adulthood as a Transitional Legal Authority: Science, Social Change, and Justice Policy*, 85 *FORDHAM L. REV.* 641, 643 (Nov. 2016).

**CONCLUSION**

The Court should stay Eric Branch's scheduled execution, grant his petition for a writ of *certiorari*, and then determine that the Eighth Amendment requires an individualized assessment of a defendant's age in combination with other cognitive-developmental vulnerabilities he might be able to prove in determining whether the individual is ineligible for the death penalty.

Respectfully submitted,

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## SOURCES AVAILABLE ON THE WORLD WIDE WEB

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