STATE OF MICHIGAN

IN THE SUPREME COURT

THE PEOPLE OF THE STATE OF MICHIGAN,

Plaintiff-Appellee

S.C. No. 160034

-v-

Rick Manning,

Defendant-Appellant /

AMICUS CURIAE BRIEF

BY

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STATEMENT OF JURISDICTION

On December 11, 2019 this Court issued an order granting to interested parties the opportunity to submit a brief under the status of amicus curiae upon leave granted by the court. See People v Manning, 2019 Mich LEXIS 2320; SC No. 160034. Based on this Court's order granting Mr. Williams leave to file his amicus curiae brief, this Court is vested with absolute authority to hear and determine the matter fully briefed herein.

QUESTIONS PRESENTED

Question I

Whether the extension of a retroactive decision is a proper basis on which to authorize the filing of a second/successive motion for relief from judgment under MCR 6.502(G)(2)?

Amicus Curiae Williams would answer: Yes

Counsel in Opposition would answer: No

Question II

Whether based on both a proportionality and compelling reasons analysis under Michigan's Constitutional Cruel or Unusual Punishment clause, Miller's holding should be extended to include youthful offenders up to the age of nineteen (19) years old?

Amicus Curiae Williams would answer: Yes

Counsel in Opposition would answer: No

ARGUMENT I

The extension of a retroactive decision is a proper basis on which to authorize the filing of a second/successive motion for relief from judgment under MCR 6.502(G)(2)

Introduction

In People v Manning, 2019 Mich LEXIS 2320; 2019 WL 6771157 this Court set out invitation to "[o]ther persons or groups interested in the determination of the issues presented in this case may move the Court for permission to file briefs amicus curiae."

The issue addressed in this argument is that set out in Manning as to "whether the defendant's successive motion for relief from judgment is "based on a retroactive change in law", MCR 6.502(G)(2), where the law relied upon does not automatically entitle him to relief".

Standard of Review

As the issue before the Court embraces the constructive interpretation of a court rule, this Court reviews questions of constitutional magnitude and law, de novo. People v Dendel, 481 Mich 114, 124; 748 NW2d 859 (2008); Haliw v City of Sterling Heights, 471 Mich 700, 704-705; 691 NW2d 753 (2005).

Argument and Authority

Like, statutory construction, '[w]hen called on to interpret and apply a court rule, this Court applies the principles that govern statutory interpretation. Haliw v City of Sterling Heights, 471 Mich 700, 704-705; 691 N.W.2d 753 (2005); Stenzel v Best Buy Co., 320 Mich 262, 275(2017). "Court rules should be interpreted to effect the intent of the drafter, the Michigan Supreme Court. Fleet Business Credit, LLC v Krapohl Ford Lincoln Mercury Co., 274 Mich App 584, 591; 735 NW2d 644 (2007). Clear and unambiguous language contained in a court rule must be given its plain meaning and enforced as written. Id.

Notably, as the intent in construing a court rule is to discern and give

effect to the drafter, analysis begins by an examination of the plain language of that court rule. People v Morey, 461 Mich 325, 330; 603 N.W.2d 250 (1999). To that end, MCR 6.502(G)(2) provides:

> "(2) A defendant may file a second or subsequent motion based on a retroactive change in law that occurred after the first motion for relief from judgment or a claim of new evidence that was not discovered before the first such motion."

Notably, while this Court was the drafter of MCR 6.502(G)(2), in doing so, the Staff committee provided comment on the source of MCR 6.500 et. seq.:

> "These standards are based on several decisions of the United States Supreme Court. See Wainwright v Sykes, 433 US 72; 97 S Ct 2497; 53 L. Ed2d 594 (1977)(habeas corpus action by state prisoner); United States v Frady, 456 US 152; 102 S Ct. 1584; 71 L ed2d 816 (1982) (under 28 USC 2255)."

(See Staff Comment to 6.508.

Since the Staff comments represent, that the committee created MCR 6.500 et. seq. based on federal rules and precedent, and the rule in question, MCR 6.502(G)(2) is much like the provision 28 U.S.C. 2244(b)(2)(A) then this Court may find federal precedent highly persuasive where it addresses a similar claim:

> "We may authorize the district court to consider a second or successive habeas petition if the applicant makes a prima facie showing that his proposed claim "relies on a new rule of constitutional law, made retroactive to cases on collateral review by the Supreme Court, that was previously unavailable. 28 USC §2244(b)(2)(A). A prima facie showing, in this context, simply requires that the applicant make a showing of possible merit sufficient to warrant a fuller exploration by the district court. In re Watkins, 810 F 3d 375, 379 (6th Cir 2015)(quoting In re Lott, 366 F 3d 431, 432-433 (6th Cir. 2004) This prima facie showing "is not a difficult standard to meet. In re Lott, 366 F 3d at 432."

In re Lambert, 2018 U.S. App LEXIS 25332 (6th Cir. 9/5/2018; No. 18-1726 *2.

Based on the similarity between MCR 6.502(G)(2) and 28 U.S.C § 2244 (b)(2)(A) it is abundantly clear that §2244 had to be a catalyst to the creation of MCR 6.502(G)(2), and as this Court explained in Chambers v Trettco, Inc., 463 Mich 304, 313-314 those similarities make it appropriate to reference federal precedent:

> "We are many times guided in our interpretation of the Michigan Civil Rights Act by federal court interpretation of its counterpart federal statute. See e.g. Summer v Goodyear Tire & Rubber Co, 427 Mich 505, 525;

> 398 NW2d 368 (1986). However, we have generally been careful to make it clear that we are not compelled to follow those federal interpretations. See e.g.; Radtke, 442 Mich at 381-382. Instead, our primary obligation when interpreting Michigan law is always "to ascertain and give effect to the intent of the Legislature. . . as gathered from the act itself.'" McJunkin v Cellasto Plastic Corp, 461 Mich 590, 598; 608 NW2d 57 (2002). Although there will often be good reasons to look for guidance in federal interpretations of similar laws, particularly where the legislature has acted to conform Michigan law with decisions of the federal judiciary, see e.e. Koester v City of Novi, 458 Mich 15-16, 580 NW2d 835 (1998), we cannot defer to federal interpretations if doing so would nullify a portion of the Legislature's enactment. See Piper v Pettibone Corp, 450 Mich 565, 571-572; 542 NW2d 269 (1995)."

Notably, there is federal precedent which addresses a similar issue raised seeking the extension of Miller. In that case, In re Lambert, the Sixth Circuit Court of Appeals was called on to determine whether that extension was an appropriate basis for granting a second or successive petitioner for habeas corpus:

> "Lambert seeks to extend the new rule announced in Miller to offenders who were 18 years old at the time of their crimes. See Cruz v United States, No. 11-cv-787, 2018 U.S. Dist. LEXIS 52924, 2018 WL 1541898, at *25 (D. Comm Mar 29, 2018)(holding that Miller applies to 18 year olds). Other circuits have held that whether a new rule "extends" to an applicant 'goes to the merits of the motion and is for the district court, not the court of appeals. In re Williams, 759 F 3d 66, 72, 411 U.S. App DC 257 (DC. Cir. 2014); See also In re Hoffner, 870 F 3d 301, 309 (3d Cir. 2017)("It is for the district court to evaluate the merits of the second or successive habeas petition in the first instance. This includes 'whether the invoked rule should ultimately be extended in the way the movant proposes or whether his 'reliance is misplaced'" (quoting In re Arnick, 826 F3d 787, 791 (5th Cir. 2016)(Elrod, J dissenting)); In re Hubbard, 825 F3d 225, 231 (4th Cir. 2016)("[I]t is for the district court to determine whether the new rule extends to the movant's case, not for this Court in this proceeding.") Lambert has made a prima facie showing that his proposed claim relies on Miller to warrant authorization of a second or successive habeas petition; we leave the merits of that habeas petition to the district court."

In re Lambert, 2018 U.S. App LEXIS 25332 (6th Cir. 9/5/2018; No. 18-1726 *3.

Relying on In re Lambert is appropriate as doing so does not nullify any portion of MCR 6.502(G)(2). The provision of MCR 6.502(G)(2), like §2244 authorizes the filing of a "second or subsequent motion **based on a retroactive change in law**". First, Miller is a retroactive change in law, and second, Manning's motion for relief from judgment seeking the extension of Miller to 18 year olds, is completely "based

on" that decision. To be "based on" is defined by "Black's Law Dictionary, (9th Edition, 2009) page 171 as "Derived from and therefore similar to, an earlier work".

Clearly, seeking to extend Miller to 18 year olds, "based on" Justice Kagan's rational that "youth matters" is appropriate under MCR 6.502(G)(2) as Manning's entire claim is premised on every facet of Miller, and only seeks to determine to what extent to extend youth matters, a determination which will necessarily embrace Miller's rationale.

Conclusion

Since MCR 6.502(G)(2) was styled in the spirit of § 2244, since Miller is retroactive, and since Manning sought after extension of Miller is based on that Court's rationale, then as the Sixth Circuit held, this Court should also conclude that a pleading seeking to extend a retroactive decision is an appropriate basis to allow a second or subsequent motion based on a retroactive change in law under MCR 6.502(G)(2).

SUMMARY ARGUMENT

As to the question posed in People v Manning, 2019 Mich LEXIS 2320; SC No. 160034, whether Miller v Alabama, 567 U.S. 460, 132 S. Ct. 2455; 183 L. Ed2d 407 (2012) should be extended to those adolescents over 18 years old under the greater protection of Michigan's Constitutional protection against cruel or unusual punishment based on the compelling reason made out below, Mr. Williams submits the following:

First, Justice Kagan has resolved the debate over whether a bright-line rule exists when she made clear that this was not the basis of Miller. Specifically, in Malvo v Mathena, 139 S. Ct. 1317, 203 L. Ed2d 563, during oral arguments in September of 2019, Justice Kagan rebuffed the Solicitor General's assertions that the Miller court's holding as to age was a categorical "bright-line rule", when she rejected that contention and stated with absolute certainty that the majority opinion in Miller, which she wrote, was based on the conclusion that "youth matters". (See Miller at S. Ct. 2465-2466).

Next, while many in opposition to the extension of Miller rely on that Court's failure to reject Roper's categorical "bright-line rule" in its opinion, Mr. Williams points out that oppositional point must also fail as a basis to the deny extension of Miller to those above 18 years old. Roper's rule was based on the potential misdiagnosis of the adolescent mind as psychopathic or sociopathic, based on the transitory characteristics which Dr. Steinberg, and the scientific community's studies identify as plaguing the adolescent mind. Roper 543 U.S. 560:

> "It is difficult even for expert psychologists to differentiate between the juvenile offender whose crime reflects unfortunate yet transient immaturity, and the rare juvenile offender whose crime reflects irreparable corruption. See Steinberg & Scott 1014-1016. As we understand it, this difficulty underlines the rule forbidding psychiatrists from diagnosing any patient under 18 as having antisocial personality disorder, a disorder also referred to as psychopatns or sociopathy, and which is characterized by calleousness, cynicism and contempt for the feelings, rights, and suffering of others."

As the Roper decision makes clear, the "bright-line rule announced was premised on a psychiatric prohibition against a particular diagnosis premised on the

commonality of symptoms between the transient adolescent mind and the criteria for a particular psychological condition.

Any bright-line rule premised on the presence of the transitory characteristics of the adolescent mind must fail, as such a rule does not embrace the true extent to which those characteristics remain into the adolescent life. For that reason, and based on the fact that in both Roper and Miller, Dr. Steinberg's amicus briefing was limited to the age of eighteen based on the controversy in the case before the court, (See Exhibit A, page 70, line 9 to page 71, line 19); therefore, should this Court choose to announce a "bright-line rule", that rule should be at the definitive point where those transient behavioral hindering characteristics are no longer present. A point in the development of the adolescent mind, which Dr. Steinberg explains clearly when not limited from doing so:

> "We have done this with people of different ages, then we can ask is the effect of being around your peers different, if you are an adolescent then if you are an adult. What we have found, as I said before, is that when people are in the presence of their peers, up until about the age of 24, or so, we get this peer effect where it increases their risk-taking and reward sensitivity, and we don't see that effect after age 24 where adults perform the same way when they are by themselves as when they are in a group." (See Exhibit A, page 24 line 7).

Clearly, any point at which a Bright-line rule is set should be where the reasons for lesser culpability no longer exists, which Dr. Steinberg submits is at the age of 24, i.e. 23 years, 11 months, and 29 days.

In the alternative, Mr. Williams submits, that such a bright-line rule would be appropriate when coupled with a burden shifting point of rebuttal set at 21 years old, (See Exhibit A, page 70, line to page 71 line 19), while those under 21 are granted a full mitigation hearing automatically, and those over 21 years of age carry the burden to qualify for a mitigation hearing based the preponderance of evidence that those characteristics identified by Dr. Steinberg still are present.

It is based on this approach that Mr. Williams submits that such a process is appropriate under Michigan's greater Constitutional protection of Art 1 § 16.

II

Based on both a proportionality and compelling reasons analysis, under Michigan's Constitutional Cruel or Unusual Punishment clause, Miller's holding should be extended to include youthful offenders upto the age of (19) nineteen years old

A. Introduction

Mr. Williams comes before this Court by way of invitation offered to interested individuals, groups, and organizations to submit an amicus curiae brief in the calendared case of People v Manning, 2019 Mich LEXIS 2320; 2019 WL 6771157. In that order this Court set out that "[o]ther persons or groups interested in the determination of the issues presented in this case may move the Court for permission to file briefs amicus curiae." Based on that order, Mr. Williams, brings his pleading addressing the second question framed by that order:

> "The appellant shall file a supplemental brief within 42 days of the date of this order addressing; (1) whether the defendant's successive motion for relief from judgment is "based on a retroactive change in law", MCR 6.502(G)(2), where the law relied upon does not automatically entitle him to relief; and (2) if so, whether the United States Supreme Court's decisions in Miller v Alabama, 567 U.S. 460, 132 S. Ct. 2455; 183 L. Ed2d 407 (2012), and Montgomery v Louisiana, 136 S. Ct. 718; 193 L. Ed2d 599 (2016) should be applied to 18 year old defendants convicted of murder and sentenced to mandatory life without parole, under the Eighth Amendment to the United States Constitution or Const 1963, art 1, § 16 or both."

It should be noted, the question posed does not convey the complexity and constitutional depth of the legal concepts necessary to the resolution of this very important issue to Michigan Jurispurdence. That is, that question and its resolution must embrace Michigan's Constitution, Michigan Statutes, and this Court's precedent. In fact, as recognized in People v Lorentzen, 387 Mich 167, 194 N.W.2d 827 (1972) this Court, in assessing the mandatory minimum of 20 years imprisonment for the sale of narcotics, indicated that essential to that inquiry is (a) whether the sentence is proportionate to the Crime, (b) the Evolving Standards of Decency, and (c) Rehabilitation. Beyond those three criteria announced in Lorentzen, this Court made clear its agreement with Mr. Williams's contention that this issue befbre tha Court

was complex and involved many different tests:

> "It will be seen from the above discussion of the leading United States Supreme Court case and cases decided by this court that the dominant test of cruel and unusual punishment is that the punishment is in excess of any that would be suitable to fit the crime. As we shall see, other standards or tests are also applicable but, clearly, both the United States Supreme Court and this Court have equated an excessive sentence with one that is cruel or unusual."

Lorentzen, 387 Mich at 176.

The criteria recognized in Lorentzen, is as applicable today in Manning, as it was to Lorentzen. That is, as this Court recognized in Lorentzen that other standards and tests are applicable to the question, those criteria listed above are also essential to the inquiry here.

(a) Proportionality

B. The Supreme Court's Determination in Miller limits the issue in Manning

While the Supreme Court holding in Miller v Alabama, 567 U.S. 460, 132 S. Ct. 2455; 183 L. Ed2d 407 (2012) resolves the "disproportionate" nature of mandatory life without the possibility of parole sentences for juveniles, it also serves to frame the underlying question central to this Court's review in Manning:

> "We therefore hold that the Eighth Amendment forbids a sentencing scheme that mandates life in prison without the possibility of parole for juvenile offenders. CF Graham, 560 U.S., at ---, 130 S. Ct., 2030 ("A State is not required to guarantee eventual freedom," but must provide "some meaningful opportunity to obtain release based on demonstrated maturity and rehabilitation"). By making youth (and all that accompanies it) irrelevant to imposition of that harshest prison sentence, such a scheme poses too great a risk of disproportionate punishment. Because that holding is sufficient to decide these cases, we do not consider Jackson's and Miller's alternate argument that the Eight Amendment requires a categorical bar on life without parole for juveniles, or at least for those 14 and younger. But given all we have said in Roper, Graham, and this decision about children's diminished culpability and heightened capacity for change, we think appropriate occassions for sentencing juvenviles to this harshest possible penalty will be uncommon. That is especially so because of the great difficulty we noted in Roper and Graham of distinguishing at this early age between "the juvenile offender whose crime reflects unfortunate yet transient immaturity, and the rare juvenile offender whose crime reflects irreparable corruption." Roper, 543 U.S., at 573, 125 S. Ct. 1183; Graham, 560 U.S., at ---, 130 S. Ct., at 2026-2027. Although we do not foreclose a sentencer's ability to make the judgment in homicide cases, we require it to take into account how children are different, and how those

> differences counsel against irrevocably sentencing them to a lifetime in prison."

Miller, 132 S. Ct. 2469.

While it is clear, that Miller held that mandatory life without the possibility of parole for juvenile offenders violates the Eighth Amendment, that decision put to rest that portion of the question before this Court in Manning, the Miller Court did not resolve the age at which the term "juvenile" no longer applied. In fact, the Supreme Court in Miller emphasized the "great difficulty" in making such a determination, did not reach and decide that issue; the question central to this Court's review in Manning. In other words, the Supreme Court did not undertake review of a bright-line rule as to the age cutoff in Miller, but instead chose to rely exclusive on it's earlier decisions in Roper, and Graham. Of those two decisions, while both were predicated on the Eighth Amendment, it was the decision of Roper, as reiterated in Miller, which sought to draw the bright-line rule indicating that the term juvenile applied only up to 18:

> "Drawing the line at 18 years of age is subject, of course to the objections always raised against categorical rules. The qualities that distinguish juveniles from adults do not disappear when an individual turns 18. By the same token, some under 18 have already attained a level of maturity some adults will never reach. For the reasons we have discussed, However, a line must be drawn. The plurality opinion in Thompson drew the line at 16. In the intervening years the Thompson plurality's conclusion that offenders under 16 may not be executed has not been challenged. The logic of Thompson extends to those under 18. The age of 18 is the point where society for many purposes draws the line between childhood and adults. It is we conclude, the age at which the line for death eligibility ought to rest."

Roper v Simmons, 543 U.S. 551, 560, 125 S. Ct. 1183, 161 L. Ed2d 1.

Admittedly, the rational of both Roper and Graham was adopted by extension in Miller. However, though adopted in Miller, the issue resolved in Roper was not the subject in Miller to what represents a judicial decision, which necessarily must be premised on full briefing, and be the result of an application of the judicial mind to the precise question of a categorical cutoff age, which is central to this Court's

review in Manning. Pollock v Farmers' Loan & Trust Co., 157 U.S. 429, 575; 15 S. Ct. 673; 39 L. Ed2d 759 (1895). For that reason, it must be noted that, the incorporation in Miller of those decisions in Roper and Graham does not change the analysis, all three of those decisions were based on the Eighth Amendment, a fact which must temper this review in light of what this Court has termed "the federal floor":

> "Thus, appropriate analysis of our constitution does not begin from the conclusive premise of a federal floor. Indeed, the fragile foundation of the federal floor as a bulwark against arbitrary action is clearly revealed when, as here, the federal floor falls below minimum state protections. As a matter of simple logic, because the text were written at different times by different people, the protections afforded may be greater, lesser, or the same."

Sitz, 443 Mich at 761-762.

As acknowledged by this Court it must first be recognized that the federal floor, as it relates to the question before this Court, must be taken from the facts of Miller, where the two 14 year old Petitioners did not seek, nor did the Court resolve or create a bright line rule for the cutoff age of juveniles. In fact, as can be seen, the Miller Court did rely, through dicta, on the Supreme Court's earlier decision in Roper v Simmons, 543 U.S. 551, 560, 125 S. Ct. 1183; 161 L. Ed2d 1. In other words, it was Roper which set out 18 as the bright line cutoff age for the term juveniles. However, as explained below, this Court is not limited by either the decision in Miller or the decision in Roper which were based on the much higher hurdle in the Eighth Amendment's prohibition against Cruel **and** Unusual punishment, which does not provide the greater protection Michigan's Constitution art 1, § 16's does in its prohibition against Cruel **or** Unusual punishment. These distinct difference between the federal and state constitutions serve to provide basis to extend Miller's rational.

