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ORIGINAL

STATE OF SOUTH CAROLINA
IN THE COURT OF APPEALS

Appeal from York County
Grace Gilchrist Knie, Circuit Court Judge

THE STATE,

RESPONDENT,

V.

JOSHUA KERR CRAMER

APPELLANT

APPELLATE CASE NO. 2017-002471

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SC Court of Appeals

RECORD ON APPEAL

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STATE OF SOUTH CAROLINA)
) COURT OF GENERAL SESSIONS
COUNTY OF YORK)

STATE OF SOUTH CAROLINA,) TRANSCRIPT
PLAINTIFF,) OF
vs.) RECORD
JOSHUA K. CRAMER,) 1998-GS-46-1015
DEFENDANT.) 1998-GS-46-1016
1998-GS-46-2192

November 6th, 2017
Spartanburg, South Carolina

B E F O R E:

THE HONORABLE GRACE GILCHRIST KNIE, Judge.

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Seventh Judicial Circuit

1 P R O C E E D I N G S

2

3 (WHEREUPON, a packet of information was marked as
4 Court's Exhibit No. 1 for identification purposes only at
5 this time.)
6 THE COURT: Okay. We are on the record with regard to
7 the matter of the State of South Carolina versus Joshua Kerr
8 Cramer, and this is originally a matter that was heard in
9 York County, if I am correct, in the Court of General
10 Sessions.
11 First of all, let me tell you-all how much I appreciate
12 your coming to Spartanburg today to have this matter
13 partially heard before me, and I see that, for the record,
14 Mr. Cramer has been transported here today accompanied by
15 SCDC.
16 Is that correct?
17 THE DEFENDANT: Yes, ma'am.
18 THE COURT: Okay. And the purpose of our hearing, I
19 received notice from the Supreme Court that this matter had
20 been assigned to me, and we are attempting to timely comply
21 with a scheduling order, and we -- I am referring now to a
22 scheduling order that was issued on September the 26th of
23 2017.
24 I believe that we are here today on the defendant's
25 motion.

1 Is that correct?
2 MR. DEST: Yes, Your Honor.
3 THE COURT: Okay. And I am happy to hear from you.
4 I have Court -- what's been marked as Court's Exhibit
5 No. 1, but y'all probably want to put that on the record as
6 well.
7 MR. DEST: Yes, ma'am.
8 THE COURT: Okay. Yes, sir.
9 MR. DEST: May it please the Court.
10 Your Honor, my name is Harry Dest. I'm the Sixteenth
11 Circuit Public Defender, and I represent Joshua Cramer along
12 with my cocounsel, Melissa Inzerillo.
13 Your Honor, we are here today on Indictments
14 1998-GS-46-1015 and 1998-GS-46-1016, both for murder, and
15 1998-GS-46-2192, accessory before the fact of murder with
16 respect to Mr. Joshua Cramer's sentencing.
17 Your Honor, for a little procedural history, I'd like
18 to point out that Mr. Cramer pled guilty to the above
19 indictments on July 28th, 1998. The date of the offense
20 was March 2nd, 1998, and, at that time of the offense,
21 Mr. Cramer was 18-years and ten months old.
22 On June 3rd, 1998, Mr. Cramer gave a statement to law
23 enforcement, with his attorney present, Mr. Tom McKinney.
24 In the case, that statement was made part of the plea
25 agreement, which is attached to our brief that we emailed to

1 Your Honor and opposing counsel last week.
2 THE COURT: Yes, sir. And, if you will, as I
3 explained, I'm, I'm going to follow along with you and don't
4 think that I'm not paying attention, but I will be looking
5 down at the documents.
6 Okay?
7 MR. DEST: Yes, ma'am.
8 THE COURT: All right.
9 MR. DEST: Understand.
10 THE COURT: Yes, sir.
11 MR. DEST: Thank you. Thank you, Your Honor.
12 Your Honor, Mr. Cramer was sentenced on July 28th,
13 1998, by the Honorable John C. Hayes. Prior to that
14 sentencing, the question was whether or not Mr. Cramer would
15 receive a life without parole sentence, sentences that would
16 run concurrent or consecutive. On that date, Judge Hayes
17 sentenced him to two life sentences to run consecutive to
18 each other.
19 Your Honor, on September 17th, 2015, Mr. Cramer filed
20 a motion to be resentenced pursuant to Aiken versus Byars,
21 and also filed a motion for appointment of counsel on that
22 matter. Your Honor, his motion languished for approximately
23 two years until Solicitor Willy Thompson, Deputy Willie
24 Thompson, informed Mr. Cramer, via a letter on May 4th,
25 2017, that his case could not be considered due to the fact

