

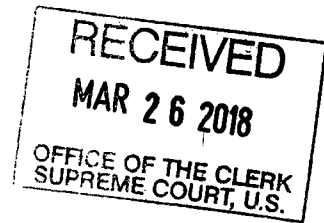
UNITED STATES SUPREME COURT

PATRICIA ROOSA,
Petitioner,

v.

Case No.: 17-7093

STATE OF FLORIDA,
Respondent.



MOTION FOR REHEARING

Comes Now, the Petitioner, Patricia Roosa, by and through herself, pursuant Supreme Court Rule 25, and request this Honorable Court to rehear her Petition for Certiorari. In support thereof she submits as follows:

1. On November 17, 2017, the Petitioner filed a Petition for Writ of Certiorari with this Honorable Court.
2. This Honorable Court denied her Petition on February 20, 2018.
3. The Petitioner filed a supplemental brief on February 22, 2018, the Petitioner had not received the order of denial.
4. The Law Library computers are not updated with recent case law and after the Petitioner filed her petition,

about the beginning of February 2018, she received cases and material that support her petition.

5. The Petitioner requests this Honorable Court to rehear her Petitioner and accept the new cases and scientific research material she submitted in her supplemental brief

6. This rehearing is filed in good faith and not to delay ✓
any proceedings, but to ensure that the Petitioner's arguments are addressed with case law and new research ✓
that support her cause.

The Petitioner submits as follows:

The United States Sixth circuit Court of Appeals filed a decision that directly affects the Petitioner's cause. The Petitioner just discovered this case after the computers in the Law Library were updated in December of 2017, which lead to recent discoveries of research, case law, and testimony.

This decision was made in Commonwealth of Kentucky v. Travis Bredhold, (FAYETTE CIRCUIT COURT, 7TH DIVISION, CASE NO.: 14-CR-161, 2017) and Commonwealth of Kentucky v. Efrain Diaz, (FAYETTE CIRCUIT COURT, 7TH DIVISION, CASE NO.: 15-CR-584-001, 2017), which was a death penalty case. The Court of Kentucky held that it was unconstitutional to sentence anyone under the age of twenty-one (21) to death. This decision was based on scientific research of the brain done by Laurence Steinberg.

In *Roper* the Supreme Court integrated into its analysis of juvenile sentencing limits general consensus, common sense and science. It recognized that "the qualities that distinguish juveniles from adults do not disappear when an individual turns 18" 543 U.S. at 574.

According to U.S. v. CR, 792 F.Supp.2d 343 in which the Court stated:

"Deciding where to draw the chronological age boundary between adolescence and adulthood for purposes of justice policy is a more complex challenge than setting the minimum age of juvenile court jurisdiction because several concerns are important but may not point in the same direction. The first is psychological development; the line should be drawn with attention to the process of maturation, ideally shielding immature youths from adult prosecution and punishment while holding mature individuals fully accountable. This factor turns out to be somewhat complex, however, because, as we have explained, the relevant psychological abilities and capacities do not develop in lockstep fashion, but progress at different rates. Thus, logical reasoning and information processing capacities that are most relevant to competence to stand trial mature through pre-adolescence and early adolescence, reaching adult levels around age fifteen or sixteen. In contrast, psychosocial capacities that influence involvement in criminal activity, such as impulse control, future orientation, or resistance to peer influence (as well as the regions of the brain that regulate these phenomenon), mature primarily in middle adolescence, continuing into late adolescence, and even into early adulthood. . . . Thus a jurisdictional boundary separating minors from adults based on studies of logical reasoning and basic cognitive abilities would classify adolescents as adults at a younger age than a boundary based on research on psychosocial development or brain maturation. Beyond this, there is a great deal of {792 F. Supp. 2d 498} individual variation in maturation rates; some youths are adult like at age 15, while others are still immature in early adulthood. Adolescence and adulthood are not tidy developmental categories; the transition to adulthood is a gradual process. The upshot is that science does not dictate any specific age as the appropriate threshold for adult adjudication and punishment.