C. This Court's Governing Limitation Against the Unprincipled Creation of Rights

In Sitz v Department of State Police, 443 Mich 744, 761-762, 506 NW2d 209 (1993) this Court, called on to address the compelling reason test, explained that

test is "[a] convenient formulation of the overarching responsibility to find a principle basis in the history of our jurisprudence for the creation of new rights." Notably, this Court asserted that while it gleaned from its previous decision that, "the Courts of this state should reject unprincipled creation of state constitutional rights that exceed their federal counterparts, it emphasized and left little doubt, that even though the courts of this state have a duty of restraint against the unfettered creation of rights, "our courts are not obligated to accept what we deem to be a major contraction of citizens protections under our constitution simply because the United States Supreme Court has chosen to do so." Sitz, Mich at 763.

Prior to the decision in Sitz, this Court gave guidance in People v Collins, 438 Mich 8, 31-32; 375 NW2d 684 (1991) when it recognized the lack of Michigan precedent on the issue, and went on to explain what the Compelling Reason Standard embraced:

> "Although a number of appellate decisions have referred to the compelling reason standard, little in the way of guidance has been provided concerning its contours and meaning. Surely, the beginning of consideration must be the axiomatic statement of this Court in Holland v Gardener City Clerk, 299 Mich 465, 470; 300 NW2d 777 (1941); 'It is a fundamental principle of constitutional construction that we determine the intent of the framers of the constitution and the people adopting it.' See Burdick v Secretary of State, 373 Mich 578, 584; 130 NW2d 380 (1964).
>
> We believe that compelling reason for an independent state construction might be found if there were significant textual differences between parallel provision of the state and federal constitutions, and particularly, if history provided reason to believe that those who framed and adopted the state provision had a different purpose in mind."

Put more succinctly, though in a footnote, this Court recognized in Sitz that Collins, 438 Mich at 31, n 39 provided several factors for determining whether a state constitution affords protection different from the federal constitution:

> 1) the textual language of the state constitution, 2) significant textual difference between parallel provisions of the two constitutions, 3) state constitutional and common-law history, 4) state law pre-existing adoption of the relevant constitutional provisions, 5) Structural differences between the state and federal constitutions and 6) matters of peculiar state or local interest."

D. The Constitutional Amendment at issue

Central to the Compelling Reason Standard evaluation, as posed by the second question in Manning is the decision of the United States Supreme Court in Miller v Alabama, 132 S.Ct. 2455; 183 L.ED2d 407 (2012), and the decision in Roper v Simmons, 543 U.S. 551, 125 S. Ct. 1183; 161 L. Ed2d 1. In Miller, (a 5 to 4 decision), the Court struck down the mandatory imposition of life without parole sentences imposed against juvenile offenders, holding that the mandatory nature of that imposition offended the Eighth Amendment prohibition against cruel **and** unusual punishment:

> "Graham, Roper, and our individualized sentencing decisions make clear that a judge or jury must have the opportunity to consider mitigating circumstances before imposing the harshest possible penalty for juveniles. By requiring that all children convicted of homicide receive lifetime incarceration without the possibility of parole, regardless of their age and age related characteristics and the nature of their crimes, the mandatory sentencing schemes before us violate this principle of proportionality, and so the Eighth Amendment's ban on cruel **and** unusual punishment." **(emphasis added)**

Miller, 132 S. Ct. 2466.

In Roper, the Surpeme Court set out a bright line rule of 18 years as cutoff for the prohibition against the death penalty, holding it such a sentence against juveniles under 18 years old offended the Eighth Amendment prohibition.

E. The Compelling Reasons Standard

1) The Textual Language of the Constitutions

As the holdings in Miller and Roper were addressed under the constitutional prohibition of "cruel **and** unusual" punishment set out under the Eighth Amendment, the difference in that Amendment's language and the language of Michigan's Constitution art 1, § 16 pronioiting "cruel **or** unusual" punishment is significant.

a) Eighth Amendment of the United States Constitutions

> "Excessive bail shall not be required, nor excessive fines imposed, nor cruel **and** unusual punishment inflicted.

b) Michigan Constitution Art 1, § 16

> "Excessive bail shall not be required; excessive fines shall not be

> imposed; cruel **or** unusual punishment shall not be inflicted; nor shall witnesses be unreasonably detained."

2. Significance of Textual Differences Between the State and Federal Constitution

This Court agrees that, as it recognized in Bullock, supra, there are significant differences between the federal and state constitutional prohibition which are relevant and obviously applicable to the question posed in Manning:

> "First, as we have already noted, the Michigan provision prohibits "cruel **or** unusual" punishments, while the Eighth Amendment bars only punishments that are both "cruel **and** unusual."

As this Court made note of the textual differences between the federal and state constitutions, it went on to explain in Bullock that its prior holding in Collins was still good law: a "significant textual difference[] between parallel provision of the state and federal constitutions may constitute a 'compelling reason' for a different and broader interpretation of the state provision." See Bullock at Mich 31, and Collins at 438 Mich 32. That is, since the decisions in Miller and Roper embraced the provision of the Eighth Amendment, and the extension of that holding in Manning is premised under Michigan's Constitution art 1 § 16, then logically it is Michigan's Constitution which should control the inquiry, even though the rationale of Miller and Roper are also central to and persuasively applicable to the issue before this Court.

3. State Constitutional and Common Law History

Again, as this Court explained, Michigan's Constitutional and common law history represents a clear intent of the framers and people of the state to diverge the specific protection of Michigan's Constitution from that of the federal constitutions Eighth Amendment where it adopted the distinctly different provision against "cruel" or "unusual" punishment under Art 1, § 16:

> "This textual difference does not appear to be accidental or inadvertent. Language providing that "no cruel or unusual punishment shall be inflicted was included in Article II of the Northwest Ordinance of 1787. Michigan's first Constitution, adopted in 1835, provided that "cruel and unjust punishment shall not be inflicted." Const 1835, art 1, § 18

(emphasis added). The Constitution of 1850 provided that "cruel or unusual punishment shall not be inflicted . . ." Const 1850, Art 6, § 31 (emphasis added) Identical language was adopted as part of the 1908 and 1963 Constitution. See Const 1908, art 2, §15; Const 1963, art 1, § 16.

As this Court recognized in Bullock, Michigan's Constitution has remained the same language and provided the same protections since the adoption of Michigan's Constitution of 1850, Art 6, § 31, to Michigan's Constitution of 1908, Art 2, § 15 and again in Michigan's Constitution of 1963, Art 1, § 16.

4. State Law Preexisting Adoption of the Relevant Constitutional Provisions

As this Court addressed in People v Bullock, 440 Mich 15, 27; 485 N.W.2d 866 (1992), while Miller and Roper are binding and authoritative for purpose of applying the United States Constitution, it is only persuasive authority for purposes of this Court's interpretation and Application of Michigan's Constitution. This rational, though announced in Bullock in relation to Harmelin v Michigan, 501 U.S. 957; 111 S. Ct. 2680; 115 L. Ed2d 826 (1991), still holds true in relation to Miller and Roper, as it has always been solely this State Supreme Court's ultimate duty to determine the meaning and application of Michigan law. See In re Apportionment of State Legislature, 413 Mich 96, 116, n 11; 321 N.W.2d 565 (1982). This is especially true in the face of a sharply divided decision of the Supreme Court, as it is true of this Court's interpretation of Michigan's Constitution which is at odds with the federal constitution:

> "To note that we have the authority to interpret the Michigan Constitution more expansively than the United States Constitution does not, of course, lead to the conclusion that we should or will choose to exercise that authority in any particular area. It is entirely possible, in a given case or area, that our independent judgment will lead to our agreeing with the reasoning of the United States Supreme Court. See, e.g., Doe v Dept of Social Services, 439 Mich 650, 487 N.W.2d 166 (1992)(rejecting a state constitutional right to abortion funding). For example, in the area of search and seizure law, governed by the Fourth Amendment of the United States Constitution and Const. 1963 art 1, § 11, this Court held, on the basis of a careful examination of the text and history of the latter clause, and the understanding of the voters who adopted it, that it should not be interpreted to afford any greater protection than the parallel federal clause, absent a "compelling reason" for doing so. See People v Collins, 438 Mich 8, 25-29; 475 N.W.2d 684 (1991); People v Perlos, 436

> Mich 305, 313, n 7; 462 N.W.2d 310 (1990); People v Nash, 418 Mich 196 , 208-215; 341 N.W.2d 439 (1983) (opinion of Brickley, J.) See also People v Hill, 429 Micn 382, 393; 415 NW2d 193; People v Collier, 426 Mich 23, 39; 393 NW2d 346 (1986)(interpreting the Self-Incrimination Clause of Const. 1963 art 1, § 17)"

Bullock, Mich at 28-29.

In recognizing this principle of Michigan law, this Court went on to conclude that Michigan's Constitution art 1, § 16 controls over the Eighth Amendment of the United States Constitutional prohibition against "cruel and unusual" punishment:

> "We believe the precedential weight of Lorentzen and its antecedents, as a matter of Michigan law, constitutes a very compelling reason not to reflexively follow the latest turn in United States Supreme Court's Eighth Amendment Analysis."

Just as this Court held in Bullock, it should hold under this case that Michigan's Constitution Art 1, § 16 provides greater protection to its citizens from cruel or unusual punishment.

5. Structual Differences Between State and Federal Constitutions

Where the word "and" is used it represents a conjunction and does not allow for reliance on either individual portion of the phrase where, e.g. the United States Constitution provides in the Eighth Amendment that "cruel and unusual" punishment is prohibited. That conjunctive relationship between "cruel" and "unusual" creats a higher burden to demonstrate that the sentence imposed offends that provision of the United States Constitution. In Michigan however, the language of Michigan's Constitution Art 1, § 16 is so structurally different to that of the federal provision, that its use of "or" provides that a sentence may demonstrate its unconstitutionality upon evidence that it is either "Cruel" or "Unusual".

6. Matters of peculiar state or local interest

Next, as this Court concluded in Bullock, Michigan's longstanding precedent controls. In fact, this court in Bullock reiterated the rational of Lorentzen emphasizing that based on the weighty precedent under Michigan Law, this court would not reflectively follow the United States Supreme Court's limited Eighth Amendment

Analysis:

> "It is unclear, in the wake of Harmelin, whether Lorentzen's or Solem's analysis survives as a matter of federal constitutional law, and that need not concern us in any event, Lorentzen's analysis, although relying in the alternative on the Eighth Amendment, was firmly and sufficiently rooted in Const. 1963, art 1, §16. Indeed, we preceded our proportionality analysis in Lorentzen with a lenghty review of Michigan case law dating back to 1879. See 387 Mich 173-176. We believe the precedential weight of Lorentzen and its antecedents, as a matter of Michigan law, constitutes a very compelling reason not to reflexively follow the latest turn in United States Supreme Court's Eighth Amendment analysis. We therefore continue to adhere, on the basis of the Michigan Constitution, to the analysis set forth in Lorentzen and later adopted in Solem."

Bullock 440 Mich 33-35.

Mr. Williams points out that this Court's refusal to reflexively follow the United States Supreme Court based upon Michigan's weighty precedent, should also be the ruling here. That is, this Court's has and should exercise its exclusive authority over the interpretation of Michigan's Constitution and should reach the conclusion that this State's Constitution controls over any reflexive adoption of Miller. In re Apportionment of State Legislature, 413 Mich at 116.

F. Other Compelling Reasons to extend greater protection under Michigan's Constitution

Additionally, providing more, a compelling basis to avoid the reflexive adoption of Miller's age limitation or and Roper's bright-line rule, is that Miller's adoption of Roper was dicta, and Roper's rational for its bright-line rule to begin with:

> "It is difficult even for expert psychologists to differentiate between the juvenile offender whose crime reflects unfortunate yet transient immaturity, and the rare juvenile offender whose crime reflects irreparable corruption. See Steinberg & Scott 1014-1016. As we understand it, this difficulty underlies the rule forbidding psychiatrists from diagnosing any patient under 18 as having antisocial personality disorder, a disorder also referred to as psychopathy or sociopathy, and which is characterized by callousness, cynicism, and contempt for the feelings, rights, and suffering of others. American Psychiatric Assosiation, Diagnostic and Statistical Manual of Mental Disorders 701-706 (4th ed. text rev. 2000); see also Steinberg & Scott 1015. If trained psychiatrists with the advantage of clincial testing and observation refrain, despite diagnostic expertise, from assessing any juvenile under 18 as having antisocial personality disorder, we conclude that States should refrain from asking jurors to

> issue a far greater condemnation -- that a juvenile offender merits the death penalty. When a juvenile offender commits a heinous crime, the State can exact forfeiture of some of the most basic liberties, but the State cannot extinguish his life and his potential to attain a mature understanding of his own humanity.
>
> Drawing the line at 18 years of age is subject, of course to the objections always raised against categorical rules. The qualities that distinguish juveniles from adults do not disappear when an individual turns 18. By the same token, some under 18 have already attained a level of maturity some adults will never reach. For the reasons we have discussed, However, a line must be drawn. The plurality opinion in Thompson drew the line at 16. In the intervening years the Thompson plurality's conclusion that offenders under 16 may not be executed has not been challenged. The logic of Thompson extends to those under 18. The age of 18 is the point where society for many purposes draws the line between childhood and adults. It is we conclude, the age at which the line for death eligibility ought to rest."

Roper v Simmons, 543 U.S. 551, 560, 125 S. Ct. 1183, 161 L. Ed2d 1.

Mr. Williams submits that beyond the language above and the rational for the line drawn at the age of 18, no court has revisited either. In fact, the Miller court did not reach and decide any substantive arguments for or against Roper's conclusions. That fact is indisputable, as evidanced by the Miller court's conclusory remark: "[w]e therefore hold that mandatory life without parole for those under the age of 18 at the time of their crimes violates the Eighth Amendment's prohibition on "cruel and unusual punishments". That summary statement and the actual opinion in Miller both demonstrate that beyond dicta, the Miller court did not apply its judicial mind to the vital question now before this court:

> "We therefore hold that the Eighth Amendment forbids a sentencing scheme that mandates life in prison without the possibility of parole for juvenile offenders. CF Graham, 560 U.S., at ---, 130 S. Ct., 2030 ("A State is not required to guarantee eventual freedom," but must provide "some meaningful opportunity to obtain release based on demonstrated maturity and rehabilitation"). By making youth (and all that accompanies it) irrelevant to imposition of that harshest prison sentence, such a scheme poses too great a risk of disproportionate punishment. Because that holding is sufficient to decide these cases, we do not consider Jackson's and Miller's alternate argument that the Eight Amendment requires a categorical bar on life without parole for juveniles, or at least for those 14 and younger. But given all we have said in Roper, Graham, and this decision about children's diminished culpability and heightened capacity for change, we think appropriate occassions for sentencing juvenviles to this harshest possible penalty will be uncommon. That is especially so because of the

> great difficulty we noted in Roper and Graham of distinguishing at this early age between "the juvenile offender whose crime reflects unfortunate yet transient immaturity, and the rare juvenile offender whose crime reflects irreparable corruption." Roper, 543 U.S., at 573, 125 S. Ct. 1183; Graham, 560 U.S., at ---, 130 S. Ct., at 2026-2027. Although we do not foreclose a sentencer's ability to make the judgment in homicide cases, we require it to take into account how children are different, and how those differences counsel against irrevocably sentencing them to a lifetime in prison."

Miller, 132 S. Ct. 2469.

The rationale above has been underscored where Justice Kagan has most recently reiterated that Miller decision's limitation to those juveniles under 18 years old was not a bright-line rule when, during oral arguments in Malvo v Mathena, 139 S. Ct. 1317, 203 L.Ed2d 563, she rebuffed the Solicitor General's assertions that the Miller court's holding as to age was a categorical "bright-line rule". Justice Kagan, rejecting that contention, stated with absolute clarity that the majority opinion in Miller, which she wrote, was based on "youth matters", (See Miller, S. Ct. 2465-2466) not a bright-line rule.

For that reason, taking Roper for what it was, and Miller's adoption of Roper for what it is, no other conclusion can be appropriate under Michigan's Constitution; This Court should extend greater protection to Michigan's youthful offenders, up to 19 years old, as both, the compelling reasons above, and the evolving standards of decency analysis below demonstrates, Miller's holding does not rest on a "bright-line rule".

(b) Evolving Standard of Decency

In Spaziano v Florida, 468 U.S. 447, 471, 104 S. Ct. 3154, 82 L. Ed2d 340 (1984) (quoting Gregs v Georgia, 428 U.S. 153, 173), while the court explained their cases have established the appropriate mode of analysis, they elaborated on those cases emphasizing "there must be an assessment of contemporary values concerning the infliction of a challenged sanction," to determine whether punishment has been imposed in a way that offends an Evolving Standard of Decency."

In another case embracing an "evolving standard of decency analysis, Rhodes v Chapman, 452 U.S. 337, 346, 101 S.Ct. 2392, 69 L. Ed2d 59 (1981), that Court, addressing a condition of confinement claim, concluded:

> "No static test can exist by which courts determine whether conditions of confinement are cruel and unusual, for the Eighth Amendment 'must draw its meaning from the evolving standard of decency that mark the progress of a maturing society.' Trop v Dulles, 356 U.S. 86, 101 (1958)(plurality opinion). The Court has held, however, that Eighth Amendment Judgments should neither be, nor appear to be merely the subjective views of judges. Rummel v Estelle, 445 U.S. 263, 275 (1980). To be sure "the Constitution contemplates that in the end [a court's own judgment will be brought to bear on the question of the acceptability" of a given punishment. Coker v Georgia, supra, at 597. (plurality opinion); Gregg v Georgia supra, at 182 (joint opinion). But such "[Judgments] should be informed by objective factors to the maximum possible extent." Rummel v Estelle, Supra at 274-275, quoting Coker v Georgia, supra at 592 (Plurality Opinion). For example, when the question was whether capital punishment for certain crimes violated contemporary values, the court looked for "objective indicia" derived from history, the action of state legislature, and the sentencing by juries. Gregg v Georgia, supra, at 176-187, Coker v Georgia, supra at 593-596."

While couched in relation to capital punishment, those principles announced in Rhodes, still have relevance here. (See Miller at S.Ct. 2464 where the Supreme Court acknowledged Graham's likening of life without parole to the death penality). Further, in Spaziano, despite those qualifications above, the Court emphasized that "[a]lthough the judgment of legislatures, juries, and prosecutor's weigh heavily in the balance, it is ultimately for us to judge whether the Eighth Amendment is violated by a challenge practice", Id at 471. That Court went on to explain that "legislative measures adopted by the people's chosen representative weigh heavily in ascertaining contemporary standards of decency." Spaziano at 472 (quoting Woodson v North Carolina, 428 U.S. 280, 294-295, 96 S. Ct. 2978, 49 L. Ed2d 944 (1976). Mr. Williams contends that is not the case here.

No Deference Should be Paid to the Legislative Enactment of MCL 769.25a

While Mr. Williams agrees that it is for this court to decide whether "Mandatory Life" for 18 year olds offends Article 1, § 16 of the Michigan Constitution, and he disputes whether this court should give deference to MCL 769.25

and MCL 769.25a as a legislative measure entitled to weighty consideration in this Court's evolving standard of decency analysis.

The reasons for such a stance rest in the fact that the Michigan Legislature's adoption of MCL 769.25 and MCL 769.25a were not a "measured" adoption of MCL 769.25 and MCL 769.25a, but both were, in relation to the issue before this court, based completely on Miller's dicta, and a preemptive effort against the Order in Hill v Snyder, 2013 U.S. Dist LEXIS 12160 (January 30, 2013) which announced that MCL 791.234(6)'s provision was unconstitutional as it applied to juveniles non-parolable life sentences, contrary to Miller.

This can be seen from Judge O'Meara's orders in Hill v Snyder, 2013 U.S. Dist. LEXIS 12160 (January 30, 2013) where the Court struck down Michigan Compiled Law 791.234(6) as unconstitutional as applied to juveniles and emphasized the Court's striking down of non-parolable life sentences would be enforced immediately if the state failed to act.

Further, in direct response to that holding, Michigan's legislature introduced Bill 319 on March 16, 2013. See 2013 Bill Tracking LEXIS Mi S.B. 319. Later, that bill was adopted and codified as MCL 769.25 and MCL 769.25a. Specifically, those bills provided that each provision would be made effective, only upon the United States Supreme Court's subsequent determination that Miller was retroactive. This short and nasty sponsoring and enacting of MCL 769.25 and MCL 769.25a can not be considered a "measured" act of the legislature. In fact, at the time the bill was sponsored, the Michigan Attorney General's office had consistently been opposing the application of Miller to Michigan juvenile offenders sentenced to mandatory life. Despite that opposition, the office of the Attorney General, in an alternative approach sought to have Senate Bill 319 sponsored to avoid the order of Judge O'Meara, (Hill v Snyder, 2013 U.S. Dist LEXIS 112981 *4, and 821 F 3d 763, 767 (6th Cir 2016), which set out that compliance was mandated by a specific deadline.

Finally, it should make no difference whether this court recognizes MCL 769.25a reliance on Miller as being a measured legislative act or not. The fact that MCL 769.25 and MCL 769.25a are premised on Miller's holding being made retroactive, as mentioned above, and Miller's reliance exclusively on the holding of Roper setting the categorical age at up to 18 years old, then no deference should be paid to either, Miller's adoption of Roper through dicta, or Michigan's legislature's unmeasured extension of that dicta when it enacted MCL 769.25a, but instead, this Court should exercise its exclusive authority to assess the evolving standard of decency and resolve at what point Michigan Constitution will tolerate the lesser culpability of the adolescent mind, and presumptively hold them to be culpable as an adult.