1 that he was 18-years old at the time of the offense.
2 Mr. Cramer appealed the letter, and, on June 7th,
3 2017, Chief Justice Beatty did not dismiss the case
4 immediately based on Mr. Cramer's age, but remanded the case
5 back to the Chief Administrative Judge for appointment of
6 counsel and for determination of whether the motion had been
7 timely filed.
8 As the Court just noted, on September 26th, 2017,
9 Your Honor appointed our office to represent Mr. Cramer. We
10 informed Your Honor, pursuant to your order, that there were
11 no conflicts that would prevent us from representing
12 Mr. Cramer.
13 On September 26th, 2017, Your Honor also issued a
14 scheduling order. Pursuant to that administrative order, we
15 requested funding for experts. Additionally, we, at that
16 time, Your Honor, of the -- at that time, excuse me,
17 requested that discovery from the Solicitor's Office be
18 turned over to us regarding this case. To date, the
19 Solicitor's Office has not complied with that request.
20 We are here today, Your Honor, to ask that Mr. Joshua
21 Cramer receive an individualized sentencing hearing pursuant
22 to Aiken versus Byars. We note that this -- in the motion
23 for reconsideration, it was timely filed within one year of
24 the Aiken versus Byars decision.
25 Your Honor, we have presented to the Court a brief or

1 memorandum of law outlining and articulating our arguments
2 why we believe Mr. Cramer's entitled to a hearing under
3 Aiken versus Byars.
4 Your Honor, that report or that brief, a memorandum
5 along with all the attachments, is listed as Court's Exhibit
6 1 that's before Your Honor on the bench. And, at this time,
7 we would like to make that exhibit part of the Court's
8 record in this case.
9 THE COURT: Any objection, counsel?
10 SOLICITOR THOMPSON: No objection, Your Honor.
11 THE COURT: Okay. Thank you. This will be made a
12 Court Exhibit. Thank you, sir. As -- this will all come in
13 as Exhibit 1.
14 Is that your wish?
15 MR. DEST: Yes, sir. Yes, ma'am, Your Honor.
16 (WHEREUPON, Court's Exhibit No. 1 was received into
17 evidence at this time.)
18 MR. DEST: Your Honor, our argument regarding why
19 Mr. Cramer's entitled to an Aiken versus Byar (sic) hearing,
20 Byars hearing is essentially two reasons. One is that the
21 psychological, neurobiological studies underline the cases
22 of Aiken versus Byars and Miller versus Alabama and Graham
23 versus Florida apply to Mr. Cramer despite the fact that
24 Mr. Cramer was 18 at the time of the offense. That's the
25 first reason.

1 The second reason, Your Honor, we would submit that a
2 failure to consider his case would result in a due process
3 violation resulting from a violation of the Equal Protection
4 Clause of the Fourteenth Amendment of the United States
5 Constitution and Article 1 Section 3 of the South Carolina
6 Constitution.
7 At age 18, Mr. Cramer, we would contend, exhibited the
8 same characteristics of youth as those under the age of 18,
9 and is, therefore, similarly situated to the class announced
10 in Miller versus Alabama and Aiken versus Byars.
11 Your Honor, the U.S. Supreme Court mandated, in Miller
12 versus Alabama, that Sentencing Courts consider youth as a
13 mitigating factor when committed by a juvenile are such
14 that, when life without parole is a possibility, that these
15 five factors in Miller must be analyzed.
16 One, the chronological age of the offender, and the
17 hallmarks featured of youth such as immaturity, impetuosity,
18 and failure to appreciate the risk and consequences.
19 Two, the family and home environment that surrounded
20 the offender at the time of the event. The circumstances of
21 the homicide.
22 Four, the incapacities associated with youth.
23 And, five, the possibilities of rehabilitation.
24 Those all the factors that were articulated by the U.S.
25 Supreme Court in Miller.