Elizabeth S. Scott & Laurence Steinberg, *Rethinking Juvenile Justice* 236, (2008); see also Emily Buss, *What the Law Should (and Should Not) Learn from Child Development Research*, 38 Hofstra L. Rev. 13, 39 (2009) ("Much of the developmental research suggests that the qualities highlighted by the Court [in *Roper v. Simmons*], described together as psycho-social immaturity, continue to apply to individuals into their twenties, even mid-twenties or beyond.").

One of the principle ways this reduced capacity to control behavior is expressed is by adolescents' difficulty with impulse control. "A cornerstone of cognitive development is the ability to suppress inappropriate thoughts and actions in favor of goal-directed ones, especially in the presence of compelling incentives." B.J. Casey et al., *The Adolescent Brain*, 28 Developmental Rev. 62, 64 (2008). Numerous studies document the limitations on adolescents' ability to control their impulses. See, e.g., Casey, *supra*, at 64 ("A number of classic developmental studies have shown that this ability develops throughout childhood and adolescence."); Laurence Steinberg, *Adolescent Development and Juvenile Justice*, 2009 Ann. Rev. Clinical Psychol. 47, 58 (2009) ("[I]ndividuals become more resistant to peer influence and oriented to the future, and less drawn to immediate rewards and impulsive, as they mature from adolescence to adulthood."); Laurence Steinberg et. al., *Age Differences in Sensation Seeking and Impulsivity as Indexed by Behavior and Self-Report: Evidence for a Dual Systems Model*, 44 Developmental Psych. 1764 (2008) (self-report and performance {792 F. Supp. 2d 499} measures on tests show "a linear decline in impulsivity between the ages of 10 and 30").

Immaturity can be analogized to dysfunction or disruption. "Disruption of functions associated with the frontal lobes may lead to impairments of foresight, strategic thinking, and risk management." See *Roper* APA Brief at *10, (citing M. Marsel Mesulam, *Behavioral Neuroanatomy*, in *Principles of Behavioral and Cognitive Neurology* 1, 47-48) (M. Marsel Mesulam ed. 2d ed. 2000). One "hallmark of frontal lobe dysfunction is difficulty in making decisions that are in the long-term best interests of the patient." See Antonio R. Damasio & Steven W. Anderson, *The Frontal Lobes*, in *Clinical Neuropsychology* 404, 434 (Kenneth M. Heilman & Edward Valenstein eds., 4th ed. 2003). "Neurodevelopmental MRI studies indicate this executive area of the brain is one of the last parts of the brain to reach maturity." See Gogtay, *supra*, at 8177; see also Steinberg, *You and Your Adolescent: The Essential Guide for Ages 10-25*, 116 (Rev. ed. 2011) ("Imaging studies show that the brain is still maturing well into the mid-20s, especially in regions

responsible for regulating emotions, controlling impulses, and balancing risk and reward.") ."

Laurence Steinberg filed an Amicus Brief in the above case and testified as follows:

"Expert testimony presented at the sentencing hearing strongly supports application of general scientific principles of adolescent brain development to C.R.'s situation. Dr. Laurence Steinberg was the "the lead scientist for the American Psychological Association in assisting the Association's counsel in preparing the amicus brief in [*Roper v. Simmons*, and *Graham v. Florida*]" . His testimony summarizes the scientific studies discussed, in subsection 1, *supra*, which find that the bright line cut-off of age eighteen does not accurately reflect the realities of adolescent brain development:

Q Dr. Steinberg, what is the difference between chronological age and developmental age?

A Chronological age is simply a count of the number of years that somebody has been alive. But developmental age can be measured by looking at the person's intellectual functioning or social functioning or emotional functioning, and within any given chronological age there will be a range in terms of individual's developmental functioning.