Roper and its basis

It can not be overlooked, much of the historical background relied in Roper, as adopted in Miller, is an advantageous starting point for this aspect of consideration:

> "Three general differences between juveniles under 18 and adults demonstrate that juvenile offenders cannot with reliability be classified among the worst offenders. First, as an parent knows and the scientific and socialogical studies respondent and his amici cite tend to confirm, '[a] lack of maturity and an underdeveloped sense of responsiblity are found in youth more often than in adults and are more understandable among the young. These qualities often result in impetuous and ill-considered actions and decisions. Johnson, supra, at 367, 125 L. ed2d 290, 113 S. Ct 2658; see also Eddings, supra, aat 115-116, 71 L. Ed2d 1, 102 S.Ct. 869 ("Even the normal 16 year-old customarily lacks the maturity of an adult"). It has been noted that "adolescents are overrepresented statistically in virtually every catergory of reckless behavior." Arnett, Reckless Behavior in Adolescence: A Developmental Perspective, 12 Developmental Review 339 (1992). In recognition of the comparative immaturity and irresponsiblity of juveniles, almost every State prohibits those under 18 years of age from voting, serving on juries, or marrying without parental consent. See Appendixes B-D, infra.
>
> The Second of difference is that juveniles are more vulnerable or susceptible to negative influences and outside pressures, including peer pressure. Eddings, supra, at 115, 71 :. Ed 2d 1, 102 S. Ct. 869 ("[Y]outh is more than a chronological fact. It is a time and condition of life when a person may be most susceptible to influence and to psychological damage"). This is explained in part by the prevailing circumstances that

> juveniles have less control, or less expreience with control, over their own environment. See Steinberg & Scott, Less Guilty by Reason of Adolescence: Developmental Immaturity, Diminished Responsibilty, and the Juvenile Death Penalty, 58 Am. Psychologist 1009, 1014 (2003)(hereafter Steinberg & Scott) ("[A]s legal minors, [juveniles] lack the freedom that adults have to extricate themselves from a criminogenic setting").
>
> The third broad difference is that the character of a juvenile is not as well formed as that of an adult. The personality traits of juveniles are more transitory, less fixed. See generally E. Eirkson, Identity: Youth and Crisis (1968)." (Roper, U.S. 569-560.

Ultimately, in Roper the Court went on to conclude that neither retribution nor deterence provided an adequate basis to impose the harshest possible sentences against juveniles:

> "In concluding that neither retribution nor deterence provides adequate justification for imposing the death penalty on juvenile offenders, we cannot deny or overlook the brutal crimes too many juvenile offenders have committed. See Brief for Alabama et al. as Amici Curiae. Certainly it can be argued, although we by no means concede the point, that a rare case might arise in which a juvenile might arise in which a juvenile offender has sufficient psychological maturity, and at the same time demonstrates suffiicient depravity, to merit a sentence of death. Indeed, this possibility is the linchpin of one contention pressed by petitioner and his amici. They assert that even assuming the truth of the observation we have made about juveniles' diminished culpability in general, jurors nonethelss should be allowed to consider mitigating arguments related to youth on a case-by-case basis, and in some cases to impose the death penalty if justified. A central feature of death penalty sentencing is a particular assessment of the circumstances of the crime and the characteristics of the offender. The system is designed to consider both aggravating and mitigating circumstances, including youth, in every case. Given this Court's own insistence on individualized consideration, petitioner maintains that it is both arbitrary and unnecessary to adopt a categorical rule barring imposition of the death penalty on any offender under 18 years of age.
>
> We disagree. The difference between juvenile and adult offenders are to marked and well understood to risk allowing a youthful person to receive the death penalty oespite insufficient culpability. An unaccetpable likelihood exists that the brutality or cold-blooded nature of any particular crime would overpower mitigating arguments based on youth as a matter of course, evan where the juvenile offender's objective immaturity, vulnerability, and lack of true depravity should require a sentence less severe than death. In some cases a defendant's youth may even be counted against him. In this very case, as we noted above, the prosecutor argued Simmons' youth was aggravated rather than mitigating. Surpa, at 568, 161 L. Ed.2d. at 14. While this sort of overreaching could be corrected by a particular rule to ensure that the mitigating force of youth is not overlooked, that would not address our larger concerns.

> It is difficult even for expert pyschologists to differentiate between the juvenile offender whose crime reflects unfortunate yet transient immaturity, and the rare juvenile offender whose crime reflects irreparable corruption. See Steinberg & Scott 1014-1016. As we understand it, this difficulty underlines the rule forbidding psychiatrists from diagnosing any patient under 18 as having antisocial personality disorder, a disorder also referred to as psychopathy or sociopathy, and which is characterized by calleousness, cynicism, and contempt for the feelings, rights, and suffering of others. American Psychiatric Association, Diagnositc and Statistical Manual of Mental Disorders 701-706 (4th ed. text rev. 2000); see also Steinberg & Scott 1015. If trained psychiatrists with the advantage of clinical testing and observation refrain, despite diagnostic expertise, from assessing any juvenile under 18 as having antisocial personality disorder, we conclude that State should refrain from asking jurors to issue a far graver condemnation -- that a juvenile offender merits the death penalty. When a juvenile offender commits a heinous crime, the State can exact forfeiture of some of the most basic liberties, but the State cannot extinguish his life and his potential to attain a mature understanding of his own numanity.
>
> Drawing the line at 18 years of age is subject, of course to the objections always raised against categorical rules. The qualities that distinguish juveniles from adults do not disappear when an individual turns 18. By the same token, some under 18 have already attained a level of maturity some adults will never reach. For the reasons we have discussed, however, a line must be drawn. The plurality opinion in Thompson drew the line at 16. In the intervening years the Thompson plurality's conclusion that offenders under 16 may not be executed has not been challenged. The logic of Thompson extends to those under 18. The age of 18 is the point where society for many purposes draws the line between childhood and adults. It is we conclude, the age at which the line for death eligibility ought to rest."

Roper v Simmons, 543 U.S. 551, 560, 125 S. Ct. 1183, 161 L. Ed2d 1.

Clearly, the Roper Court's rational and basis for drawing the line at 18 years old rest in large part on the scientific evidence set forth in the 2003 report of Steinberg & Scott. See Roper U.S. 569-570. Based on that fact, Mr. Williams points out the obvious, that report and the basis for it, issued 17 years ago, was not revisited or challenged in Miller, despite the significant changes that have developed in the evidence, testing, and confidence in the scientific community that Dr. Keating and Steinberg are the correct. This can be seen from the summary of Dr. Daniel P. Keating Ph.d, of the University of Michigan, addressing some of those changes in the developmental scientific evidence recorded on the mapping of the juvenile brain since Roper, and in some instances, beyond the basis of proof

available at the time of Miller, which seems to paraphrase Roper's conclusions. It this developmental science which should be a central consideration in this Court's decision in Manning, and should form the basis for this Court to extend Miller's "Youth Matters" stance. (See Miller S. Ct. 2465-2466).

In other words, since many of those new developments where not available to the Court for the Roper decision, and since the question framed by this Court was not briefed, argued or decided in Miller, then Dr. P. Keating's summary providing an overview of what each scientific methodology represents, should serve to give some guidance to this Court and promote a useful understanding of the sources of the evidence referenced in Dr. Keating's summary in support of his and potentially this Court's conclusions:

> **Structural neuroscience:** This refers to evidence on the changing structure of the "static" brian, that is, when it is not performing a task. There are several methods for this, but most prominent currently is diffusion tensor imaging (DTI), collected during a session of magnetic resonance imaging (MRI). This allows the characterization of the size of various parts of the brain, how they differ with age, and how they are connected with each other.
>
> **Functional neuroscience:** This assesses how the brain is working while it is engaged in a task, most prominently in functional MRI (fMRI) and various forms of electrical encephalography (EEG), such as evoked response potential (ERP). These use different physical methods (blood flow in fMRI, electrical signals in ERP), but they have the same goal, to elucidate the time and location of brain activity.
>
> **Cognitive and behavioral evidence:** In addition to the brain imaging evidence above there are large amounts of behavioral and cognitive evidence that are relevant to the DMM, including self-report of sensation seeking, impulsivity, and risk judgments, among others, as well as performance on cognitive task that assess EF, risk-reward trade-offs, and others."

In addressing these differing types of scientific methodologies Dr. Keating explained that while the conclusions arising from the methodologies above represent a "Convergence of Findings" the scientific community has strong confidence in those, all of which have become accepted across their profession and community:

> "with respect to the confidence that is warranted with respect to the findings described above, one of the most important criteria (used in this summary) is to focus on findings where there is a convergence of methods

across methods and content. Specifically, where the same developmental pattern emerges from structural brain imaging, functional brain imaging, cognitive and behavioral evidence, and the epidemiology of risk behavior, we can have strong confidence in the major findings."

Dr. Keating's confidence should carry significance, as should the scientific communities, in the consideration of the issue before this Court. In fact, Mr. Williams submits that in addressing issues which go to the core of the questions to be decidad, Dr. Keating's summary directed at a) " the immaturity of the prefrontal cortex and executive functions; b) the elevation of socioemotional and incentive systems, and c) the developmental maturity mismatch between those two brain systems", when viewed together with the testimony of Dr. Steinberg, provides a complete picture of the data and studies not fully considered or available to Miller, or Roper. Each of these systems are relevant to the determination to be made by this Court in People v Manning, as to whether it is that "youth matters" or whether Michigan's constitution will tolerate a "bright-line rule":

"**Immaturity of Prefrontal Cortex (PFC) and Executive Function (EF)**

Executive Function, judgment, and decision making. The prefrontal cortex of the brain (the PFC) has long been understood to have the principal function of carrying out what are known as the "executive functions" (EF). These included basic functions such as working memory and planning, as well as the direction of cognitive resources (known as "effortful control") and, especially relevant here, impulse control (also known as the "inhibition of prepotent responses") and decision-making in complex situations. The PFC is known to begin development in early childhood and to continue that development through the childhood, adolescent, and early adult years, showing full adult maturity in the early to mid 20s. It is the functioning, and especially its immaturity, that is referenced in discussions of suboptimal adolescent judgment, especially in complex decision-making context that include competing demands. Another key aspect of the PFC is that it has limited capacity. When fully engaged in one task involving effortful control, it has limited or no capacity to undertake additional tasks that require judgment. This has two implications: (1) having to embarked on a plan to undertake a risky behavior, the execution of that plan may use up available PFC resources compromising the individual's ability to adjust behavior when circumstances warrant (2) engagement with other activities that demand PFC resources, such as maintaining status among peers, may make the limited PFC resource unavailable.

Governance of other brain systems. In addition to the EF developments just described, the PFC shows development in a related function, the governance

> of other brain systems. This is also a gradual series of developments, as peripheral systems are brought more fully under the direction of the PFC. (This is the basis of the colloquial designation of the PFC and its projections to other brain regions as the "top brain") It is not until the early to mid-20s that the ability to delegate tasks efficiently to other brain systems, relieving the PFC of its role to maintain effortful control and freeing up PFC space for other demands."

(Exhibit B)

This summation of Dr. Keating finds support in the field of neuroscience where research depicts adolescence as a period of continuing brain growth and change. In fact, neuorimaging studies in 1999, showed continued development through adolescence of the brain's frontal lobe - essential for such functions as anticipating consequences, planning, and controlling impulses. Recognized in these studies was that Gray brain matter in the frontal lobe has been shown to spike just prior to adolescence, and then decrease between adolescence and early adulthood in a process known as pruning. ("Like sculpting a tree, pruning mirrors "cutting back branches [to] stimulate[] health and growth.") That is, the gray matter reduction is accompanied by a white matter increase. Through the cellular maturation process know as myelination, the increase of white matter correlates with improved cognitive functioning." See "Extending Sentencing Mitigation for Deserving Young Adults, 104 J. Crim. L. & Criminology 667, 677-679. ("When a team of neuroscientists finally mapped the trajectory of brain maturation using sample of individual ranging in age from seven to eighty-seven, they observed gray matter density changes continuing beyond adolescence into adulthood.") Id.

Put differently, as the studies relied on above demonstrate the PFC has an inability to delegate its resources during its formative years, which is not based on theory, but is in fact based on a physical limitation in the PFC caused by the absence of "white brain matter" and directly correlates by the amount available to be engaged, with the PFC's ability to share resources with the functions of the other brain systems. Absent sufficient "white brain matter" there are not enough PFC

resource available to engage in more than one task at a time, until the early to mid 20's. In the face of that absence then, as recognized through the mapping of the trajectory of white brain matter development, those deficiencies in someone who has not attained the age of maturity, represents that those individuals suffer not from a phantom illness or mental defect, but from a physical absence of needed white brain matter, which beyond that individual's control, almost certainly makes it an impossibility for them to engage in two separate and distinct activities as the exhaustion of PFC resources serves to "compromise the individual's ability to adjust behavior when circumstance warrant". It is only once the PFC is relieved of a task it is performing that it's resources will become available for the PFC to maintain effortful control over the next task to be performed.

Importantly, while Dr. Keating's summary provided an overview of the PFC's limitations based on the neurosceince studies, Dr. Steinberg in the simplest terms, clarified to the Court that the cognitive control system is responsible for self-regulation, and advanced thinking abilities:

> "A. The prefrontal cortex is the area of the brain that's located directly behind the forehead. It's mainly responsible for advance thinking abilities like logical reasoning and planning ahead, but it's also responsible for what psychologists refer to as self-regulation, the ability to control our behavior and our thoughts and our emotions"

(See Exhibit A; Cruz v United States, 11-cv-787-JCH (U.S. Dist. Connecticut. 2017) page 8, line 3-8).

Notably, Dr. Steinberg went on to explain that the prefrontal cortex, impacted by puberty on the brain, develops gradually, remaining immature over much of the middle and late adolescence years. (Exhibit A, page 9, line 2-12). Importantly, Dr. Steinberg emphasized that among the scientific community, adolescence is described as spanning 10 to 21, (Exhibit A, page 6 line 15-16,) with early adolescence being 10 to 13, middle adolescence being 14 to 17, and late adolescence being 18 to 21. (Exhibit A, page 11, line 7 to 11) In fact, while Dr. Steinberg

provided these age catergories as reference points, he opined that he could concede that all brain systems with respect to psychological function, and brain development would not be complete until the age of 22 or 23 years old was reached. (Exhibit A, page 12, line 18 to page 13, line 8.

Next, not unrelated to the physical limitation and gradual development of the PFC, as an aspect of the limitedly available white brain matter, Dr. Keating's summary contends that beyond that limitation, there are significant impediments to the processes above caused by or through the involvement of the Socioemotional and Incentive System. These also, Dr. Keating explained, effect the youthful mind and its decision making:

> **Elevation of Socioemotional and Incentive Systems**
>
> **Incentive systems**: Beginning in early to mid-adolescence, there is a sharp increase in what are termed "incentive systems" that entail complex neural circuitry, including emotional arousal (associated most strongly with the amygdala), sensation seeking (mediated by activity in the ventral striatum), and the heightened experience of rewards (mediated by a sharp increase in dopamine receptors) - a coordinated limbic system often referred to colloquially as the "bottom brain". These developments also coincides with (and may be partially explained by) significant changes in the hormonal balance associated with pubertal shifts, principally as an activation of the HPG-axis (Hypothalamic-pituitary-gonadal) whose endpoint is the production of the steroids testosterone and estrogen (among others). These developments are observed behaviorally and cognitively as a significant increase in exploratory and sensation seeking behaviors during this same period of development when the governing capabilities of the PFC are limited (a mismatch described further below).
>
> Benefits over risks. There is substantial evidence that the factors above lead adolescents to focus more heavily on the benefits of risky behavior than on the possible negative consequences of their actions. This is not because adolescents are incapable of understanding or evaluating possible consequences of risky behavior, which under conditions of "cold cognition" (where nothing arousing or incentivizing is activated) is roughly the same as adults. Rather, they value the potential benefits of the behavior more highly than adults, altering the risk/benefit ratio in favor of undertaking unwise risks.
>
> Peer susceptibility. Among the most incentivizing and arousing contexts for adolescent risk behavior is the susceptibility to peers, sometimes in response to pressure (to maintain social status) but also because of the rewards (both behavioral and brain-activated) associated with peer influence. Under experimental conditions of peer presence, different neural circuits are activated than when performing a judgment task on one's own.

> In combination with the limited PFC capabilities noted above, the impact of peers is substantially higher for adolescents than for adults."

(Exhibit B)

While Dr. Keating addressed "benefit-over-risks", and "peer susceptibility" of the incantive system as aspects of the adolescent mind, again Dr. Steinberg explained to the Court in Cruz that in regard to these two aspects of the adolescent mind it is appropriate to compare the prefrontal cortex as serving in the capacity of a brake, and the limbic system as serving as an accelerator. (See Exhibit A, Cruz HT at page 8, line 22 to 24). Dr. Steinberg explained that in that analogy, that the prefrontal cortex, significantly lacked regulation of the limbic system in relation to reward-seeking:

> "Q. With regards to reward-seeking behavior, is the prefrontal cortex everything in terms of regulating that when it comes to rewards?
>
> A. No. Because reward-seeking is a combination of an urge to go after a reward and the ability to put the reins on that urge. So in order to understand reward-seeking at a given age, you have to ask both about how the prefronatl cortex is functioning, but also about the arousal of the limbic system that might lead to reward-seeking.
>
> I think I said before, but it is worth repeating, that the metphor that I and other scientists use to describe this is having the accelerator pressed down without a good braking system in place. That would be true of mid adolescence as well as late adolescence."

(Exhibit A, page 21, line 13 to 22 line 1.

Following the discoveries observed of the adolescent mind during the numerous studies, Dr. Keating went on to explain that deficits in the adolescent mind are physical in nature, as the evidence demonstrates, which he explains in his summary on "Developmental Maturity Mismatch". In that summary Dr. Keating explains the physical pathways and their divergence as a factor affecting the systems of the prefrontal cortex and the limbic region: se processes:

> **Developmental Maturity Mismatch (DMM) (dual process models)**
>
> Divergent developmental pathways: The developmental pathways of the "top" and "bottom" brain diverge, with the limbic system advancing rapidly from early adolescence while the prefrontal system continues to grow, but at a

> slower pace, not reaching adult levels until the mid-20s. The term used to describe this is a "developmental maturity mismatch" (DMM), with significant consequences for the levels of all kinds of risk behaviors during the adolescent period."

(Exhibit B)

The schematic figure on page 4 of Exhibit B demonstrates this divergence and relative overriding of impulsive control between the "Cognitive control system" and the "Socioemotional, incentive processing system".

What Dr. Keating explains regarding that schematic, (From "Dr. Steinberg" 2013, fn1), is that emphasis must be made on the behavioral and cognitive functions' divergence. which graphically represents the effects and differences in the physical growth of each region:

> "The behavioral and cognitive evidence converges with the developmental neuroscience evidence here, with highly similar age-risk behavior profiles for a number of areas, including crime (the age-crime curve), accidental injuries, serious driving mishaps, and so on. All show peaks by mid gradual drop-offs until an asymptote in the mid-20s or so.
>
> Dual process models: The DMM is one version of a more general finding, known as dual process models. The research here is that when performing a complex decision making task, there are two systems functioning. One is a rational, judgment based system that takes considerable cognitive effort. The second is a more automatic, "intuitive", non-analyzed system that is accessed more often (because it requires less time and energy). This occurs for automated tasks (especially in domains where expertise is high) but also for "hot" cognition where there are competing demands - for example, from arousal and incentive systems."

(Exhibit B)

While Dr. Keating's summary provides an accurate representation of the schematic relied on, Dr. Steinberg has explained to the Court in Cruz the effects of that diverges of the "top and bottom" of the brain, with specific emphasis made as to the effects of "peer-pressure" and "reward-seeking" behaviors:

> "A. In general, when people at that age are with their peers and where there are no adults present, it makes them even more inclined to take risks, and makes them even more reward-seeking than when they are by themselves. This actually is one of the main focuses of research that my team at Temple University has been doing for the last 15 years.
>
> Q. Tell me about what kind of studies have you been doing on that?

> A. Well, in a series of studies, we invite research participants to come to our lab. We invite them to come with one or two friends, then we randomly assign the people in the study to take a test battery either by themselves or with their friends watching them. In some of the experiments, the friends are in an adjacent room, but they can watch the subject's performance on a monitor.
>
> In some of the studies, the person we're testing is inside a brain imaging machine. The friends would be also in an adjacent room watching the subject's performance on a monitor. And we administer a series of different kinds of tests, some risk-taking tests, some reward-sensitivity tests, some cognitive-control tests, then we compare how people respond when they're alone verse how they respond when they're in the presence of their peers.
>
> We have done this with people of different ages, then we can ask is the effect of being around your peers different, if you are an adolescent than if you are an adult. What we have found, as I said before, is that when people are in the presence of their peers, up until about age 24, or so, we get this peer effect where it increases their risk-taking and reward sensitivity, and we don't see that effect after age 24 where adults perform the same way when they are by themselves as when they are in a group."