1 Your Honor, in Aiken versus Byars, our Supreme Court
2 stated Miller is clear that is the failure of the Sentencing
3 Court to consider the hallmark, hallmark features of youth
4 prior to sentencing that offends the Constitution. Failure
5 to do so violated the Eighth Amendments, violation against
6 cruel and unusual punishment because sentencing a juvenile
7 to life without parole without an individualized sentencing
8 hearing violated the requirement of sentence proportionality
9 required under the Eighth Amendment. The proportionality of
10 sentence is governed by evolving standards of decency Aiken
11 noted in citing Miller versus Alabama.
12 It is important to note, Your Honor, that, in Aiken,
13 the Court had to review the South Carolina Code 63-19-20
14 that defines a juvenile as a person under the age of 17.
15 However, the Court, in Aiken, allowed for those under the
16 age of 18 to be considered in a class for resentencing. The
17 Court stated we hold the principles stated in Miller versus
18 Alabama apply retroactively to these Petitioners to those
19 similarly situated, and prospectively to all juvenile
20 offenders who may be subject to a sentence of life without
21 parole.
22 Your Honor, it is now widely accepted in the scientific
23 community that brain, brain development does not fully
24 complete until the mid-20s, and the neuroscience and
25 psychology suggests that brain developments from, from the

1 back to the front starting in early adolescence with the
2 prefrontal cortex being the last part of the brain that is
3 developed. This portion of the brain deals with the
4 person's ability to assess risk, think ahead, and regulate
5 emotions. This part of the brain, according to
6 neuroscience, defines a person's personality.
7 Moreover, Your Honor, psychologists and neurobiologists
8 have conducted studies that suggest that the emotional
9 reaction between people of the age of 16 and 19-years old
10 are basically the same. Many studies also suggest that even
11 those between the ages of 18 and 25 may have cognitive
12 abilities of an adult, but still exhibit emotionally
13 associated with teenagers.
14 I would submit, Your Honor, that even our statutory
15 scheme, with respect to youth, acknowledges that those
16 individuals between the age of 17 and 26 are treated
17 differently under our Youthful Offender Act. For example, a
18 juvenile committed to the Department of Juvenile Justice
19 under sentencing not to exceed their 21st birthday. The
20 YOA also acknowledges that youth, those in that particular
21 segment of our society, are capable of rehabilitation, and
22 that is why there are special provisions regarding
23 schooling, housing, and parole eligibility.
24 Your Honor, we also would submit that even the United
25 States Supreme Court, in Simmons versus Roper, acknowledged

1 that it is an arbitrary line that defines a juvenile as one
2 under the age of 18. The Court, in Roper, U.S. Supreme
3 Court in Roper, stated the qualities that distinguish
4 juveniles do not disappear when an individual turns 18.
5 Your Honor, as we explained in our brief, just because
6 one turns 18-years old, and if he was just two days younger,
7 he would be deprived of the right to have a resentencing
8 hindered -- hearing under Byars -- Aiken versus Byars even
9 though, Your Honor, the neuroscience, the brain development,
10 and the psychological factors are the same for both a
11 17-year old as one that's either 18 or 19.
12 Your Honor, we know at least two other Courts in two,
13 two other jurisdictions have held that the Miller factors
14 apply to those over the age of 18. In Illinois, the case of
15 People versus House, the Court of Appeals in that state held
16 that the Miller factors should apply to a 19-year old who
17 was convicted of murder under accomplice liability.
18 In the State of Washington, there are two, two Court
19 cases that acknowledge that the factors in Miller should be
20 considered by someone over the age of 18. In the matter of
21 Light versus Roth, the Court held that views should be
22 considered in a case involving a 19-year old offender. The
23 Court held the same in The State versus Odell, which is part
24 of the Court's record in our presentation with respect to
25 Court's Exhibit 1.