Q. So, one's chronological age and one's developmental age don't necessarily match up?

A. Correct.

Q. And at what age does a person's brain fully develop?

A. It really depends on what aspects of the brain and what brain systems one is talking about. But I think the consensus among developmental neuroscientists scientists now would be some time during the mid-20s probably.

Q. And what kind of research is that conclusion based on?

A. It's based on both structural and functional MRI. Structural MRI would be exams that would look at the brain's anatomy whereas functional MRI would be exams that look at the brain's functioning.

Q. And those tools, when given to large groups of people over time, show development continues until the mid-20s in most people?

A. Correct.

Q. Now, is there any developmental significance from a brain development perspective as to whether chronologically someone is 17 and 364 days or 18 years old?

A. No, there isn't.

Q. There's no shift in the brain because one turns 18?

A. No.

Q. And from a developmental perspective, how do you define adolescence?

A. Well, that's hard to do because it really depends on what aspects of development you're speaking about. If you were doing it in terms of brain development, I would say probably from about 10 to 24 or so in the sense that we can see that there is still brain development going on during that time period. If you were talking about psychological development, I would say maybe from 10 to 20, 10 to 21, around there.

Q. And does the term adolescence itself indicate that a person is still developing?

A. Yes. I think that we use it commonly to refer to somebody who is not yet an adult.

Q. And I know you were present for the testimony of Dr. Barr and you heard {792 F. Supp. 2d 503} him say that the cutoff is 18 for

adolescence. Do you agree with that from a brain development point of view?

A. Certainly not.

Q. Do you agree with that from a psychosocial point of view?

A. No.

Q. And why do you disagree with the idea that adolescence cuts off at 18 from a brain development point of view?

A. Well, we know that there's structural brain change after the age of 18 both in gray matter and in white matter, and we also know that there's function in the brain after 18 in terms of differences in patterns of brain activity that you see among people of different ages.

Q. And from a psychosocial point of view, why do you disagree with the idea that adolescence is cut off at 18?

A. Well, on certain measures, we, in our own research and others, find that there's continued maturation of certain psychosocial capabilities after 18.

Q. When you're saying that, grossly speaking, people's brains continue to develop until age 25 you're talking about normal or typical persons, not a developmentally delayed group?

A. Yes.

Q. So, a normal 19-year-old's brain is not fully developed?

A. On average, right.

Q. On average.

Dr. Steinberg also testified about the import of the continued adolescent brain development on "executive functions"

such as decision-making, impulse control, balancing risk and reward in young adulthood. He explained:

Q. Are there neurobiological changes occurring at age 19 that might influence of a person's decision-making processes?

A. Yes, because regions of the brain that are important for things like thinking ahead and planning and impulse control and weighing risks and rewards, those regions and systems of the brain are still developing after age 19. And to the extent that those capacities affect judgment and decision making, we can link the two together and argue that what we know about adolescent brain development would suggest that some aspects of judgment and decision making are probably still immature at that age.

Q. And, again, you're saying this as to the typical person not as to someone outside the norm?

A. That's correct.

Q. I think you also heard Dr. Barr testify that C.R., our defendant here, as an average, based on his tests, has an average executive function for his age group. Do you recall that testimony?

A. Yes, I do.

Q. Now, based on your research, am I correct, that this age group is still developing in its executive functioning?

A. Yes.

Q. So, to say that C.R. falls within that average group also says that his executive function is still developing?

A. Probably, yes.

Q. Now, what are the characteristics of executive function that, from your research and

your knowledge of this field, are still developing in this group? And I'm talking now specifically say from age 17 to 21.

A. Impulse control as I mentioned. Planning and thinking ahead probably although there's less research on this. The way that people balance risk and {792 F. Supp. 2d 504} reward when they make decisions about engaging in a potentially risky behavior.

Q When you say "impulse control," can you tell us more about what you mean by that?

A. Well, the ability to stop yourself from acting by thinking through the potential consequences, let's say, of the action.