Exhibit A, page 24 line 7 to page 25, line 15.

Mr. Williams points out that what is both significant to, and a compelling aspect of Dr. Keating's summary, and Dr. Steinberg's testimony is that these deficits are physical, with manifestation in the behavorial realm serving to represent the inability to adapt or adjust their behaviors as adults are capable of doing. These characteristics necesssarily embrace the classification of those individuals recognized by the Supreme Court of the United States as "intellectually disability":

> "No legitimate penological purpose is served by executing a person with intellectual disability. Id. at 317, 320, 122 S. Ct 2242, 153 L. Ed2d 335. To do so contravenes the Eighth Amendment, for to impose the harshest of punishments on intellectually disabled person violates his or her inherent dignity as a human being. "[Punishment is justified under one or more of three principal rationales: rehabilitation, deterence, and retribution." Kennedy v Louisiana, 554 U.S. 407, 128 S. Ct. 2641, 171 L. Ed2d 525 (2008). Rehabilitation, it is evident, is not an applicable rationale for the death penalty. See Gregg v Georgia, 428 U.S. 153, 183, 96 S. Ct 2909, 49 L. Ed2d 859 (1976)(joint opinion Stewart, Powell, and Stevens JJ.) As for deterence, those with intellectual disability are, by reason of their condition, likely unable to make calculated judgments that are the premise for the deference rationale. They have a "diminished ability" to "process information, to learn from experience, to engage in logical reasoning, or to control impluses. . .[which] make[s] it less likely that they can process the information of the possibility of execution as a penalty and,

> as a result, control their conducts based upon that information. Atkins, 536 U.S., at 320, 122 S. Ct. 2242, 153 L. Ed 2d 335. Retributive values are also ill served by executing those with intellectual disability. The diminished capacity of the intellectually disabled lessens moral culpability and hence the retributive value of the punishment."

Hall v Florida, 572 U.S. 701 708-709, 134 S. Ct. 1986, 188 L. Ed2d 1007 (2014). See also, Miller, 132 S. Ct. 2463-2464 (Thus Roper held that the Eighth Amendment bars captial punishment for children, and Graham concluded that the Amendment also prohibits a sentence of life without the possibility of parole for a child who committed a nonhomicide offense. Graham further likened life without parole for juveniles to the death penalty itself. . . .).

Of significance is that, of those characteristics in those "intellectually disabled", many are mirrored in the Miller decison which reiterated Roper and Graham:

> "To start with the first set of cases: Roper and Graham establish that children are constitutionally different from adults for purposes of sentencing. Because juveniles have diminished culpability and greater prospects for reform, we explained "they are less deserving of the most severe punishments." Graham, 560 U.S., ___, 130 S. Ct. 2026. Those cases relied on three significant gaps between juveniles and adults. First, children have a "'lack of maturity and an underdeveloped sense of responsibility,'" leading to reckless, impulsivity, and heedless risk-taking. Roper, 543 U.S., at 569, 125 S. Ct. 1183. Second, children "are more vulnerable . . . to negative influences and outside pressures," including from their family and peers; they have limited contro[l] over their own enviroment" and lack the ability to extricate themselves from horrific, crime-producing settings. Ibid. And third, a child's character is not as "well formed" as an adult's; his traits are "less fixed" and his actions less likely to be "evidence of irretrievabl[e] deprav[ity]." Id, at 570, 125 S. Ct. 1183."

Miller, 132 S. Ct., at 2464.

Mr. Williams offers that those characteristics expressed in defining those who suffer "Intellectual Disability" in Hall, those listed in Miller, and those identified as transitory throughout adolescence by Dr. Keating and Dr. Steinberg, all make it a neccessary and apparent consideration, under Michigan's Constitution" that before the impostion of the most savere sentence can be entered as Judgment against adolescents, the court must evaluate and weigh each factor of those who are said to

suffer from characteristics identified for those who are "intellectually disabled".

For these reasons Mr. Williams contends the most servere sentence in Michigan should not be constitutionally tolerated when imposed without consideration of those mitigating factors of an adolescent who suffer the transitory characteristics akin to someone who is "Intellectually Disabled".

Mr. Williams Suffered Those Characteristics

Like Manning's position before this court, Mr. Williams was sentenced to "life without the possibility of parole", without a single mitigating factor being considered. That is, not a single factor was weighed or considered by the sentencing court before it imposed a term of "life" in prison against an 18 year old defendant.

Had, Michigan Law allowed the 18 year old Mr. Williams to present evidence in mitigation of his behavior based on his documented character traits, coupled with the facts presented at trial, the trial court would have had to admit that the acts which the prosecutor set out at trial were the direct result of those traits representative of peer-pressure, and a lack of risk-reward assessment, to say the least.

First, as a ward of the State, and subject to the probate court's continuing jurisdiction, Mr. Williams born on July 21, 1976 on February 2, 1993 at the age of 16 year, 7 months old, was committed to "Boyaville" placement where he was suoject to both intake evaluations and historical data collection of Mr. Williams' school history when Mr. Williams was admitted in the placement. In fact, from the evaluation of Psychologist Frederick T. Suliver who concluded that the juvenile "may have feeling of insecurity & Inferiority when dealing w/ others, feels powerless, self-centered, demanding, impatient, easily frustrated. Exhibit C.

Second, during the historical data collection for Mr. Williams a "summary of his school backrgound and Adjustment" was received and recorded that there was evidence that Mr. Williams was "implusive, immature, easily misled, angry, blames others for his problems, disruptive behavior, poor attendance, low self-esteem, poor

academic performance." (Exhibt C).

Many of these reported characteristics relate to, and are embodied in the definitions of those explicit juvenile characteristics identified through the scientific studies of Dr. Keating and Dr. Steinberg. For example, Dr. Steinberg reference to a "lack of impulse control is represented by the report that Mr. Williams was impulsive. Dr. Steinberg's report that juveniles suffer from a ease to be influenced by others, is represented by the classification that Mr. Williams' is "easily mislead", a characteristic underscored by Dr. Steinberg's study into peer-pressure and Mr. Williams character trait of "low self-esteem. Finally, Mr. Williams trait of immaturity - i.e. youthful characteristics is also well defined by his insecurity and inferiority when dealing with others, his feeling powerless, just as his immature classification is demonstrated by his impatience and ease of frustration.

Next, nearly a yaar and a half into Mr. Williams placement, after he was transferred to "Wedgewood" placement, it was alleged that on August 31, 1994 the 18 year old Mr. Williams and his Co-Defendant David Clayton were involved in the shooting death of Samuel Merriweather, and assaults of David Gill and Corey Hall.

Notably, if trial testimony is believed, preceding the events which resulted in the shooting, David Clayton and Andrey Williams were contended by the prosecution and it's witnesses to be individual involved in a series of incidents and confrontations, "maybe four or five" where the teens made threating comments. (TT pg. 219-224). In fact, according to testimony there were a number of encouters where Andrey Williams (DOB 3/1/78) had confronted, witness David Gill Corey Hall, or Jason Merriweather about a conflict with Sam Merriweather while Andrey Williams was not with David Clayton, and no shooting or physical conflict took place. (TT 463-467). Also, said of David Clayton, while alone, on four separate occasions he had made threats against Sam Merriweather to Jason Merriweather. (TT 467-73).

Despite some conflicts in the testimony, the prosecution then theorized that two persons on bicycles were observed coming toward David Gill, Corey Hall, and Sam Merriweather from the opposite direction. The bicycles passed them, turned around and stopped, confronting them. One of the persons on a bicycle asked, "Is that Sam?" He then said , "That's Sam; kill him". Both of the persons on the bicycles began firing. (TT 197-199, 207-209). The prosecution argued at trial, the two masked shooters on bicycles were the Defendants, Clayton and Williams.

What appear to be clear from the trial record is that on a number of occassions, David Clayton, and Andrey Williams are said to have confronted Sam Merriweather separately, never shooting at, or otherwise physcially harming him or persons with him. However, what the trial prosecutor presented, although on assumptions because the persons on the bicycle were wearing sky mask, is that once David Clayton, and Andrey Williams were together, and under peer pressure of each other and focused on the benefits of supporting a friend, acted differently from when they were alone. It was only then the Prosecution argued they actually fired shots at Sam Merriweather, where individually, all evidence said they never did when alone.

Mr. Williams, submits that based on his documented susceptibility to influences, impulsivity, ease of being misled, immaturity feelings of inferiority, frustration, and anger, all worked against Mr. Williams from peer-pressure, as the evidence at trial demonstrates. Put differently, based on the record at trial, the characteristics identified from Mr. Williams' evaluations were all youthful character traits which Dr. Steinberg identified as central to the adolescent mind. In fact, because of Mr. Williams' susceptibility to outside influences, impulsivity, ease of being misled, immaturity and inferiority, all products of a deficit prefrontal cortex, Mr. Williams was prevented from resisting the circumstances, and pressures the trial prosecutor claims he faced.

(c) Rehabilitation

As to the criteria of Rehabilitation Dr. Keating has explained that the potential for rehabilitation into late adolescence is well known:

> "In addition to mitigation of sanctions owing to diminished culpability by reasons of developmental immaturity, another implication of the developmental neuroscience evidence is that there are increased prospects for change among juveniles. This is supported by the evidence above that major changes continue during this period. In addition, there is very substantial evidence for neural plasticity by way of 'synaptic pruning." Simply put, neural circuitry is shaped by the individual's experiences, such that the resulting mature circuitry is not settled until the mid-20s. (Some plasticity continues throughout life, but never again as strongly as in adolescence.)

(See Exhibit B).

In fact, even Michigan's Legislature and this Court have recognized the relevant truth of Dr. Keating's summary. In MCL 712A.2d Michigan's Legislature set out that in order to try a juvenile as an adult the court must consider 6 different factors, of which (4) four of the criteria are directed at the character of the juvenile and the potential treatment and programming available to the juvenile:

> "(b) The juvenile's culpability in committing the alleged offense, including, but not limited to, the level of the juvenile's participation in planning and carrying out the offense and the existence of aggravating or mitigating factor recognized by the sentencing guidelines.
>
> (c) The juvenile's prior record of delinquency including, but not limited to, any record of detention, any police record, any school record, or any other evidence indicating prior delinquent behavior.
>
> (d) The juvenile's programming history, including, but not limited to, the juvenile's past willingness to participate meaningfully in available programming.
>
> (e) the adequacy of the punishment or programming in the juvenile system."

While the amenability of treatment assessment was also recognized by this Court, and reiterated in MCR 3.952(C)(b) - (e), Michigan's Legislative stance underscores their recognition in the potential for rehabilitation when it expressed that in all other circumstances where a Juvenile is not waived to be tried as an adult, but is committed to state custody, that commitment may continue until the age of 21:

> "(5) If the court has exercised jurisdiction over a juvenile under section 2(a)(1) of this chapter for an offense that, if committed by an adult, would be a violation or attempted violation of section 72, 83, 84, 96, 88, 89, 91, 110a(2), 186a, 316, 317, 520b, 520c, 520d, 520g, 529, 529a, 530 or 531 of the Michigan penal code3, 1931 PA 328, MCL 750.72, 750.83, 750.84, 750.86. 750.88, 750.89, 750.91, 750.110a, 750.186a, 750.316, 750.317, 750.349, 750.520b, 750.520c, 750.520d, 750.520g, 750.529, 750.529a, 750.530, 750.531, or section 7401(2)(a)(i) or 7403(2)(a)(i) of the public health code, 1978 PA 368, MCL 333.7401 and 333.7403, jurisdiction may be continued under section 18d of this chapter until the juvenile is 21 years of age."

See MCL 712A2a(5).

Beyond the provision above, this Court also premised its procedure for the determination of whether to commit a juvenile until his/her 19th birthday on some of the very criteria Dr. Steinberg has recognized as significant and important:

> "(4) Burden of Proof; Findings. The court must extend jurisdiction over the juvenile until the age of 21, unless the juvenile proves by a preponderance of the evidence that the juvenile has been rehabilitated and does not present a serious risk to public safety. In making the determination, the court must consider the following factors:
>
> (a) the extent and nature of the juvenile's participation in education, counseling or work programs;
>
> (b) the juvenile's willingness to accept responsibility for prior behavior;
>
> (c) the juvenile's behavior in the current placement;
>
> (d) the juvenile's prior record, character, and physical and mental maturity;
>
> (e) the juvenile's potential for violent, as demonstrated by prior behavior;
>
> (f) the recommendations of the institution, agency, or facility charged with the juvenile's care regarding the appropriateness of the juvenile release or continuing custody; and
>
> (g) any other information the prosecuting attorney or the juvenile submits.

(See MCR 3.945(B)(4)

Clearly this criteria centers on many of the same characteristics recognized by Dr. Keating and Dr. Steinberg. However, it is from the rules governing "periodic review" that this Court's reliance on Rehabilitation can be seen specifically and

more clearly. See MCR 3.945(C)(2) ("[i]f the institution, agency, or facility to which the juvenile was committed believes that the juvenile has been rehabilitated . . . "). It is beyond dispute, Michigan law represents a belief that rehabilitation can occur in adolescents up to the age of 21.

Next, even beyond that continued jurisdiction premised on the rehabilitative potential of the committed juvenile, Michigan's Legislature went further, in what appears to be an outright adoption of Dr. Steinberg's scientifically supported conclusion that the age of (24) is the point at which it is clear that effects on the youthful mind by those traits, which demonstrates lesser culpability, are absent:

> "We have done this with people of different ages, then we can ask is the effect of being around your peers is different, if you are an adolescent then if you are an adult. What we have found, as I said before, is that when people are in the presence of their peers, up until about age 24, or so, we get this peer effect where it increases their risk-taking and reward sensitivity, and we don't see that effect after age 24 where adults perform the same way when they are by themselves as when they are in a group."

(See Exhibit A, page 24 line 7 to page 25, line 15).

Clearly, Michigan's Legislature's adoption of 24 as a cutoff point to the Holmes Youthful Training Act, as amended, represents a recognition that rehabilitation potential is present in adolescents until they reach the age of 24 years old. (See MCL 762.11; (Effective Until October 1, 2021).

(G) Prospective Relief

(i) A Bright-Line Rule:

To reiterate, Miller, according to Justice Kagan, was not based on a bright-line rule, but was actually based on "Youth Matters". In fact, as can be seen, in the absence of full briefing on the issue, as the issue of a categorical age was not before the court in Miller. Therefore that Court's adoption of Roper was purely "dicta":

> "We therefore hold that mandatory life without parole for those under 18 at the time of their crime violates the Eighth Amendment's prohibitions on "cruel and unusual punishments."

Amazingly, the only reference to the source of this limitation in Miller to those under the age of 18 at the time of their crimes, is the Court mention in passing that "[f]ollowing Roper v Simmons, 543 U.S. 551, 125 S. Ct. 1183, 161 L. Ed2d 1 (2005) in which this Court invalidated the death penalty for all juvenile offenders under the age of 18. . . .". Miller, 132 S. Ct. 2461. That fact, clearly represents a adoption through "dicta".

Next, Roper's decision to set a categorical age limit to the Eighth Amendments pronibition was premised on the scientific communities prohibition against "diagnosing any patient under 18 as having antisocial personality disorder, a disorder also referred to as psychopathy or sociopathy, and which is characterized by callousness, cynicism, and contempt for the feeling, rights, and sufferings of others" Roper, 543 U.S. 551, 560:

> "If trained psychiatrists with the advantage of clincial testing and observations refrain, despite diagnostic expertise, from assessing any juvenile under 18 as having antisocial personality disorder, we conclude that States should refrain from asking jurors to issue a far greater condemnation -- that a juvenile offender merits the death penalty."

This basis for drawing a line at the age of 18 is no longer a "good foundation" for the categorically rule as it is not based on an absolute fact, but is simply a refusal of the psychiatric community's to confuse the normal transitory traits of an underdeveloped juvenile mind, with a personality disorder which simply share some of the same characteristics under adulthood is reached. While that restraint is respected and appreicated as a protective truth of doubt, the scientific community has determined the point, where all doubt is gone, where all character traits are absent. It is that point which should be the absolute categorical cutoff

On that basis Mr. Williams posits that as far as bright-line rules go, Dr. Steinberg's findings from numerous scientific studies in neuorscience is what is most appropriate as a basis for a categorical cut-off -- that is the point at which there is an absence of the transit traits in the adolescent mind:

> "We have done this with people of different ages, then we can ask is the effect of being around your peers different, if you are an adolescent then if you are an adult. What we have found, as I said before, is that when people are in the presence of their peers, up until about age 24, or so, we get this peer effect where it increases their risk-taking and reward sensitivity, and we don't see that effect after age 24 where adults perform the same way when they are by themselves as when they are in a group."

(See Exhibit A, page 24 line 7 to page 25, line 15).

For this reason, based on the fact that the transitory characteristic's are completely absence at the age of 24, that basis is far more absolute then the respectful restraint against making a particular diagnosis because of the commonality of characteristics. Dr. Steinberg's conclusion above sets out that in the absence of those traits, and therefore in the absence of potential mistaken diagnosis, any Bright-line Rule should be set at the age of 24.

(ii) A Presumptive Rebuttal:

In the alternative, or in conjunction with any bright-line rule, Mr. Williams submits that any rule setting the age below the age of 24 should be subject to the rebuttal as was explained at 104 J. Crim. L. & Criminology, 667 in the article: "Extending Mitigation for Deserving Young Adults at page 698:

> "2. Permissive and rebuttable for Defendants Up to Age Twenty-Five
>
> Still, like candle flickers that outlast a birthday blow, youthfulness does not always disappear when an offender turns eighteen. Youthful defendants up to the age of twenty-five should therefore have the opportunity to seek mitigation. Defendants could argue that their youthfulness excludes society's harshest penalties as cruel and unjuct. They would have to reasonably show -- like the younger defendants protected by Roper, Graham and Miller - that they (1) lacked maturity and had an underdeveloped sense of responsibility, (2) were vulnerable to negative influences and had limited control over their environment, and (3) lacked characters that could be rehabilitated. This showing would unravel the irrevocable punishments' penological goals and preclude courts from imposing then under the Eighth Amendment. Unlike, mitigation for younger defendants, however, the burden would then shift to the prosecution, which could show by a preponderance of the evidence that the defendants were sufficiently mature to be punished according to the legislative design. The prosecution could undermine the defendants' evidence or introduce new evidence showcasing the offenders culpability, not the crimes grievousness."

While the author, Kelsey B. Shust, suggest the age of 25 as the categorical

cut off, Mr. Williams points out that suggestion of 25 years old predates Dr. Steinberg's testimony as to the scientific studies which sets the categorical age at 24. Nonetheless, Mr. Williams submits that any rule this Court sets as to categorical age, 18, 19, 20, 21, 22, or 23 up to 24, that limitation should be subject to rebuttal up to the age of 24, the point at which Dr. Steinberg provides none of the transit characteristics of the adolescent mind are present any longer.

(iii) Miller Should Be Extended, at the least, up to the age of 19

Based on Michigan's long standing precedent that Art 1, §16 of the Michigan Constitution provides greater protection then the Eighth Amendment does, based on the compelling reason Mr. Williams provides for doing so, based on the obvious physical deficit in "white brain matter" which makes it virtually impossible for a juvenile to overcome the transitory characteristics identified through the studies relied on by the scientific community, and based on Mr. Williams having those characteristic, this court should extend Miller under Michigan Law to include those adolescents up to 19 years old:

> "THE COURT: Just based on something that you said a moment ago or it was imbedded in a very long answer of something you said a moment ago, I want to have the record be clear. Is it your opinion to a reasonable degree of psychological science certainty that the findings which underpinned your conclusions as to the petitioner's in, for example, Graham, under 18, actually they were 14 but the opinion says under 18, you have the same opinion as to 18?
>
> THE WITNESS: Yes. And had that been the question that was asked in Graham, I would have said the same things. I would have changed the age in the brief.
>
> THE COURT: The number would have changed?
>
> THE WITNESS: Exactly.
>
> THE COURT: If someone said could you change it to 21, would you have been able to do that based upon your expertise as a psychologist?
>
> THE WITNESS: I don't think I would be confident enough. I think I would be confident enough about 20, but not 21, but we're really, you know, in terms of reasonable scientific certainty, I am more certain about 20 than I am about 21.

THE COURT: As to 18?

THE WITNESS: Absolutely certain.

THE COURT: All right. I don't have if you have questions on that.

MR. KOCH: I have one follow-up questions. When you said 20, up to 20 or through 20?

THE COURT: I was asking and if you didn't understand me, when I was using 18, 20, 22, I was referring to a person who nominally has that age. In other words, but under, but is at the moment a 20-year-old, i.e. a person who could be 20 years and a day or 20 years and 11 months and 29 days.

THE WITNESS: That's how I understood your question.

MR. KOCH: Thank you, Professor."

(See Exhibit A, page 70, line 9 to page 71 line 19).