1 As the Court is aware, the Sentencing Courts must
2 consider the Miller factors when a juvenile can be sentenced
3 to life without parole. These factors involve the impact of
4 youth on the crime and the offender's ability to be
5 rehabilitated. Mr. Cramer, despite being similarly
6 situated, if the Court decides not to give us a hearing,
7 will not be able to show a Sentencing Court how youth
8 impacted his crime, and all the things he has done while in
9 prison to show that he can be rehabilitated.
10 We note in our brief that Mr. Cramer has been in the
11 Department of Corrections almost 20 years. And, during that
12 time, he is made progress, significant progress, that I
13 would submit will show that he's been rehabilitated. He is
14 in a behavioral -- a character behavioral unit, which is a
15 unit, a special unit inside the Department of Corrections
16 for those who have demonstrated that they can comply with
17 the rules of the Department of Corrections and are on good
18 behavior. He also has a work history within the Department
19 of Corrections. And my understanding is he teaches a
20 program similar to what was commonly known as the Scared
21 Straight program within the Department of Corrections for
22 youth to basically teach them how to go a different path in
23 life.
24 Your Honor, we would respectfully submit that failure
25 to consider these factors results in a violation of the

1 prohibition against cruel and unusual punishment as
2 protected by the Eighth Amendment of the United States
3 Constitution and Article 1 Section 15 of the South Carolina
4 Constitution because he would not be afforded the right to
5 demonstrate the Miller factors in the individualized
6 sentencing hearing.
7 Your Honor, we respectfully request that Mr. Cramer be
8 afforded an individualized sentencing hearing pursuant to
9 Aiken versus Byars for the reasons that I've just stated,
10 and for all the reasons that we stated in our brief that is
11 now part of the Court's record.
12 Your Honor, I, I note that the State filed a motion in
13 this matter, return to defendant's motion for resentencing,
14 in which Mr. Thompson articulates that the Court does not
15 have the authority to hear this case. We would submit he
16 states that in Paragraph 3 in the last sentence. We would
17 submit, Your Honor, that the Court does have the authority
18 to hear this case based on Justice Beatty's order, and also
19 the order that your Court -- that Your Honor has signed on
20 September 26th setting the scheduling order.
21 Also, it -- my understanding is that Mr. Thompson tends
22 to put into the Court record all evidence and exhibits made
23 part of the, the guilty plea. For the record, we have only
24 been able to obtain those documents that are in the Clerk of
25 Court file. We do not have some of those documents that

1 he's referring to with respect to the case since discovery
2 has not been turned over to us. So, I just state that for
3 the record, Your Honor.
4 THE COURT: Yes, sir.
5 MR. DEST: Again, Your Honor, I appreciate you giving
6 us the time to fully explore this very serious issue, and
7 put our arguments on the record.
8 Thank you.
9 THE COURT: Yes, sir, and I'm happy to let you reply to
10 the return --
11 MR. DEST: Yes, ma'am.
12 THE COURT: -- at the conclusion of Mr. Thompson's
13 argument.
14 MR. DEST: Yes, ma'am.
15 THE COURT: Okay. Thank you, Mr. Dest.
16 Good afternoon, Mr. Thompson.
17 SOLICITOR THOMPSON: Good afternoon.
18 Please the Court, Your Honor?
19 THE COURT: Yes, sir.
20 SOLICITOR THOMPSON: I'm Willy Thompson appearing on
21 behalf of the State of South Carolina. Deputy Solicitor in
22 the Sixteenth Circuit. While I did not handle this case
23 myself, I was working at the Sixteenth Circuit during the
24 time this case occurred and do remember it rather well.
25 I will start out by saying this wasn't your average