Q. And how does that differ for the normal, the cognitively normal 19-year-old from a fully-matured adult?

A. Well, a cognitively normal 19-year-old would be more apt to behave impulsively than a typical 25-year-old, let's say, as a point of comparison.

Professor Steinberg went on to explain the scientific evidence regarding anatomical brain development that supports the conclusions about executive functions. His testimony fully corroborated the research and studies relied upon by the Supreme Court in Roper v. Simmons, and Graham v. Florida previously discussed, *Id.* at 69-71. Also discussed was the relationship between adolescent "sensation-seeking" behavior and brain development. His testimony was as follows:

Q. You talked about this processing of emotions and social information. Is that connected with what's called "sensation-seeking behavior"?

A. A little bit. Sensation seeking is regulated by parts of the brain that are also important in processing emotion and social information but I wouldn't say that they're the same thing.

Q. Okay. And when do individuals develop sensation-seeking behavior?

A. Well, sensation seeking which is also sometimes discussed under the heading of novelty seeking or reward seeking. Sensation seeking is known to increase fairly dramatically between preadolescence and mid-adolescence and then starts to decline, let's say, after age 16 or 17 gradually as people mature into adulthood and that's what we now understand a little bit about the biological underpinnings of that change.

Q. And is there a part of the brain that regulates this sensation-seeking behavior so that it decreases as one matures?

A. Well, sensation seeking decreases for two different reasons. The first is that the part of the brain may lead to an event striatum which is part of the limbic system which is that part of the brain that part impels us to seek rewards. It's the part that's responsible for our experience of pleasure and for reward. That part of the brain becomes very much more aroused during the first part of adolescence and that arousal is particularly high during the mid-adolescent years, 16 or so. That declines as individuals move into adulthood, so one reason that sensation seeking declines is that that reward system, if you will, becomes less easily aroused. But a second reason is that the part of the system that puts the brakes on things which is the prefrontal cortex is, as I've discussed, continuing to mature during late adolescence and into early adulthood.

And if we think of middle adolescence as the metaphor is the accelerator is pressed down to the floor but the braking system is still not mature; and as the accelerator becomes lifted a

little bit, and as the braking system matures, sensation seeking declines.

Q. And at what age does the braking system or what we might call the regulatory mechanisms, at what age are those fully developed?

A. Probably, again, in the mid-20s or so.

Q. And is that also data that's available from these two forms of MRIs or from other types of research?

A. Well, if we're talking about - yes, yes. Because particularly, I mentioned before the third type of structural change that's going on, the connectivity that psychiatrists believe that plays a very important role in emotion regulation because it's the -it refers to the connection between the part of the brain that is processing emotions and the part of the brain that is important in self-regulation. And because that connection becomes stronger and more well-developed during late adolescence and early adulthood, the capacity to regulate one's emotions also becomes more mature.

Q. And to put it in a concrete context such as the one we face here, can you give an example of how the same choice such as whether to commit what might be pleasurable but still be criminal conduct might be handled differently by a still developing 19-year-old versus a fully-developed adult?

A. Let me put this in context because I think it's important to know that psychologists and sociologists refer to that as what's called the Age Crime Curve. . . . [The] Age Crime Curve, which shows that misbehavior of almost every sort increases from age 10 or so on and peaks around 17 or 18 and then declines. And it's likely to be the case that that decline is related to improvements in self-regulation and in the maturation of self-control. So, to go back to your question, I think that a 19-year-old would be less likely than a fully-mature

individual to stop and think about a misdeed before engaging in it.

Q. And, to your knowledge, is that Age Crime Curve similar for sexual offenses versus nonsexual offenses?

A. It pretty much applies to all kinds of offenses.

Q. Now, again, with all this, you're talking about normal development, not abnormal; is that correct?

A. Correct.

Q. Now, turning now to the psychosocial context which we've touched on a little bit. From your research and the data available in your field, are normal adolescent psychosocial capacities comparable to those of adults?