Clearly, Graham, Roper, and Miller were all restricted by the controversy before the court, which the parties' briefs were limited to. It was that limitation which restricted Dr. Steinberg's brief and he limited his conclusion to 18 years old. However, as his testimony makes clear, if he was not under that limitation he would have felt confident in specifying the age at under 21 years old.

Nonetheless, whether this court relies on the scientific data, or a modified approach, despite Miller's reliance on "Youth Matter", rather then on a bright-line rule, this court, if it instead choose a bright-line rule approach, that line should be extended to not less than up to 19 years old. Such a compromise is still reconcilable with the fact that the Scientific data clearly provides that all of the traits which make an adolescent less culpable, are still present. (See Exhibit A, page 14 to 22).

Dated: April 1, 2020

Andrey Williams

Andrey Williams
M.D.O.C. No. 242222
Kinross Correctional Facility
4533 W. Industrial Park Drive
Kincheloe, Michigan 49788

EXHIBIT A

HEARING TRANSCRIPT

CRUZ V UNITED STATES, Case No. 3:11-cv-787

(Connecticut 9/13/17)

UNITED STATES DISTRICT COURT.

DISTRICT OF CONNECTICUT

LUIS NOEL CRUZ Petitioner v. UNITED STATES OF AMERICA Respondent	September 13, 2017 1:25 p.m. 3:11cv787(JCH)

141 Church Street
New Haven, Connecticut

HEARING

B E F O R E:
THE HONORABLE JANET C. HALL, U.S.D.J.

FOR THE PETITIONER: W. Theodore Koch , III
P.O. Box 222
Niantic, CT 06357

FOR THE RESPONDENT: Patricia Stolfi Collins
John Trowbridge Pierpont
William Nardini
United States Attorney Office
157 Church Street
New Haven, CT 06510

THE COURT: Good afternoon to you. We're here this afternoon in the matter of Luis Noel Cruz versus the United States of America. 11CV787. If I can have appearances please.

MS. COLLINS: Patricia Collins, John Pierpont and William Nardini for the United States, Your Honor. Also present in the courtroom in the first few rows is the White family.

THE COURT: Thank you. Good afternoon to all of you.

MR. KOCH: Good afternoon, Your Honor. Theodore Koch for Mr. Cruz who is to my left.

THE COURT: Good afternoon to you, Attorney Koch and good afternoon to you, Mr. Cruz.

We're here this afternoon for an evidentiary hearing on a 2255 petition filed by Mr. Cruz. My understanding is we're ready to proceed to take the evidence, Attorney Koch.

MR. KOCH: Yes, Your Honor. We're ready.

THE COURT: If you would call your first witness.

MR. KOCH: Professor Laurence Steinberg.

THE COURT: Professor Steinberg, if you would come up to the witness stand. And when you arrive, I ask that you remain standing so the clerk may administer an oath to you.

LAURENCE STEINBERG

Having been called as a witness, was first duly

sworn and testified on his/her oath as follows:

THE CLERK: State your name for the record and spell your last name.

THE WITNESS: Laurence Steinberg, Steinberg, Philadelphia, Pennsylvania.

THE COURT: You may be seated, Professor. Good afternoon to you and whenever you are ready, Attorney Koch, you may begin.

MR. KOCH: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. KOCH:

Q. Good afternoon, Professor Steinberg.

A. Good afternoon.

Q. Can you tell the Court what's your present position?

A. I'm a professor of psychology at Temple University in Philadelphia.

Q. Can you describe your educational background starting with college?

A. Yes, I graduated from Vassar College with a bachelors degree in psychology in 1974. I received my PhD in developmental psychology from Cornell in 1977.

Q. What previous professional positions have you held before being at Temple?

A. I came to Temple in 1988. Prior to that, I was on the faculty of the University of Wisconsin Madison and prior

to that, I was on faculty of the University of California Irvine.

Q. Can you summarize your publication credits starting with the books that you published?

A. I've authored approximately 15 books, edited a couple of other books. I have published 400 or so research articles, about 250 of those in peer review journals.

Q. And scholarly articles are based on what research? Whose research?

A. My research.

Q. Are you on any editorial boards?

A. Yes.

Currently on three editorial boards. One for a Journal of Psychology and Law, one for a Journal of Neuroscience and one for a Journal of Psychology and Public Policy.

THE COURT: Could I interupt you for a moment.

(Discussion Off the Record.)

Q. Professor Steinberg, what are your professional memberships?

A. I'm currently a member of the Association for Psychological Science, the Society for Research on Adolescence and the Society for Research on Child Development.

Q. What major honors have you received?

A. I have received honors from the American Psychological Association for contributions to the discipline of psychology and are for contributions to public policy. I have received lifetime achievement awards from the Society of Research on Adolescence and Society for Adolescent Medicine. I have been elected as a fellow to the American Academy of Arts and Science and I was the first recipient of the research prize given by a very large Swiss foundation several years ago.

Q. Have you previously testified as an expert?

A. Yes, I have.

Q. Where?

A. I testified in state court in Kentucky, in state court in Delaware, in federal court in Southern District of New York, in state court in Pennsylvania, and before a Parole Board in Arkansas.

Q. Have you ever been involved in the crafting of any amicus briefs to the United States Supreme Court?

A. Yes. In the cases of Roper versus Simmons and Graham versus Florida and Miller versus Alabama, I was the lead scientist for the American Psychological Association in drafting the amicus briefs filed with the court.

My responsibility there was to make sure that the science of adolescent development was accurately represented in the briefs filed by association.

Q. What would you say is your specific area of expertise?

A. Adolescence.

MR. KOCH: Your Honor, I ask that the court qualify Professor Steinberg as an expert of adolescence.

THE COURT: I don't have any question about it. I don't do that under the rules. I ask you to ask your questions. If there is an objection to a particular question, the Government thinks he's not qualified to answer it, I'm sure that I will heard that objection. Otherwise I'm assuming it won't be an issue.

Q. Thank you. Just from the start, Professor Steinberg, can you give us your working definition for our present purposes of adolescence?

A. I think of adolescence as the period spanning ages 10 to up until 21.

Q. What are some of the hallmark behavioral characteristics of adolescent as you defined them, as compared to the adults?

A. Compared to adults, adolescents are more impulsive. They are more prone to engage in risky and reckless behavior. They are more driven by reward relative to adults and less so by punishment. They are more oriented toward the present and less oriented toward the future and they are susceptible to the influence of other people.

Q. Does the brain develop during adolescents?
A. Yes, the brain continues to develop during this period of adolescence.
Q. For the purpose of this entire hearing, you're defining adolescence as age 10 up to and including age 20?
A. Yes.
Q. Is the brain composed of various regions?
A. Yes. The brain is composed of various regions. As scientists, we would be more likely to describe the brain as composed of various systems because many brain systems include multiple brain regions.
Q. Are certain regions or systems of the brain, particularly significant during adolescence?
A. Yes.
Q. Which ones?
A. There's a brain system that we refer to as the cognitive control system. It is responsible for self-regulation as well as advanced thinking abilities. That includes mainly the prefrontal cortex of the brain and its connections to other brain areas.

There's a second system that's important during adolescence that's referred to as the limbic system. It is a deep structure of the brain. It is important in how we process emotions and process social information and experience reward and punishment.

Q. I apologize if you already did this. Can you just describe the prefrontal cortex and its function?
A. The prefrontal cortex is the area of the brain that's located directly behind the forehead. It's mainly responsible for advanced thinking abilities like logical reasoning and planning ahead, but it's also responsible for what psychologists refer to as self-regulation, the ability to control our behavior and our thoughts and our emotions.
Q. How did the limbic system and prefrontal cortex interact?
A. We might think of the limbic system as kind of the emotional center of the brain and the prefrontal cortex as the logical, rational center of the brain. Both systems are active all the time. They can communicate with each other. Although they don't communicate as well with each other during adolescence as they do during adulthood, but in a situation that one is making a decision and let's say the situation is an emotional arousing one, the limbic system will be responsible for the emotional arousal and the prefrontal cortex will be responsible for the self-regulation.

One way to think is the limbic system sometime serves as an accelerator and the prefrontal cortex serves as the brakes.

Q. How is this interaction between these two systems

particularly significant during adolescence?

A. Well, at the beginning of adolescence until age 17 or 18 or so, the limbic system becomes increasingly easily aroused. We know that that happens primarily because of the impact of puberty on the brain and the prefrontal cortex develops very gradually over time so during middle and late adolescence, you have what we call a maturational imbalance between the systems because the limbic system is very easily aroused, but the prefrontal cortex, the cognitive control system is still immature, so very often arousal of the limbic system can overwhelm what the cognitive control system is capable of doing.

Q. Can you give us a definition of cognition please?

A. Cognition is a word that we use to refer to thinking.

Q. Have you heard of the term hot cognition versus cold cognition?

A. Yes, I have.

Q. Can you describe to us the differences between those two please?

A. When we're making decisions about things, sometimes we make them under situations that are very arousing, maybe we're angry or we're enthusiastic or we're with other people who arouse our emotions, and we refer to that situation as the thinking in that situation as hot cognition. That can be

contrasted with situations which are very calm when we're by ourselves. When we're not emotionally aroused and we refer to that as cold cognition. To give you an example, if somebody in a research study of mine is filling out a questionnaire, let's say I put that person in a room by herself. There's nothing to make her emotionally aroused either positively or negatively and the situation is calm and neutral, she would be using cold cognition when she completed that questionnaire. If I took the same person and administered the same questionnaire to her after making her afraid or after making her angry or surrounding her with a group of other people who are urging her to do something or to not do something, filling out that questionnaire under that circumstance would be considered an example of hot cognition.

Q. How is the difference between hot cognition and cold cognition salient to adolescence?

A. Cold cognition relies mainly on basic thinking abilities that are in place and are mature by the time we're 16 or so. Hot cognition relies both on those abilities but also on our capacity to regulate and control our emotions.

We have all had the experience of trying to make a decision when we're upset. We know that our decision-making abilities under that circumstance are not as good as they are when we're making the same decision when

we're calm, and we know that the capacities necessary for good decision-making in hot situations or hot cognition are still immature during adolescence and aren't fully mature until the early or to the midtwenties.

Q. Are there different phases of development within adolescence?

A. The scientists who study adolescence would often divide the period into three phases: early adolescence, let's say approximately from 10 to 13, middle adolescence, approximately 14 to 17, and late adolescence, approximately 18 to 21.

Q. Just basically what are the different characteristics of each of those three phases of development within adolescence?

MR. PIERPONT: The Government is not going to object at this point. Can I have a moment with counsel please?

THE COURT: Sure.

MR. PIERPONT: Thank you, Your Honor.

THE COURT: Do you want the question read?

(Question read by the Court.)

A. Well, there are many differences between the early, middle and late phases but I assume that you would like me to connect this to what we were discussing about hot and cold cognition. During early adolescence both types of thinking

are still immature. Early adolescence compared to adults are not as good in cold cognitive abilities and they are not as good in hot cognitive abilities.

During middle adolescence, there are very few differences between adolescence and adults in their cold cognitive abilities, but they are still immature with respect to their hot cognitive abilities. That is also true during late adolescence. They are a little bit better. They still are not as good as adults are in the area of hot cognition, but they certainly would be comparable to adults in the area of cold cognition.

Q. Do you have an opinion as to when psychological and neurobiological maturity is attained?

A. The answer to that question is complicated because different parts of the brain mature along different time tables. And therefore, the psychological abilities that those parts of the brain govern mature along different time tables. If what you mean by your question is when is everything completed in all systems of brain both with respect to psychological functioning as well as brain development, I think the concessions would be that this is not the case until people are maybe 22 or 23 years old.

Q. What's the basis of your opinion?

A. There have been studies, my own as well those of other scientists, that have administered psychological tests

to people in this age range and have asked at what point do these abilities that are being measured stop improving. There are brain studies that use brain imaging to look at changes in the brain's anatomy and changes in the way the brain functions that also have been done with people of different ages and they have also asked at what point do we no longer see major changes in the anatomy of the brain or in the way that the brain functions.

Q. I want to turn now to the specific characteristics of the late adolescence or what you have said is 18, 19, and 20-year-olds. 18, 19, and 20-year-olds just to be clear, do they fall within your definition of adolescence?

A. Yes.

Q. Can you just backing up describe the history of research on adolescent brain development specifically as it relates ultimately to late adolescence?

A. Sure. Until the 1990s, it was assumed that the brain was fully developed by the time we were 10 or 11-years-old. That's because the brain reaches its adult size by that age. So if you measured the volume of the brain, you wouldn't see big differences after that age in terms of its growth. It wasn't until the advent of brain imaging technology like MRI technology that scientists were able to look inside the living brain. Obviously it was

possible to do an autopsy, cut open the brain and look at it. When you do that, you can't see how the brain functions. You can only look at the anatomy of the brain. It wasn't until there was FMRI and brain imaging that scientists could look at the living brain and see what's going on inside when it was at work. Studies that began to be done during the late 1990s illustrated that the brain was continuing to change during adolescence in ways that weren't visible by looking at the exterior of the brain. This was not known. And the first published studies of how the brain was changing during adolescence didn't really appear until about the year 2000 so relatively recently in terms of the history of science, history of the study of development.

During the period, let's say from 2000 into the middle or latter part of the decade, most of the research on adolescence brain development focused on people who were 18 and younger. There was to my knowledge virtually no research that went past that age and that looked at brain development during late adolescence or young adulthood.

People began to do research on that period of time toward the end of that decade and as we moved into 2010 and beyond, there began to accumulate some research on development in the brain beyond age 18, so we didn't know a great deal about brain development during late adolescence until much more recently.

Q. Okay. I would like to show you what I have previously marked as Petitioner's Exhibit for Identification One. I have shared this with the Government. May I approach, Your Honor?

THE COURT: You may.

Q. That's an article titled "Young Adulthood as a Transitional Legal Category: Science, Social Change and Justice Policy" by yourself. Just briefly can you tell us what's the central point of that article?

A. The central point of that article is that recent discoveries in psychological science and in brain science as well as changes in society, should ask us to rethink how we view people in the late adolescence period and even to the young adult period in terms of their treatment under the law because a lot of the --

MR. PIERPONT: Your Honor, the Government is going to object to the answer at this point. We understand that Professor Steinberg is here to talk about brain sciences, but to the extent we start to get to policy and how people should be treated under the law, that goes a little further upfield of what the Government expected testimony to be about here today.

THE COURT: I will let the answer stand to the point of the objection. I understand it is summarizing the point of an article. I think the Government's objection has some

legs in the sense that he isn't here to tell us about what the policy of the law should be. He's here to tell us what might be a basis for law makers or courts to change.

Q. Let me ask you this: Does that article reliably present the scientific knowledge as regards to late adolescence as of the present moment?

A. Yes. And that was the part of the article that I was responsible for writing.

Q. Okay. I would like to offer that as an exhibit at this time, Your Honor.

MR. PIERPONT: Your Honor, the Government -- I have spoken to Attorney Koch about this. The Government is not going to object again to the extent that it is being offered for the extent of what the current science is. If there was a jury here, we might have some concerns about the policy decisions, but with the understanding that the reason and limited reason it is being offered, the Government does not have an objection.

THE COURT: Do I fairly understand, Professor, that if I read this article, I will be informed to the extent that you understand it, the extent of scientific knowledge studies that have been undertaken, et cetera, in the area of late adolescence up to the time the article was written?

THE WITNESS: Yes, Your Honor.

THE COURT: Then on that basis, I will accept it.

MR. KOCH: Thank you, Your Honor.

THE COURT: Exhibit 1 is a full exhibit, Diahann.

MR. PIERPONT: Thank you.

BY MR. KOCH:

Q. Now I'm going to show you what's previously been marked for identification as Exhibit 2 which is an article entitle "When does a juvenile become an adult? Implications of law and policy." If I may approach, Your Honor.

THE COURT: You may.

Q. Do you recognize that article?

A. Yes, I do.

Q. I will cut right to the main question. Does that article, like the first one, reliably present the scientific knowledge as to late adolescence as of the present moment?

A. Yes, it does.

MR. KOCH: I would offer that, Your Honor, for the same purposes of the previous article.

MR. PIERPONT: Again, Your Honor, subject to the same discussion that I had previously with the Court to the extent there's science in here, there's no objection. The Government does think to the extent there's policy discussions and things along those lines, it is beyond what we're here to do today.

THE COURT: Is your offer -- do you have any objection to how the Government frames their lack of

objection to the purpose of the article?

MR. KOCH: No, Your Honor. That's in accordance with our agreement.

THE COURT: For example, there's a summary at the beginning of this article, it says at the end in this article, we summarized recent behavioral and neurological findings on cognitive capacity in young adults. That's what you are offering it for as opposed to and highlight several ways which they bear on legal policies. That's the thrust of your offer is the second part?

MR. KOCH: Correct.

THE COURT: That's fine then. Exhibit 2 is received as a full exhibit with that understanding.

BY MR. KOCH:

Q. About those articles, is there any question or debate in the scientific community about the findings in these articles?

A. No.

THE COURT: May I inquire as to where they were published. Before you add to your answer, could you tell me. One is Fordham Law Review.

THE WITNESS: I believe the other is Temple Law Review.

THE COURT: Thank you.

A. Well, in accord with the back and forth questioning,

I will limit my answer to your question with respect to the scientific findings that are discussed in the article rather than the policy implications, but there's broad consensus among scientists with respect to the scientific information that's contained in each of these articles.

Q. Thank you. Are there ways in which the brains and behavior of 18 to 20-year-olds are similar to adults?

A. Yes.

Q. Can you describe some of those similarities with adults?

A. As we were discussing earlier, with respect to behaviors that we might think of as cold cognitive driven so things like logical reasoning or the ability to solve problems under neutral nonarousing situations, people that age period perform just as well as adults do.

Q. Are there any ways in which the brain's behavior of 18 to 20-year-olds are more similar to younger adolescence than they were to adults?

A. There is still immaturity in certain brain systems in the behaviors that those brain systems govern, so during this age period, late adolescence relative to adults, still show problems with impulse control and self-regulation and heightened sensation seeking which would make them in those respects more similar to somewhat younger people than to older people.

Q. Thank you. I want to go down a few characteristics of adolescence and ask you for each one of these whether late adolescence are more similar to younger adolescence or to adults. In terms of risk-taking, when does risk-taking peak on average?

A. Well, it depends on the specific type of risk-taking that you are talking about, but in general, people in the late adolescent years are more likely to take risks than people who are adults and more likely to take risks than young adolescents are to, so if you were to -- if you were to draw a graph showing the prevalence of risk-taking by age, it would look like an upside down U. The peak would be somewhere, you know, around 17, 18, 19, approximately that age range. That's when most type of risky behavior are at their height.

Q. What about impulsivity?

A. Impulsivity is still developing during the late adolescent years. I'm sorry. Correct that. Impulse control is still developing during the late adolescent years, so if you were to draw a graph of that, you would see a straight upward trending line that goes from age 10 to age 25 or so.

Q. How about susceptibility to the influence of one's peers?

A. Susceptibility to peers is higher during late adolescence than it is in adulthood. It is slightly lower

than it is during middle adolescence, but it is -- but the ability to resist peer pressure is developing during the late adolescent years.

Q. What about the capacity for change?

A. We think that people are more amenable to change when they're younger than when they're older. We think that people are still capable of change -- are more capable of change when they're in their late adolescent years than when they're adults. That would be supported by personality research that shows that more changes are taking place during that time than if you were looking at people who were in their late 20s, 30s or 40s.

Q. With regards to reward-seeking behavior, is the prefrontal cortex everything in terms of regulating that when it comes to rewards?

A. No. Because reward-seeking is a combination of an urge to go after a reward and the ability to put the reins on that urge. So in order to understand reward-seeking at a given age, you have to ask both about how the prefrontal cortex is functioning, but also about the arousal of the limbic system that might lead to reward-seeking.

I think I said before, but it is worth repeating, that the metaphor that I and other scientists use to describe this is having the accelerator pressed down without a good braking system in place. That would be true of mid

adolescence as well as late adolescence.

Q. In 2003, you co-wrote an article called "Less Guilty By Reason of Adolescence, correct?

A. Correct.

Q. Just tell us in terms of the psychology and not in terms of the policy, what was the central point of that article?

A. The central point of the article that adolescents compared to adults are more impetuous. They are more susceptible to peer pressure and their personalities are less fully formed.

Q. How has the research changed since you wrote that article?

A. I think that the conclusions are still the same today as they were then.

Q. If you were writing that article today, what age range would you apply it to?

A. I think I would apply it to the whole adolescent period. At that time, we wrote that article because of interest and debate at that point about the juvenile death penalty. The focus of the article was about people younger than 18. If we were writing it today, I think we would say that the same things are true about people who are younger than 21.

Q. Is there any question today among the scientific

community that late adolescence as a group possessed the same hallmarks traits of youth that you ascribed to middle adolescence in 2003?

A. They possess many of the same traits.

Q. I want to turn now. This would be the last section. A few questions about the various features of 18 to 20-year-olds.

Are there specific characteristics of this group that emerge when they are in unsupervised groups of their peers?

MR. PIERPONT: A little bit of feedback. I missed the middle part of that question.

A. Your Honor, I'm wearing hearing aids. I wonder if the microphones in those hearing aids are giving some feedback.

THE COURT: It is not you. You are fine. It is Attorney Koch keeps getting a buzz.

MR. KOCH: I have been hearing that the whole time.

I could turn microphone off and yell.

THE COURT: No, you will hear it and I will hear it. He might hear it. Nobody behind you would hear it. That's not a good outcome.

MR. KOCH: This sounds better to me.

THE COURT: I think that's fine. You better put the question again.

BY MR. KOCH:

Q. Are there specific characteristics of 18 to 20-year-olds that emerge when they were in unsupervised groups of their peers?

A. Yes.

Q. What are they?

A. In general, when people that age are with their peers and where there are no adults present, it makes them even more inclined to take risks, and it makes them even more reward-seeking than when they are by themselves. This actually is one of the main focuses of the research that my team at Temple University has been doing for the last 15 years.

Q. Tell me about what kind of studies have you been doing on that?

A. Well, in a series of studies, we invite research participants to come to our lab. We invite them to come with one or two friends, then we randomly assign the people in the study to take a test battery either by themselves or with their friends watching them. In some of the experiments, the friends are in the room with them. In some of the experiments, the friends are in an adjacent room, but they can watch the subject's performance on a monitor.

In some of the studies, the person we're testing is inside a brain imaging machine. The friends would be also in

an adjacent room watching the subject's performance on a monitor. And we administer a series of different kinds of tests, some risk-taking tests, some reward-sensitivity tests, some cognitive-control tests, then we compare how people respond when they're alone versus how they respond when they're in the presence of their peers.

We have done this with people of different ages, then we can ask is the effect of being around your peers different, if you are an adolescent than if you are an adult. What we have found, as I said before, is that when people are in the presence of their peers, up until about age 24 or so, we get this peer effect where it increases their risk-taking and reward-sensitivity, and we don't see that effect after age 24 where adults perform the same way when they are by themselves as when they are in a group.

Q. Have you ever used the term "the social brain"?

A. I have.

Q. What does that mean?

MR. PIERPONT: Your Honor, may I have one more moment with Attorney Koch?

Thank you, Your Honor.

Q. What does the social brain mean?

A. The social brain is a term that is used to refer to a brain system that is important for how we perceive other people and how we judge their opinions of us as well as

their -- as well as their emotions and their facial expressions and so on.

Q. Are adolescents particularly -- are late adolescents particularly concerned with their social status?

A. Yes.

Q. How so?

A. Well, the social brain becomes more active during adolescence, then it becomes less active as we mature into adulthood. What that does is it makes adolescents, including late adolescents more sensitive to their standing in a social group, more sensitive to the impressions that they make on other people, more sensitive to the opinions that other people have of them, and therefore, we think that explains why compared to adults, adolescents are more likely to change their behavior when they are with other -- when they are with their peers. Whereas adults are more consistent when they are alone and when they are with their peers.

Q. Is an immature, late adolescent different from an immature adult?

A. Maybe in the following way. As I said before, we think that the brain has matured by the time people are 22 or 23-years-old. What that means is that somebody who is younger than that who is immature still might become more mature over time. Whereas somebody who is immature who is 30 let's say is probably never going to be very mature because

the parts of the brain that are still -- that regulate these kinds of behaviors are done. They are done developing. So of course, with somebody who is younger, you don't know what the future is going to hold. We do believe that the vast majority of people that show immaturity during adolescence grow up to be mature adults, but we know that there are some immature adults so obviously not all of them do.

Q. Do late adolescents know right from wrong?

A. Sure.

Q. So how is it consistent to know right from wrong yet be less responsible by reason of adolescence?

A. Well, by asking about being less responsible, I want to restrict my answer to less responsible psychologically and make sure I'm not talking about less responsible legally so we don't get into areas that are beyond my expertise. By less responsible, I mean less able to control their own behavior.

Q. Is it possible, using the MRI studies that you mentioned earlier, to conclude that any given adolescent has attained psychological and neurobiological maturity?

A. No.

Q. Why not?

A. We don't have the precision that would be necessary to do that and we don't -- I'm not even sure we would know exactly what to look for.

Most of the MRI studies that are done talk about averages of people of different ages. It is not yet -- we can do a brain scan of somebody and we can say whether he has a tumor or whether he has a lesion in his brain, but we can't look at an individual brain and say is this more like an adolescent brain or more like an adult brain. We're just not there yet.

Q. I think you mentioned earlier that adolescents are more sensitive to rewards and less sentence to penalties, correct?

A. Correct.

Q. Is the harshness of a penalty likely to impact on the decision-making of a late adolescent who is making decisions in the decision-making of hot cognition?

MR. PIERPONT: The Government objects. We're talking about the harshness of penalties. We seem to be getting astray of the scientific underpinnings that Dr. Steinberg is to testify about today.

THE COURT: If he can't answer it, he can tell me that. If he can, I think it is not impermissible in the context of his prior testimony because he talked about hot cognition, making decisions, being more reward focused than risk focused and penalty to me is a risk, so if you can answer the question in that context and just in the sense of greater risk meaning greater penalty without a particular

penalty.

If you want to put a further question as to a particular penalty, you can do that later. If you can get me this far with that answer, sir. If you can't answer it, then maybe the objection is well taken, but I will let you answer.

A. I can answer and I understand the distinction that you are drawing. I think that whenever we're making a decision that has some risk involved, we're always weighing the cost and benefits of different courses of action. To the extent that a potential penalty or a punishment for doing something is salient, we're less likely to take the risk because we get worried that we're going to be punished.

But under conditions of emotional arousal when hot cognition is operating, adolescents are less likely to pay attention to the downside of a risky decision, and they're more focused on the rewards of it, so it means that the prospect of being punished for something and I mean punishment not in a legal sense, like getting a shock in a psychological experiment, the prospect of being punished for something is less salient to an adolescent than it is to an adult.

In psychological research on deterrence, that evidence has been used to argue that this is why kids are less likely to be deterred by the knowledge that something bad can happen to them because they are not paying attention

to it the way they would pay attention to it under the condition of cold cognition.

Q. You mentioned that the research on this really got going in the nineties. Is there anything indicating that adolescent brains in the 90s or 80s would be any different than adolescent brains today?

A. No.

Q. Has your research been replicated in other parts of the world?

A. Yes.

Q. Let me ask more specifically. Are adolescents in other countries and cultures falling into these same research findings that you have had?

A. Well, we recently completed a study of 5,000 people mail in 11 countries, countries that were very different from each other. Some in Europe, some in Africa, some in Asia, some in the Middle East and some in North and South America.

We looked at the two age patterns that I talked about before, this upside down U for reward-seeking, sensation-seeking and we found the same upside down U in other parts of the world as we have found in American samples.

We also looked at this gradual increase in self-control that I described before, and we also found that

in other parts of the world as we have in American samples with the improvements in self-control going on until people were in their midtwenties.

Q. That upside down U, I believe you had mentioned that in the risk-taking context?

A. Yes.

Q. Age 17 to 19?

A. Yes.

MR. KOCH: I have nothing further, Your Honor.

THE COURT: Thank you. For the Government please on cross-examination.

MR. PIERPONT: Your Honor, it is my intention to go through at least one of the exhibits that Attorney Koch introduced so I brought this laptop. I will also point out I have a couple other documents from which I plan to read. I don't intend to introduce them as exhibits. To the extent it would be helpful to the Court to take a look and Attorney Koch to take a look, maybe we can use the Sanction system and publish them on the screen for the Court and Attorney Koch.

THE COURT: That's fine.

CROSS-EXAMINATION

BY MR. PIERPONT:

Q. Professor Steinberg, good afternoon.

A. Good afternoon.

Q. I would like to talk a little bit maybe just to

clarify about the breakdown of age definitions between adolescents and young adults, just to make sure we're on the same page.

To be clear, I know there's been a little bit of question about this, when you say adolescence here today, you are defining it as the age from 10 to 20. That's inclusive all the way up to somebody who is about to turn 21. Is that fair so say?

A. Yes.

Q. As you testified previously, it could be further subdivided young adolescence or early adolescence is 10 to 14, is that right?

A. I said 10 to 13.

Q. 10 to 13 Middle adolescence maybe 13 to 17 area, is that fair to say?

A. 14 to 17.

Q. Late adolescence being this 18 to 20 range that we're talking about today?

A. Right.

Q. These boundaries have been fairly consistent for the last five years, is that fair to say?

A. Yes, with the caveat that they are just labels and just as, you know, here, you might say 10 to 14 and I might say 10 to 13. There's nothing -- these are labels that scientists use, but if I was speaking to other people who

study adolescent development, I think they would use similar labels and similar cut points.

Q. Put differently, five years ago people weren't saying middle adolescence was a 13-year-old or 12-year-old?

A. Not as far as I know.

Q. Those categories generally have been consistent for the last five years?

A. Yeah.

Q. There's some overlap between what's referred to in the literature as late adolescence and young adult as well, is that fair to say?

A. It's a term of logical overlap. Some people might use young adult to refer to people who are, you know, 18 to 24 or something like that. Other people might use it only to refer to people who are 21 to 24.

Q. And in some of your own work, you have looked at young adulthood and even talked about it in the context of 18 to 21 that being the category. Is that fair to say?

A. I'm not sure. I have a textbook on adolescence and I use the age ranges that I spoke about earlier in that. I am not sure what you are referring to.

Q. Let me bring up Defendant's Exhibit 1 then and this is a full exhibit that was just introduced. This is the "Young Adulthood as a Transitional Legal Category: Science, Social Change and Justice Policy article.

THE COURT: That's Petitioner's 2.

MR. PIERPONT: I'm sorry. That's right.

Q. Doctor, you should be able to see it on the screen in front of you as well.

THE COURT: You have to enlarge that.

A. I have a copy of that in front of me.

THE COURT: I do, too, but he's going to direct you to particular pages, Professor. He's at 645.

A. When you enlarge it, I can read it fine.

Q. I will take you to page 645, as the Court said. Do you prefer Professor or Doctor?

A. Either.

Q. If you go to page 645, there's some discussion in this article. This is an article that you co-authored, is that right?

A. Yes.

Q. I will direct you to one sentence there that's highlighted. It says "Although 18 to 21-year-olds are in some ways similar to individuals in their midtwenties, in other ways, young adults are more like adolescents in their behavior."

Fair to say that that sort of suggests that by young adults, at least in this article, you are talking about 18 to 21-year-olds?

A. Yes. And that's because the two other authors of

this article are law professors and this article stemmed from questioning the boundary that the law draws and the law draws the boundary at 18 and so in legal parlance, it would be appropriate to refer to those people as young adults.

Q. I don't want to go too far down there, but for the purposes of this article, when you are saying young adults, you mean young adults from the ages of 18 to 21 as opposed to something earlier than that or something later than that age range?

A. I believe so, yes.

Q. I would like to talk a little about this idea of late maturation in the brain in areas affecting judgment and decision-making. You testified about that on direct not that long ago. Do you remember that?

A. Yes, I do.

Q. And we heard you testify that part of the brain such as the prefrontal cortex, that's sort of responsible for some of the controlling of the impulses and sort of the CEO, the decision-maker of the brain. You testified along those lines?

A. Yes.

Q. And that the limbic system is the emotional reaction part of the brain that the cortex helps control and rein in. Is that fair to say?

A. Roughly.

Q. You were, as you testified, the lead scientific consultant for the American Psychological Association amicus brief in Miller, right?

A. Yes.

Q. As you I think testified on direct, you consulted on the science that was presented to the Supreme Court in that brief. Is that fair to say?

A. Yes.

Q. It was your job to make sure the science was accurate, is that right?

A. Yes.

Q. Were you familiar as well with other scientific briefs submitted to the court in that context?

A. In Miller? I don't recall. It was sometime ago.

Q. How about a brief by J. Lawrence Aber?

A. Aber, yes. I don't remember the contents of it, but I know that he was a co-author of another brief.

MR. PIERPONT: Your Honor, I'm going to pull up that brief. That's for the convenience of Attorney Koch and the Court. I don't plan on introducing it as an exhibit.

THE COURT: What will it be marked for I.D.?

MR. PIERPONT: Government's 1 for identification purposes. I don't know, Your Honor, if you want to take it down from the screen up there or.

THE COURT: I'm sorry.

MR. PIERPONT: I don't know if you would like to take it down from the screen up there.

THE COURT: Why?

MR. PIERPONT? As it stands right now, if I were to pull it out, it would be going to the entire courtroom and the witness.

THE COURT: It is a public document unless you don't want me to look at it.

MR. PIERPONT: No, Your Honor. I'm just pointing it out to you.

THE COURT: Yup, go ahead.

Q. So in the APA brief on which you were the lead scientific consultant, the brief stated, it is now and I'm quoting. "It is now well established that the brain continues to develop throughout adolescence and young adulthood in precisely the areas and systems that are regarded as most involved in impulse control, planning and self-regulation." You see where it says that, right?

A. I do.

Q. That is similar to the testimony that you have given here today?

A. Yes, it is.

Q. As the lead scientific consultant, you believed it was accurate at the time that it was in this brief as well, right?

A. Yes.

Q. Excuse me for one moment. I'm going to go to the thirteenth page of Government's Exhibit 1. I'm going to direct you to the bottom of the thirteenth page of Government's Exhibit 1 for identification purposes.

It reads, "Well into late adolescence, there's an increase in connections not only among cortical areas, but between cortical and subcortical regions that are especially important for emotion regulation." Are we talking there about in part the prefrontal cortex and the limbic system that you had spoken about previously?

A. Precisely.

Q. It continues to read "As the brain matures, that self-regulation is facilitated by the increase connectivity between regions important in the process of emotional and social information and reducing important in cognitive control processes." Do you see that?

A. Yes, I do.

Q. That's expanding further upon the idea that as the interconnectivity between the frontal cortex and the limbic system as that develops, an individual gains greater control in order to check their emotional reactions; is that right?

A. Yes.

Q. It continues to say, "This developmental pattern is consistent with adults' superior ability to make mature

judgments about risk and reward and to exercise cognitive control over their emotional impulses especially in circumstances that adolescents would react to as socially charged."

So there we're talking a little bit about adolescence maybe in the hot cognitive state and the contrast between somebody who is in their late adolescence as opposed to an adult, right?

A. I believe so. I don't know the exact context of this, but that's how I read it.

Q. Let me go back one page and just bring you to the --give you the context to bring you to the beginning of the particular paragraph. It says well into late adolescence there, right?

A. Yes. But I don't know. This is not a paper that I wrote. I don't know what these authors are using as their definition of well into late adolescence.

Q. You were the scientific consultant on this brief, though, right?

A. Is this our paper or is this the Aber paper?

Q. I'm sorry. This is the American Psychological Association.

A. Yes.

Q. Late adolescence there you understand that to be talking about the context of 18 and older. Is that fair to

say?

A. Yes. I believe so. We're talking about a brief that was written -- which brief is this, by the way?

Q. This is the American Psychological Association.

A. For which case?

Q. For Miller.

A. So this is a brief that is now seven years old.

Q. Maybe five years old.

A. Five years old. Miller was decided in 2012 but yup.

Q. So somewhere between five and seven years old this brief was?

A. Right.

Q. To be clear maybe we'll go to the fourteenth page of what's been previously marked as Government's Exhibit 1 and in this brief, middle adolescence is defined as roughly 14 to 17, right?

A. Yes.

Q. Elsewhere where it talks about late adolescence, fair to concluded that we're talking about people who are older than 17. Is that fair?

A. Correct.

Q. Going back to the fourteenth page of what's been previously marked Government's Exhibit 1, there's a sentence that reads "Studies have shown that the prefrontal cortex is

among the last areas in the brain to mature fully." Do you see that, right?

A. I do.

Q. That's consistent with your testimony here today about the prefrontal cortex developing much later -- withdrawn. Let me make sure I get it right.

That's consistent with your testimony earlier today that prefrontal cortex development continues into an individual's 20s. Is that fair to say?

A. Yes. Yes, if you include the connections between the prefrontal cortex and other brain regions.

Q. For instance, including the limbic system, right?

A. Yes.

Q. So I'm going to also bring up -- Your Honor, let's -- I'm going to bring up another exhibit that we can call Government Exhibit 2 for identification purposes. This is the Aber brief. I will take you to two things there.

THE COURT: Aber?

MR. PIERPONT: Aber, A-b-e-r.

Q. This was a brief submitted to Miller, right? Submitted in Miller.

A. That's what it says here.

Q. So let's take a look at the eleventh page. And here it reads "Since Graham, studies continue to confirm that the prefrontal cortex is among the last regions of the brain to

mature. In fact, the prefrontal cortex is not fully mature until an individual reaches his or her 20s." Do you see that language there?

A. I do.

Q. And that was consistent with your testimony here earlier today with the caveat that we're talking about interconnectivity between the limbic system and the prefrontal cortex, right?

A. Yes.

Q. That's consistent with what was in your brief that was presented to Miller as well, right?

A. Yes.

Q. We focused a little bit on the limbic system. I think I've mentioned it in passing a couple of times, but I want to hone on it a little bit more here. You testified that the limbic system is the emotionally charged part of the brain, that the prefrontal cortex doesn't gain more control over until an individual is in their 20s, right?

A. Yes.

Q. Do you recall writing in 2008, a paper called A Social Neuroscience Perspective on Adolescent Risk-taking in Developmental Review?

A. I do.

MR. PIERPONT: Your Honor, I have that. I would like to, for identification purposes, call that Government's

Exhibit 3. And Your Honor, I have paper copies if you prefer if it would be easier for the court to have.

THE COURT: I can't read it on the screen. Attorney Koch, would you prefer that I have a paper copy?

MR. KOCH: I have no preference.

THE COURT: Somehow the clerk has to end up with a copy.

MR. PIERPONT: Why don't I bring up a couple paper copies for the Court at this point.

BY MR. PIERPONT:

Q. I would direct you, Professor, to the fourteenth page of what's been previously marked Government's Exhibit 3. I'm going to read what it says here. There's a discussion about the decline in risky activity after adolescence and after going through a little bit before, you write, "A more likely, although not mutually exclusive, cause of the decline of risky activity after adolescence concerns the development of self-regulatory capacities that occur over the course of adolescence and during the 20's." Do you see that?

A. I do.

Q. This is consistent with your testimony here earlier today that we have been talking about with the prefrontal cortex exerting control over the limbic system?

A. I believe so.

Q. In fact, if you continue to read later in that

paragraph, you write "The maturation of this cognitive control system during adolescence is likely a primary contributor to the decline in risk-taking seen between adolescence and adulthood. This account is consistent with the growing body of work on structural and functional changes in the prefrontal cortex which plays a substantial role in self-regulation and in the maturation of neural connections between the prefrontal cortex and the limbic system which permits the better coordination of emotion and cognition. These changes permit the individual to put the brakes on impulse sensation-seeking behavior and to resist the influence of peers, which, together, should diminish risk-taking. Do you see that there?

A. I do.

Q. We see a little bit of your analogy there as well in some way where you write about putting the brakes on what would otherwise be an impulsive reaction, right?

A. Yes.

Q. That's what you're writing back in 2008 in this paper?

A. Yes.

Q. You had testified a little bit about the consequences of this as well, right, this idea that the lack of impulse control due to the development of the limbic system but underdevelopment of the prefrontal cortex leads

young adults or 18 to 20-year-olds to act like juveniles in stressful situations. Do you remember giving testimony along those lines?

A. Yes.

Q. I would like to go back to the APA brief on which you consulted and check that testimony against what is in the brief, so I will bring up what's been previously marked as Government's Exhibit 1 for identification and I will take us to the seventh page.

And the brief says there "During puberty, juveniles evince a rapid increase in reward and sensation-seeking behavior that declines progressively throughout late adolescence and young adulthood." You see that, right?

A. I do.

Q. That's consistent with what you presented to the Court here today in terms of into young adulthood that sensation-seeking behavior declines progressively into and including that young adulthood period, right?

A. Um-hum.

Q. To be -- not to put too fine of a point on it, but through late adolescence and young adulthood, that's clearly taking us through the 18 to maybe 21, 22, 23-year-old time period. Is that fair to say?

A. Yes, I believe I said before that the peak in this is around 17, 18, 19 or so, so after that it starts to

decline.

THE COURT: What's the "it" in that answer?

THE WITNESS: The sensation-seeking and reward-seeking.

BY MR. PIERPONT:

Q. I'm going to take us to the eighth page of this Government's Exhibit 1 and again consistent with the brief says "More recent studies confirm" -- well, let's start with "In one example, researchers examined differences in impulsivity between ages 10 and 30 using both self-report performance measures and concluded that impulsivity declined through the relevant period with gains in impulse control occurring throughout adolescence and into young adulthood."

And again consistent with your testimony on direct about this idea that you are not as impulsive as your prefrontal cortex begins to gain control over the limbic system, right?

A. Correct.

Q. In fact, that brief also contains the following language which says "Thus expecting the experience-based ability to resist impulses to be fully formed prior to age 18 or 19 would seem on present evidence to be wishful thinking." Do you see that language there?

A. I do.

Q. So in the brief there, you were saying impulse

control. It would be wishful thinking to think that your impulse control would be fully developed by the time that you are 18 or 19; is that right?