A. No.

Q. How do they differ?

A. Well, compared to adults, adolescents are more susceptible to peer pressure. They are more impulsive, they are less likely to plan ahead, and they are more reward sensitive, meaning, that in evaluating a situation in which there are both risks and rewards present, they're going to pay relatively more attention than an adult would to the potential rewards and relatively less attention to the potential risks or costs.

Q. And is that true for someone at the age of 18 and 19?

A. It's true for most of that. Not so much reward sensitivity because that pretty much sort of hits an asymptote for a while around the age 16, 17, but the ones having to do around regulation. So, impulse control, susceptibility to influence, thinking ahead, considering the

future consequences of one's actions, those are all still immature at age 18.

Q. You've spoken about this a little bit, but are there biological rationales or evidence that support these psychosocial observations?

A. Yes, they would have to do with maturation of the prefrontal lobe both in {792 F. Supp. 2d 506} synaptic pruning and myelination and the development of stronger connections between cortical and subcortical regions.

Discussed by Professor Steinberg was the adverse impact of incarceration on adolescent development. He explained, "I don't think there's enough research, you know, on that to draw conclusions. What we do know is that individuals coming out of correctional environments are much less likely to become reintegrated into the community, be gainfully employed, and so forth than other what we might call at-risk groups", *Id.* at 83-84. In a colloquy with the court Professor Steinberg confirmed that these conclusions are controlled for a variety of factors such as education, race, and parents' occupation, *Id.* at 84. Protective factors that would reduce the likelihood of sexual re-offending were also examined. The professor explained, "[B]eing in school is a protective factor against future offending. Having parents who monitor your whereabouts and provide structure and guidance is a protective factor against offending. Being gainfully employed is a protective factor against future offending. And not associating with antisocial

peers a protective factor against future offending. Being in - successfully completing an evidence-based intervention or treatment is a protective factor against future offending. Yes, it's always in individual cases it's very hard to make predictions; but on average, we can say that young people who are, you know, in school and/or working and have a good home environment and are treated for a mental problem, if present, are going to be less likely to re-offend than individuals who, you know, are not attending school, who don't have good parents, who hang out with deviant peers, and who have a problem like a substance abuse problem that's untreated, *Id.* at 86-87."

The Petitioner submits these cases and the prior testimony and research of psychologist Laurence Steinberg. The Petitioner relies on the scientific materials that she attached to her supplemental brief. Laurence Steinberg did scientific research entitled **"AGE IF OPPORTUNIUTY: LESSONS FROM THE NEW SCIENCE OF ADOLESCENCE"**. The Petitioner relies on scientific research done by the Macarthur Foundation titled **"HOW SHOULD JUSTICE POLICY TREAT YOUNG OFFENDERS?"** The Petitioner also relies on scientific research done by another organization which supports her cause. **APS ASSOCIATION FOR PSYCHOLOGICAL SCIENCE** did research in which the Petitioner relied on called **WHEN IS AN**

ADOLESCENT AN ADULT? ASSESSING COGNITIVE CONTROL IN EMOTIONAL
NONEMOTIONAL CONTEXTS."

There are many reports which conclude that at the age of 21 the brain is still developing. For example WHEN DOES A JUVENILE BECOME AN ADULT? BY ALEXANDRA O. COHEN, RICHARD J. BONNIE, KIM TAYLOR-THOMPSON, AND BJ CASEY. The Petitioner relies on many scientific studies such as: "YOUNG ADULthood AS A TRANSITIONAL LEGAL CATEGORY: SCIENCE, SOCIAL CHANGE, AND JUSTICE POLICY" BY ELIZABETH S. SCOTT, RICHARD J. BONNIE, AND LAURENCE STEINBERG; AND RESEARCH DONE BY LAURENCE STEINBERG "AROUND THE WORLD, ADOLESCENCE IS A TIME OF HEIGHTENED SENSATION SEEKING AND IMMATURE SELF-REGULATION."

These cases, research, and testimony support the Petitioner's cause that the theory of Miller should apply to young adults up to the age of 21.