A. Yes.

Q. A little bit more about the impact of peers and environmental pressures. The APA brief contains the following language. Page 10 of what's been marked Government's Exhibit 1.

"The ability to resist and control emotional impulses to gauge risks and benefits in an adult matter and to envision the future consequences of one's actions, even in the face of environmental or peer pressures, are critical components of social and emotional maturity necessary in order to make mature, fully considered decisions.

Empirical research confirms that even older adolescents have not fully developed these abilities and hence, lack an adult's capacity for mature judgment. It is clear that important progress in the development of social and emotional maturity occurs sometime during late adolescence and these changes have a profound effect on the ability to make consistently mature decisions."

Do you see that language?

A. I do.

Q. We're focusing on the time period of late adolescence which would put us 18, 19, 20 in that area,

right?

A. Yes.

Q. So I would like to turn now to what's been previously marked as Defendant's Exhibit 2 which I have on the screen here and I would like to jump into it and read a little bit about the science that's contained in here. Now to be clear --

THE COURT: Is it Government's Exhibit 2?

MR. PIERPONT: This is Defendant's Exhibit 2.

THE COURT: The defendant is the Government in this case.

MR. PIERPONT: I mean Petitioner's Exhibit 2. I apologize.

THE COURT: Go ahead.

Q. To be clear, you testified on direct examination that this is the present state of knowledge regarding adolescence or so the best statement of knowledge -- withdrawn.

Let me ask you to characterize it one more time similar to as you did on direct. When you were talking about the science contained in this article, how did you describe it in sum and substance?

A. As the present state of our knowledge at the time the article was written.

Q. You had testified as well that at least in terms of

the science contained in here, there's broad consensus about the science that's in this article, right?

A. Yes.

Q. Now you are a listed author on this paper, right?

A. Yes.

Q. As a listed author you read this paper, right?

A. Yes.

Q. You agreed what was in it largely?

A. Yes.

THE COURT: I'm a little confused. I'm looking at what I wrote was Petitioner's Exhibit 2. Maybe that's my mistake. It is an article that's written by a professor I know from NYU, Taylor-Thompson.

A. I believe that he's speaking about Petitioner's Exhibit 1.

THE COURT: You are not an author on 2, right?

MR. PIERPONT: Let me double check.

THE WITNESS: Mine is marked 1.

THE COURT: You were answering as to 1?

THE WITNESS: Yes.

THE COURT: Thank you.

MR. PIERPONT: That's right. I apologize this is Petitioner's Exhibit 1, not Petitioner's Exhibit 2 that we're speaking about.

THE COURT: His answer I guess was that it is a

present statement of the knowledge in this area.

A. At the time the article was written, yes.

THE COURT: Which is 2016.

BY MR. PIERPONT:

Q. Was this published in 2016 or 2017? Do you know, Professor?

A. I believe 2016, but I'm not absolutely certain.

Q. So I would like to take you then to the seventh page of this exhibit and it reads, "Research on developmental differences between adolescents and adults often has not drawn age distinctions among individuals older than 18 and therefore is of limited value in understanding risk-taking among young adults." Do you see that language?

A. Yes.

Q. To be clear, young adults as we talked about in this article refers to people from the ages of 18 to 21, right?

A. Yes.

Q. This was published in 2016 you said, right?

A. Yes.

Q. Do you agree with this statement there's only limited value in understanding risk-taking among young adults or that is individuals from the ages of 18 to 21?

A. What we meant by this sentence is that -- is that there has not been a lot of research that has specifically looked at people who are older than 18 and divided them up

into different age groups for purposes of comparison.

Q. To be clear, the conclusion that you draw from that is that research on developmental differences is, therefore, of limited value in understanding risk-taking amongst young adults, right?

A. Yes, but the next word is "nevertheless."

THE COURT: Could I ask you to give me the page of the article, not the seventh page because I went to the seventh piece of paper and I can't find the language.

MR. PIERPONT: I understand. Page 646, Your Honor.

THE COURT: Thank you. Okay. I got it.

BY MR. PIERPONT:

Q. You continue "Nevertheless, theoretical models can inform our discussion of risk-taking in young adulthood," right?

A. Yes. I do think it is fair to look at both of those sentences together.

Q. So later on page 647 and going into 648, you write, as one of the three authors, "The age patterns in risk-taking would seem to offer support for the conclusion that young adults are also affected by the developmental influence that" -- hang on one second. I will withdraw that.

Let's start right here at the beginning of 648. You write, "The study of psychological development in young adulthood is less advanced and the findings of this research

are less consistent than the findings of research on adolescents. Do you see that language there?

A. I do.

Q. Do you agree with that statement?

A. Yes.

Q. And you go on to give a couple of limitations and I will focus on two of them now today discussing some of the shortcomings with the research on young adults in this paper here.

The first one reads "One limitation" and I will zoom in so everyone can read.

"One limitation is that studies rarely survey a sample that includes adolescents, young adults and individuals in their late 20s using the same measure for all three groups." Do you see that language there?

A. I do.

Q. You agree that's a shortcoming with the research amongst 18 or 21-years-old?

A. Yes.

Q. You continue to write or you and two other authors continue to write, "A second limitation is that studies that span the necessary age range frequently lack the statistical power to compare narrowly defined age groups." Do see that language as well?

A. Yes.

Q. You would agree with that statement as well?
A. Yes, I do.
Q. Studies of 18 to 21-year-olds don't always have the statistical oomph that's needed to maybe pass muster at least in the same way as first studies amongst adolescents. Is that fair to say?
A. I think what we meant there was that studies that have adults or people from 18, all the way up to further into the 20s, don't necessarily divide them up into age groups where there's enough statistical power to compare them. It is not within the 18 to 21 group as you phrased your question, but it is wider than that.
Q. I understand. So let's take a look then at page 649 of this exhibit. You write "Conclusions about whether psychological development continues beyond age 18 are highly task dependent. Consider, for example, the question of whether young adults." Again in that context, taking about 18 to 21-year-olds, right?
A. Yes.
Q. "Like juveniles, are more susceptible than older adults to peer influence. The answer is equivocal." Do you see that writing there?
A. I do.
Q. Do you agree with that statement that the science and the studies suggest -- well, it is ambiguous as to what

impact peer pressure has on young adults?
A. That's right.
Q. You continue to write there "Studies of resistance to peer influence using self-reports do not find age differences after 18." Do you see that language there?
A. I do.
Q. "But experimental studies comparing individuals' performance on decision-making tasks, when they are alone versus when they are with their peers find peer effects on task" --
THE COURT: Could I just ask you to slow down. My brain can't compute what you are saying so I have no idea how she can take it down. My brain can't listen at the speed.
MR. PIERPONT: Happy to slow down.
THE COURT: Thank you.
BY MR. PIERPONT:
Q. So you continue to write "Studies of resistance to peer influence using self-reports do not find age differences after 18, but experimental studies comparing individuals performance on decision-making tasks when they were alone versus when they are with their peers find peer effects on task performance after this age at least into the early 20's" Do you see that language there?
A. I do.
Q. You continue to agree with that language?

A. Yes.

Q. "For example, exposure to peers increases young adults' preference for immediate rewards, willingness to engage in exploratory behavior and ability to learn from experience."

Do you see that.

A. Yes.

Q. You continue to write "In some studies, exposure to peers has been shown to increase young adults' risk-taking; but in other studies, this has not been found."

Do you see that as well, right.

A. Yes.

Q. So jumping to page 651 of this exhibit. Here you are discussing neurobiological research and brain development in young adulthood. And you write, along with other authors, "As with behavioral research, very few studies have systematically examined age differences in brain development among individuals older than 18. In most studies, adolescents are compared to adults with the latter group composed of people who may be as young as 19 or as old 50. When adult comparison groups average data from such a wide age range, it is impossible to draw specific inferences about potential differences between young adults and their older counterparts."

Do you see that language there?

A. Yes.

Q. Do you agree that where adult comparison groups have average data from such wide age ranges, that it is impossible to draw specific inferences about individuals from the age of 18 to 21?

A. If you don't have that category separated out, you couldn't.

Q. You agree with this that in most studies that is the case, that adolescents are compared to adults with people from the ages of 18 to 50 in that group, right?

A. Yes.

Q. On the next page, this is on page 652. You write as follows about this research on brain systems and that is, "The research indicates that brain systems governing thinking about social relationships undergo significant change in adolescence in ways that heighten concerns about the opinions of others. Compared to adults, adolescents seem especially sensitive to both praise and rejection, making young people potentially more easily influenced by their peers."

You continue to write.

"But very little research has asked whether and how these brain systems continue to change beyond the teen years. One study that examined the impact of peers on neural responses to reward in a sample of adolescents, ages 14 to 18, young adults, 19 to 22, and adults, 24 to 29, found that

the presence of peers increased activation in this brain region among adolescents but had no impact in the other two age groups."

You see that language there, right?

A. I do.

Q. The other two age groups in this case would include young adults albeit as defined from 19 to 22, right?

A. Yes.

Q. I will take us to one more page here and I will read two separate highlighted parts. And this, Your Honor, is on page 653 of Petitioner's Exhibit 1.

You write "It is clear that the psychological and neurobiological development that characterizes adolescence continues into the midtwenties, but the research has not yet produced a robust understanding of maturation in young adults age 18 to 21.

You see that, right?

A. I do.

Q. And you agree that there is not yet a robust understanding of maturation in young adults aged 18 to 21?

A. I do.

Q. You continue later, "The research on age patterns in risk-taking and on emotional maturation, particularly on impulse control in negative arousal states and peer influence in social contexts, provide the most powerful evidence that

young adult offending likely represents a continuation of adult (sic) risk-taking, driven by developmental forces; but many uncertainties remain."

Do you see that language as well?

A. I am but in your reading of it I think you misquoted it. It likely represents a continuation of adolescent risk-taking. I believe you said adult risk-taking. It says adolescent risk-taking in the article.

Q. Yes. Adolescent risk-taking, but you do agree that uncertainties remain in that regard?

A. I'm sorry.

Q. You do agree that uncertainties remain in that regard, right?

A. Yes.

MR. PIERPONT: Excuse me for one moment.

I have nothing further, Your Honor. Thank you.

THE COURT: I have a few questions. I will ask them before redirect. I will give the Government a chance to follow-up if they have questions on my questions. Give me a minute to organize my thoughts.

Well, let's start with some kind of visual basics. In my mind, when you told me to think about risk-taking, you told me to think of an upside down U where the horizontal axis would be age, the risk-taking would go vertically and I will see it go up and then down. Is that fair?

THE WITNESS: Yes.

THE COURT: So there's in effect a trough in the U even though it is upside down. If I righted the U, there would be a trough at the bottom so in this case, it is at the top?

THE WITNESS: Yes.

THE COURT: Did I understand your testimony to be that the peak of that upside down U is 17, 18 and 19?

THE WITNESS: Yes. Although, Your Honor, I believe I said, if I didn't, I will now. A lot of it depends on the specific type of risk-taking that you are talking about and the specific measure that's being used but generally speaking, that's where the peak is.

THE COURT: Okay. Then you also said, and I might have got this wrong, but I believe you also said that impulse control was fully developed by 18 to 19, did I take that down incorrectly?

THE WITNESS: No, I didn't say that.

THE COURT: That's when he was going fast. I was trying to catch up.

THE WITNESS: What I believe I said was that impulse control continues to develop into the midtwenties.

THE COURT: Okay. So that diagram is an axis of age horizontal, vertical is impulse control. It is a straight line up until about the midtwenties?

THE WITNESS: Then it plateaus, exactly.

THE COURT: Thank you. That's that. When an expert testifies in court, Professor, they are required to be able to at least state to a reasonable degree of, in your case, psychological study certainty that something is more likely true than not true?

THE WITNESS: Yes.

THE COURT: So I don't know if this is proper. Anybody wants to object, please object. I will not be offended, but I would like to ask you some questions that are going to be sort of focused on confidence levels.

In other words, I assume nothing you've said today do you question is at least more likely true than not in terms of your opinions that you gave about impulse control, risk-taking, age changing, et cetera. But I'm interested in confidence sort of levels. In other words, how much above 50 percent are you certain or believe to be is the case true.

In other words, I will start with -- I will start with something. It sounds like you define late adult adolescence as 18, 19, 20 and adulthood or young adulthood at over 20?

THE WITNESS: Yes.

THE COURT: And what is the confidence level you have that is where the line should be drawn in a psychological sense?

THE WITNESS: Um.

MR. PIERPONT: When you say line in that context?

THE COURT: His categorizations. I'm calling them lines. But I can change line to categories, but the line -- 20 falls into one category, 21 falls into another category in my mind, that's a line between 20 and 21. I'm asking -- this is kind of a really pure psychology question. It could be related to the case. In terms of these categories that seem to be drawn early, mid, late adolescence, young adulthood, you know.

I guess I could get up on the stand and say well, early adolescence, in my opinion, starts at six. You would laugh because you know as a psychologist, that's not a fair characterization of the category known as early adolescence.

So I'm trying to get at the witness's view of his confidence that 20 is indeed the proper end of late adolescence.

Why wouldn't it be 21? I guess I can put it that way.

THE WITNESS: It could be, Your Honor. These are labels. These are shorthands that we use for purposes of communication. A lot of development, in fact, most of development is gradual and where we choose to draw lines for purposes of creating these labels or for purposes of the law, it is not arbitrary but reasonable people might disagree as

to whether it should be 21 or 22.

If I may, to the extent that a different way to answer the question is, Am I confident that development is still going on? Yes. Absolutely confident.

THE COURT: Based upon your education, training, your research involvement, is it your opinion that 20-year-olds, generally speaking, obviously we're all made up of humans who are entirely different, but as a class, someone age 20 is more like an 18 or 19-year-old or more like a 21-year-old in categorization of psychologically? That didn't make any sense.

THE WITNESS: No. It made perfect sense.

MR. PIERPONT: Your Honor, I'm again when you say psychological. In what sense?

THE COURT: The characteristics we have been talking about. Development of the frontal lobe, risk-taking, impulse control. I guess I would hope he wouldn't put a 65-year-old in the same category as an 18-year-old in describing them psychologically as far as development and all of these other aspects that he's spoken about in describing 13-year-olds versus 15-years-old versus 18-years-old.

I'm trying to have a sense of -- and I understand the last answer is a perfectly sound one at least to my ignorant hearing -- I'm ignorant I mean -- of the idea that reasonable people can differ. Reasonable researchers might

create a different class to study. They might look at 19 to 23-year-olds, but in his view that he categorized these folks there, I'm trying to understand, I assume it is based on his view, his belief, his judgment as an expert that those years share common characteristics while they may be developing and evolving over time, but they still belong together in a psychological sense. I guess that's what I'm trying to say.

THE WITNESS: Yes. If I can elaborate a bit.

THE COURT: Please do.

THE WITNESS: It is not just an opinion in the study that I mentioned before of the 5,000 people from eleven different countries, we actually statistically said well, when does self-control hit a plateau. We quantitatively asked when that was. It was at 22 was the earliest we could see it, so in the sense that people who are still developing share that as a similarity, then people who are 20 are more like people who are younger because they are also still developing.

THE COURT: So to me that implies that there are greater cross category differences than within category differences?

THE WITNESS: Yes.

THE COURT: So in your opinion, an 18-year-old -- Is an 18-year-old more similar to a 20-year-old or to a 17-year-old? Again we're speaking in general broad

statistical census. I'm not talking about be an individual person.

THE WITNESS: It depends on what your -- to me I think of them as comparable. That is I wouldn't say one or the other. I think it would depend on the measure of similarity that you were going to use.

THE COURT: Well, certainly an 18-year-old is closer to a 17-year-old than a 20-year-old in numerical sense.

THE WITNESS: Yes. I think if you looked at measures of things like self-control, you would find closer scores between 18-year-olds and 17-year-olds because they are closer together on that horizontal axis than you would between 18-year-olds and 20-year-olds because the development of those things is linear and gradual, so the further apart on the axis you are, then the further apart you will be on their scores.

THE COURT: That's on the impulse control chart?

THE WITNESS: Yes.

THE COURT: On the risk one, we have already established that it is an upside down curve so 18 and 20 might be roughly the same place or roughly equal to 19?

THE WITNESS: Pretty close, yeah.

THE COURT: There were a number of places that Government's counsel pointed you to in Petitioner's Exhibit 1, the article that you co-authored, and I will not go back

over the exact language, but I just happen to write down I think at page 649, the phrase, After 18 years is used and 651, quote, older than 18. When you wrote those words or co-wrote those words, was that literally accurate? In other words, you were writing and expressing a view with respect to people who are 19 and 20 or does over 18 or older than 18 in those contexts mean 18 years and one day? If you need to go back to the article.

THE WITNESS: No. I know what you are referring to, Your Honor, yes. My answer to that has to put the article in context. As I mentioned before, the first and second authors are law professors and this article was written specifically because we were asked for a conference held at Fordham to look at the current legal boundary in the United States for purposes of criminal prosecution.

THE COURT: Is under 18?

THE WITNESS: Exactly. To say basically is 18 the place where we should be drawing this line. Had we been asked to address a different question. That is the question before the court today, should the line be drawn at 21 or at whatever age, we would have written the sentence that way. So in other words, the construction of the sentence came out of the legal question of this article.

THE COURT: Miller is under 18?

THE WITNESS: Exactly.

THE COURT: That's helpful. Thank you. I think that's all that I had. The only thing I would ask before we go to redirect or the Government's cross on that is I don't usually let a CV be marked into evidence, but I was thinking although I took some notes about the brief questions you asked him, if you had a CV for the professor, would there be objection to marking it? I think it might be helpful to have it in the record.

MR. PIERPONT: No objection.

MR. KOCH: I have one.

THE COURT: That will be Petitioner's Exhibit 3. I think probably I should let the Government cross on my questions and then the redirect would cover both the Government's cross and my questions. Is that all right?

MR. PIERPONT: Your Honor, the Government is not going to have cross-examination on those questions.

THE COURT: You are welcome to.

MR. PIERPONT: I appreciate that. Thank you.

THE COURT: Attorney Koch.

MR. KOCH: Thank you, Your Honor. On the CV, I can --

THE COURT: If you don't have a copy, I would as you show it to the Government unless they have seen it. Send it to Diahann and we'll mark it. The hearing is going to go past today. It is not a harm.

MR. KOCH: They have seen it. They got it from me. Now they are giving me my copy.

THE COURT: So that will be Petitioner's 3. Give it to Diahann. She'll mark it later. Thank you. I don't need to see it right now, Diahann. I think it should be in the record. Go ahead, Attorney Koch please.

MR. KOCH: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MR. KOCH:

Q. All right. Professor Steinberg, stepping back a minute or two. I guess relating to the last questions of Her Honor. Are psychologists as interested in drawing these categorical lines as lawyers are?

A. No.

Q. What's your main interest driving all of this research?

A. My main interest is to better understand how decision-making abilities change between the ages of 10 and 30.

Q. So you were to take your research outside of any context of line drawing or legal or policy considerations, where would you just float the age of full maturity of the brain?

A. As I said before, around age 22 or 23, based on current information.

Q. The Government pointed to different kinds of reservations and qualifications in the article that you wrote. Do those reservations and qualifications undermine your confidence in your conclusions here today?

A. Well, as I responded when the Government was asking its questions, I still stand by what we wrote which is that we know less about young adults, late adolescents, if you will, than we do about people who are under 18. That's a statement of fact because as I explained when you were questioning me, that has been a much later focus of research so not as large a body of evidence has accumulated.

So as a scientist, the more studies there of something and the more consistent the findings are, the more confident we are.

The reason that Scott and Bonnie and I wrote this paper that we were just talking about is because people were raising legal questions about where we ought to draw the line. We looked at the science and said, you know, there's enough here to open up the discussion. It is not -- it is not as fully developed as the literature is on adolescence, but there's enough studies in my view and my co-authors' view to say I think we should revisit this.

Q. Does your research ever conclude that any bright line should be drawn?

A. No. And as a scientist -- that's a legal question.

That's not for me to answer. What I see my role today and in other cases in which I have testified, is to do my best job of explaining the science to the legal decision-makers. It is their decision to decide how to use that science to draw legal boundaries. That's not a scientific question.

Q. Does any of your research support that there's a clear clinical psychological difference between your average 17-year-old and your average 18-year-old?

A. I would say probably not. If you were asking me as a scientist, if I thought that we would find a statistically significant difference between 17-year-olds and 18-year-olds on the kind of things that we study or to use Her Honor's way of putting it which was correct that we would find greater between category differences than within category differences, no, I can't think of a study where one would find such a bright-line boundary.

Q. At some point, you were asked about something that the Government had pointed to about similarities that exist between -- strike that question.

Let me ask you it differently. 18, 19, and 20-year-olds, you have testified they have some similarities with adults, right?

A. Sure.

Q. How does hot cognition play into that?

A. I would say that the similarities that you would

find are more in the realm of cold cognition. In hot cognition is where you would find the differences between people that age and adults.

Q. Would it be fair to say under hot cognition, that's where late adolescence are more similar to mid adolescence than they are to adults?

A. Absolutely. That's exactly how I would put it.

MR. KOCH: Nothing further. Thank you.

THE COURT: Just based on something that you said a moment ago or it was imbedded in a very long answer of something you said a moment ago, I want to have the record be clear. Is it your opinion to a reasonable degree of psychological science certainty that the findings which underpinned your conclusions as to the petitioner's in, for example, Graham, under 18, actually they were 14 but the opinion says under 18, you have the same opinion as to 18?

THE WITNESS: Yes. And had that been the question that was asked in Graham, I would have said the same things. I would have changed the age in the brief.

THE COURT: The number would have changed?

THE WITNESS: Exactly.

THE COURT: If someone said could you change it to 21, would you have been able to do that based upon your expertise as a psychologist?

THE WITNESS: I don't think I would be confident

enough. I think I would be confident enough about 20, but not 21, but we're really, you know, in terms of reasonable scientific certainty, I am more certain about 20 than I am about 21.

THE COURT: As to 18?

THE WITNESS: Absolutely certain.

THE COURT: All right. I don't have if you have questions on that.

MR. KOCH: I have one follow-up question. When you said 20, up to 20 or through 20?

THE COURT: I was asking and if you didn't understand me, when I was using 18, 20, 22, I was referring to a person who nominally has that age. In other words, not under, but is at the moment a 20-year-old, i.e, a person who could be 20 years and a day or 20 years and 11 months and 29 days.

THE WITNESS: That's how I understood your question.

MR. KOCH: Thank you, Professor.

THE COURT: Professor, I think we'll get you back to Philadelphia. I apologize for the delay this morning.

THE WITNESS: It happens.

THE COURT: It shouldn't. I'm thinking of sending some other agency of the government your bill, but we'll deal with that later. Thank you very much.

The other thing I wanted to put on the record and I apologize I kind of assumed things and I shouldn't assume things. You mentioned the presence of the family members of the victim Mr. White. I assume they are here because you fulfilled your obligation under the Victim's Right act by notifying them. There was a second victim whose name I believe was Diaz. Any family?

MS. COLLINS: We have made efforts and the agents have been helping us make efforts. We have not be able to locate a member of the Diaz family. The White family was helping us with that as well. We're not able to reach the person. We're continuing that. We're hoping to do that before the 29.

THE COURT: In the category of not assuming anything, I understood your remarks. I don't want to assume it, Attorney Pierpont. While the members are present of the White family which I appreciate that no one wished to participate I guess in this proceeding, the hearing. I don't know that they could. They have right to be present and to be heard I think, but I don't know heard at an evidentiary hearing, I'm not sure.

MR. PIERPONT: I think the read here that we have we informed them, we talked to them about this hearing and what was going to happen at the hearing. I don't believe it would be the Government's position that in this context, they would

have the right to be heard. If that comes up, we'll continue to apprise them of those rights.

THE COURT: Okay. They have a right to be heard at any public proceeding involving release, plea, sentencing, parole. This is in the nature of evidentiary hearing. They have a right to be informed of all proceedings. I think you were right to do that.

Attorney Koch, I believe you indicated on your witness list that you intended to call Mr. Cruz to testify.

MR. KOCH: Yes, Your Honor.

THE COURT: Can we do that now?

MR. KOCH: I had an agreement with the Government that we would do that on another day which is why I believe we scheduled September 29.

THE COURT: I did, but I did it based on the representation that the professor would take all day. Therefore, we would need more time. I set aside the whole day. Somebody else is responsible for ruining my morning. But I don't know. Why did you ask me to set aside a whole day? I don't mind doing it in two days. Why did I schedule a whole day?

MR. KOCH: Could I have a moment with the Government please?

THE COURT: Sure.

MR. KOCH: Thank you.

I know that Your Honor would like to go forward. I thought that there was an off-chance that this might be the case. However, Mr. Cruz I didn't get to seem him before we were in court today, and I was kind of relying on the September 29 date and I apologize that we have taken --

THE COURT: My concern if I weren't looking out at a room full of the public who will have to return I assume given their level of interest. I can go back and do work on something else right now. But, you know, would I rather have the 29 open and not occupied with this, yes. Would I rather not inconvenience people, yes.

MS. COLLINS: Prior to today -- may I? Prior to today's proceedings in informing the family, we gave them the date of 29 once the Court issued that date on the calendar. They are well aware that's going to occur on the 29th. They have been told that ahead of today and I think that --

THE COURT: You have no objection to it continuing?

MS. COLLINS: We have to objection to the 29.

THE COURT: You are a lucky man, Attorney Koch. That's all I can say.

MR. KOCH: Thank you, Your Honor.

THE COURT: Please understand the next time I schedule an all-day hearing, when one finishes in five minutes, I don't expect to recess to take the second witness on the second day. I intend to go to the second witness.

That's at trials, hearings, anything in front of Judge Hall. Write it down in your book. Is there anything else? We'll stand adjourned.

(Whereupon, the above hearing adjourned at 3:18 p.m.)

COURT REPORTER'S TRANSCRIPT CERTIFICATE

I hereby certify that the within and foregoing is a true and correct transcript taken from the proceedings in the above-entitled matter.

/s/ Terri Fidanza

Terri Fidanza, RPR

Official Court Reporter

INDEX

EXAMINATION

EXHIBIT B

SUMMARY OF ADOLESCENT DEVELOPMENTAL SCIENCE IN RE JUVENILE LIFE WITHOUT PAROLE

AUTHOR: Daniel P. Keating Ph.D.

Summary of Adolescent Developmental Science in re Juvenile Life Without Parole

Daniel P. Keating, Ph.D.
University of Michigan

In a series of US Supreme Court decisions, evidence from the developmental science of adolescence, including developmental neuroscience, has been cited in support of decisions eliminating capital punishment for juveniles and restricting the use of mandatory sentencing to life without parole for juveniles. This summary is intended to provide a brief descriptive overview of the developmental science cited in those decisions, and of the continuing scientific progress in the relevant fields of research.[1] The overview covers six topics: immaturity of the prefrontal cortex and executive functions; the elevation of socioemotional and incentive systems; the developmental maturity mismatch between those two brain systems; the implications of current research for the prospects of rehabilitation among juvenile offenders; the issue of age cutoffs; and a note on scientific methodology.

- **Immaturity of Prefrontal Cortex (PFC) and Executive Function (EF)**
  - *Executive Function, judgment, and decision making.* The prefrontal cortex of the brain (the PFC) has long been understood to have the principal function of carrying out what are known as the "executive functions" (EF). These included basic functions such as working memory and planning, as well as the direction of cognitive resources (known as "effortful control") and, especially relevant here, impulse control (also known as the "inhibition of prepotent responses") and decision-making in complex situations. The PFC is known to begin developing in early childhood and to continue that development through the childhood, adolescent, and early adult years, showing full adult maturity in the early to mid-20s.[2] It is the functioning, and especially its immaturity, that is referenced in discussions of suboptimal adolescent judgment, especially in complex decision-making contexts that include competing demands. Another key aspect of the PFC is that it has limited capacity. When fully engaged in one task involving effortful control, it has limited or no capacity to undertake additional tasks that require judgment. This has two implications: (1) having embarked on a plan to undertake a risky behavior, the execution of that plan may use up available PFC resources, compromising the individual's ability to adjust behavior when circumstances warrant; (2) engagement with other activities that demand PFC resources, such as maintaining status among peers, may make the limited PFC resource unavailable.
  - *Governance of other brain systems.* In addition to the EF developments just described, the PFC shows development in a related function, the governance of other brain systems. This is also a gradual series of developments, as peripheral systems are brought more fully under the direction of the PFC. (This is the basis of the colloquial designation of the PFC and its projections to other brain regions as the "top brain.") It is not until the early to mid-20s that the ability to delegate tasks efficiently to other brain systems, relieving the PFC of its role to maintain effortful control and freeing up PFC space for other demands.
- **Elevation of Socioemotional and Incentive Systems**
  - *Incentive systems*: Beginning in early to mid-adolescence, there is a sharp increase in what are termed "incentive systems" that entail complex neural circuitry, including emotional arousal (associated most strongly with the amygdala), sensation seeking (mediated by activity in the ventral striatum), and the heightened experience of rewards (mediated by a sharp increase in dopamine

[1] A recent summary of the developmental science used in *Thompson v. Oklahoma* (1988), *Roper v. Simmons* (2005), *Graham v. Florida* (2010), and *Miller v. Alabama* (2012) can be found in L. D. Steinberg, (2013): *The influence of neuroscience on US Supreme Court decisions about adolescents' criminal culpability, Nature/Neuroscience, 14,* pp. 513-518. This summary draws on that and its citations, along with other publications, including: Keating, D. P. (2012). *Cognitive and brain development, Enfance, 3,* 267-279; Keating, D. P. (2014). Adolescent thinking in action: Minds in the making. In J. Brooks-Gunn, R. M. Lerner, A. C. Petersen, & R. K. Silbereisen (Eds.), *The developmental science of adolescence: History through autobiography.* NY: Psychology Press. (Pp. 257-266).

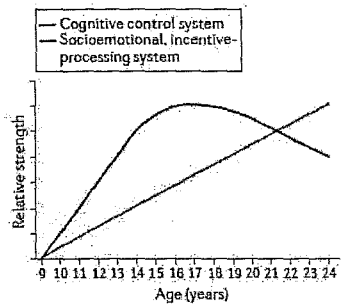
[2] This is found in research on the structure of neural circuitry, in neuroimaging in active performance situations, and in cognitive and behavioral evidence. The last section of this overview provides a brief description of the scientific methods used in the research described here and throughout the summary.

receptors) – a coordinated limbic system often referred to colloquially as the "bottom brain". These developments also coincides with (and may be partially explained by) significant changes in the hormonal balance associated with pubertal shifts, principally as an activation of the HPG-axis (hypothalamic-pituitary-gonadal) whose endpoint is the production of the steroids testosterone and estrogen (among others). These developments are observed behaviorally and cognitively as a significant increase in exploratory and sensation seeking behaviors during this same period of development when the governing capabilities of the PFC are limited (a mismatch described further below).

- *Benefits over risks*. There is substantial evidence that the factors above lead adolescents to focus more heavily on the benefits of risky behavior than on the possible negative consequences of their actions. This is not because adolescents are incapable of understanding or evaluating possible consequences of risky behavior, which under conditions of "cold cognition" (where nothing arousing or incentivizing is activated) is roughly the same as adults. Rather, they value the potential benefits of the behavior more highly than adults, altering the risk/benefit ratio in favor of undertaking unwise risks.
- *Peer susceptibility*. Among the most incentivizing and arousing contexts for adolescent risk behavior is the susceptibility to peers, sometimes in response to pressure (to maintain social status) but also because of the rewards (both behavioral and brain-activated) associated with peer influence. Under experimental conditions of peer presence, different neural circuits are activated than when performing a judgment task on one's own. In combination with the limited PFC capabilities noted above, the impact of peers is substantially higher for adolescents than for adults.

- **Developmental Maturity Mismatch (DMM) (dual process models)**
  - *Divergent developmental pathways*: The developmental pathways of the "top" and "bottom" brain diverge, with the limbic system advancing rapidly from early adolescence while the prefrontal system continues to grow, but at a slower pace, not reaching adult levels until the mid-20s. The term used to describe this is a "developmental maturity mismatch" (DMM), with significant consequences for

the levels of all kinds of risk behaviors during the adolescent period. A schematic figure illustrates this[3]



The behavioral and cognitive evidence converges with the developmental neuroscience evidence here, with highly similar age-risk behavior profiles for a number of areas, including crime (the age-crime curve), accidental injuries, serious driving mishaps, and so on. All show peaks by mid-adolescence, with gradual drop-offs until an asymptote in the mid-20s or so.

- *Dual process models*: The DMM is one version of a more general finding, known as dual process models. The research here is that when performing a complex decision making task, there are two systems functioning. One is a rational, judgment based system that takes considerable cognitive effort. The second is a more automatic, "intuitive", non-analyzed system that is accessed more often (because it requires less time and energy). This occurs for automated tasks (especially in domains where expertise is high) but also for "hot" cognition where there are competing demands – for example, from arousal and incentive systems.

- **Rehabilitative Prospects**

In addition to mitigation of sanctions owing to diminished culpability by reason of developmental immaturity, another implication of the developmental neuroscience evidence is that there are increased prospects for change among juveniles. This is supported by the evidence above that major changes continue during this period. In

[3] This version is from Steinberg (2013, see fn 1), although it has appeared in several publications.

addition, there is very substantial evidence for neural plasticity by way of "synaptic pruning." Simply put, neural circuitry is shaped by the individual's experiences, such that the resulting mature circuitry is not settled until the mid-20s. (Some plasticity continues throughout life, but never again as strongly as in adolescence.) This potential for positive change was noted as a significant factor in recent Supreme Court decisions.

- **Age Cutoffs**

The evidence above, and additional developmental science evidence, point to the difficulty of identifying strict age cutoffs for various levels of maturity or for resolution of the DMM. The evidence does support the view that full maturity on average is likely to occur by the mid-20s. Clearly, the bright line of 18-years of age is a necessary legal definition, as it jibes more readily with common sense views of maturity and resulting culpability. But it does not suggest a line of argument that 17 is nearly 18, so the evidence does not really apply.

- **Note on Scientific Methodology**

The evidence above is an integration of several kinds of research methodologies, and it is useful to understand the sources of evidence.

  - *Structural neuroscience*: This refers to evidence on the changing structure of the "static" brain, that is, when it is not performing a task. There are several methods for this, but the most prominent currently is diffusion tensor imaging (DTI), collected during a session of magnetic resonance imaging (MRI). This allows the characterization of the size of various parts of the brain, how they differ with age, and how they are connected with each other.
  - *Functional neuroscience*: This assesses how the brain is working while it is engaged in a task, most prominently in functional MRI (fMRI) and various forms of electrical encephalography (EEG), such as evoked response potential (ERP). These use different physical methods (blood flow in fMRI, electrical signals in ERP), but they have the same goal, to elucidate the time and location of brain activity.
  - *Cognitive and behavioral evidence*: In addition to the brain imaging evidence above, there are large amounts of behavioral and cognitive evidence that are relevant to the DMM, including self-reports of sensation seeking, impulsivity,

and risk judgments, among others, as well as performance on cognitive tasks that assess EF, risk-reward trade-offs, and others.

  - *Convergence of findings*: With respect to the confidence that is warranted with respect to the findings described above, one of the most important criteria (used in this summary) is to focus on findings where there is a convergence of methods across methods and content. Specifically, where the same developmental pattern emerges from structural brain imaging, functional brain imaging, cognitive and behavioral evidence, and the epidemiology of risk behavior, we can have strong confidence in the major findings.

APPENDIX C

Report; Boysville of Michigan - Clinton Campus

Discharge Summary

Post Educational Review and Planning

School Data

BOYSVILLE OF MICHIGAN - CLINTON CAMPUS

DISCHARGE SUMMARY

Student's Name: WILLIAMS, Andrey D.O.B.: 7/21/76

Group: Basil Admission Date: 2/2/93

Type of Release: Boysville Release Discharge Date: 3/17/94

Reason for release: (Summarize any information occurring since Termination USP)

Andrey has successfully completed Boysville's treatment program.

New location of the child: (Name, Address, Etc.)

Wedgewood Christian Family Services Supervised Independent Living Program
2505 Ardmore Street SE
Grand Rapids, Michigan 49506
616/942-7294

1256 Jefferson Street
Grand Rapids, Michigan 49507

Present assessment of the resident's needs which remain to be met:

Education - To complete high school and to go on to college or trade school.

Supervised Independent Living Program - To learn to live in an independent setting and to be responsible in paying bills, going to school, finding a job et cetera.

Family - To continue to improve upon his relationships with family members through phone calls, letters, and periodic visits.

The release plan recommendations have been reviewed with the resident and parent and referral source. (include names and dates of sharing.)

On March 16, 1994, with Andrey (youth), Sue Wilson (Family Worker). On March 17, 1994, with Andrey (youth), Michael Cajda (Treatment Coordinator), Arlan Palmer (case coordinator - Wedgewood). The DSW has previously agreed upon recommendation of release.

Include the name and title of the person taking youth from campus or to whom we transported child.

Michael Cajda (Treatment Coordinator) transported to Wedgewood (Arlan Palmer).

3/22/94
Date

C J Hayse
Treatment Coordinator

Program Manager

POST EDUCATIONAL REVIEW AND PLANNING

9 MONTH REVIEW

Student Andrey Williams Group BASIL

DSW Phone

Parent/Guardian

Address

Phone

Projected release date and placement plan
END OF JAN, SIL Kalamazoo / Battle Creek / Benton Harbor Area

Input on educational plans/needs

TEC
FSW/TEAM DIRECT & GOAL Set regarding completing H.S.
Family — Attending H.S., Adult Ed. → Possible G.E.D. Prep
Youth — provide reality & Specific Steps on completing goALs
DSW
Other

TEC provide high school credits earned * had 4 credits prior to BY Completed 10th & half of 11th

SSW provide Woodcock/Johnson 8 month scores N/A

POST EDUCATIONAL REVIEW AND PLANNING MEETING 11/10/93 (Date)

identify interests — vocational goals

	Projected Need	To Be Completed By
1. Further evaluative testing i.e. vocational, special ed	NA	Confirm Apticom testing Complete.
2. Vocational programs	NA	
3. Job placement	working on job skills	
4. GED studies	Possible upon release	

5. High school completion — Working towards / 1yr & ½ to go - June 95

6. College planning, i.e. testing, enrollment, visits — N/A → vocational programs

7. Independent studies — N/A

8. Adult education — NEED TO look into & pursue

9. Tutorial services — DSW, Community programs/services, school etc

10. Requirements at receiving school — NOT confirm Where he is going

STUDENT'S EDUCATIONAL STATUS

General education [X] Special education [ ] L.D. [ ] E.I. [ ]

Brief explanation of special education status _____

4 - 6 WEEKS PRIOR TO RELEASE/TRANSITION

		Yes	No
All	Tasks from previous sections complete	[ ]	[ ]
SSW	Contact person at school _____		
SSW	Woodcock/Johnson testing complete _____		
Driving Instructor	Driving hours complete _____		
TEC	Transcripts and annual review to SSW		
SSW	Records sent to _____ on _____		
SSW	Enrollment occurred on _____		
FSW	Verification of transition _____		
All	Miscellaneous concerns _____		

SCHOOL DATA

1. BACKGROUND

Student's Name: ANDREY Williams Birthdate: 7/21/76

Age: 16.6 Date of Entry: 2/2/93

Research #: 93072 Group BASIL

Schools Attended (most current first)	Address	Contact Person	Dates Attended	Phone Number
Benton Harbor High School	830 Colfax Ave Benton Harbor 49022			(616) 927 0616
Berrien County Intermediate School District	711 St Joseph Avenue Berrien Springs 49103			

Transcript request sent to: _____

Last Grade Completed: 9th — NEED TO request & Confirm completion of 9th

6 - F's
No CREDITS

SPECIAL EDUCATION grade & credits

High School Credits Earned:

Certified: Yes ____ No ✓

Re-evaluation Due: _____

Certification: Institution: Date of I.E.P.C. Services Rendered

Psych. Evaluation/Learning Evaluations (most current first)	Dates	Where	By Whom
(1) Psychological Associates PC.	11/27/92	Berrien County	Frederick T. Sulier Ed.D.

Comments: May have feelings of insecurity & inferiority when dealing w/others, feels powerless, self centered, demanding, impatient, easily frustrated

Frederick T Sulier Ed. D.
2095 Niles Rd
St Joseph MI 49085

No WISC-R given

(over)

SCHOOL DATA (con't.)

	Dates	Where	By Whom

(2)

Comments: Mom - alcoholic, mom supportive but has her own difficulties, Dad lives in California CCW, UDAA, B&E, drugs/poss of Cocaine, VOP, MDP little contact w/Andrey

SUMMARY - SCHOOL BACKGROUND - ADJUSTMENT ie, once a year

failed 2 grades K-7th

impulsive, immature, easily misled, angry, blames others for his problems, disruptive behaviors poor attendance, low self esteem, poor academic performance, suspensions

enjoys sports, math, art & mechanics

Placement History:

Special Medical Notes:

Berrien County Juvenile Center School (616) 471 2831
Deans Hill Road Berrien Center, MI

Berrien Co Det.	11/16/92 - 2/2/93
Berrien Co Res	10/22/91 - 5/27/92
Foster Care	5/14/91 - 5/28/91
Berrien Co. Group Home	5/28/91 - 10/22/91

TWO WEEK EDUCATIONAL PLANNING MEETING Date: 2/16/93

Persons in attendance: Jim & Jill

WJPEB: Standard Score = 91 Reading Cluster = 7.9 | Standard Score = 87 G.E./Math Cluster = 7.0 | Standard Score = 68 G.E./Writing Cluster = 3.4 G.

Referrals/Recommendations: begin 9th grade

Date set for 5 Week Review Meeting or M.E.T.

Outcome of meeting: request trans/records from Berrien Co Juv Center
- identify goals towards H.S completion
- identify goals for vocational learning trade/or Jr College
- challenge academically