1 case. I think of what Mr. Dest and much of what some of the
2 case law seems to look at initially is how much or what the
3 culpability of defendants in some of these situations. Was
4 it a party liability situation where a defendant did not
5 shoot the firearm and things of that nature.
6 This is not like that. The defendant is the key
7 defendant in this case. He took a gun into point blank
8 range, killed two young men by shooting them in the head,
9 even while one began to beg for his life. This is after he
10 tried to sell a pound of marijuana, which is a considerable
11 amount of marijuana, even back then in the late 90s, to be
12 selling at one time, and what he ended up doing, when that
13 marijuana was taken by one of them and that person ran, is,
14 ultimately, he decided that he would take things into his
15 own hands and kill those who had conspired against him.
16 In addition, he attempted to kill a third party after
17 he had gone with that party out to burn the two bodies of
18 the first two he had killed, and he had gone into another
19 county to do so. He said that he ran behind that person and
20 pulled a trigger to shoot them in the back of the head as
21 they were running away. However, his gun misfired,
22 apparently, was not -- did not have the final bullet that he
23 thought had in it. It was rather a shell casing that hadn't
24 ejected.
25 So, in talking to one of his other friends, that

1 friend, later on, killed the defendant on his behalf. So,
2 that was the accessory before the fact charge that he pled
3 guilty to in this particular case.
4 But I think the Court really doesn't have to go any
5 further than just looking at the Miller case and the Byars
6 case themselves in determining that they only apply to
7 juveniles, and not to a defendant who is 18-years or older
8 who is an adult. Of course, under South Carolina law, even
9 in the Constitution of the State of South Carolina, someone
10 who is 18 is the age of majority. That person now has the
11 right to vote. That person has the right to go to war.
12 That person has the right to buy and purchase firearms. And
13 that person has the right to enter into legally binding
14 contracts. That person has the right to enter into
15 marriage. That person has the right to do anything that any
16 other adult of any other adult age has the right to do. And
17 I think to treat him otherwise, because he is younger but
18 still an adult, would be a disservice to the people of the
19 State of South Carolina.
20 Initially, Mr. Dest was pointing out that he thought
21 one of the reasons that this applies to the defendant is
22 that, in the Aiken case, I believe right at the end of it,
23 one of the last things that's said in the, in the opinion is
24 that, that this applies to all juvenile offenders who may be
25 subject to sentence life without parole -- I'm sorry. I'll

1 get the right spot here. That is applies retroactively to
2 these petitioners and to those similarly situated and
3 prospectively to all juvenile offenders who may be subject
4 to a sentence of life in prison without the possibility of
5 parole.
6 It appears that Mr. Dest wishes to expand the
7 definition of those similarly situated beyond what the Court
8 intended and to include anyone of a young age. And I would
9 say to the Court, if you look at the case, it doesn't take
10 long to realize that is not what the case is referring to.
11 In particular, Miller only discusses juveniles, and is
12 discussing already all of the arguments they have made in
13 the, the, the paperwork that they've made part of the
14 Court's Exhibits. It's already discussed all of those
15 things about how to treat or how the mind of a juvenile
16 works and how the mind of young people works.
17 Miller already considered that. The United States
18 Supreme Court already considered that. Byars, in turn, then
19 considered that as well when they discussed, in the
20 discussion of the case, about young minds and their
21 impressionable nature and the things of that, and the things
22 of that, of that nature. The Court has already considered
23 those. To argue those again is basically asking the Court
24 to re-litigate what the case law has already determined and
25 settled.

1 And so I point out to the Court that, at this point,
2 the law on this issue is settled, and, when you look at the
3 very beginning of the same case of Byars, it starts out
4 saying, in this case, brought in our original jurisdiction,
5 15 inmates who were sentenced to life without parole as
6 juveniles petitioned this Court for resentencing in light of
7 the United States Supreme Court decision in Miller versus
8 Alabama. We hold their sentences violate the Eighth
9 Amendment under Miller, and the Petitioners and those
10 similarly situated are entitled to resentencing.
11 It's referring only to juveniles, and that's obvious
12 from that statement, but then it goes further. As you go
13 into the factual and procedural background within that first
14 paragraph, and it's only two paragraphs long, right in the
15 middle of that first paragraph, it says all were sentenced
16 to life without parole according to existing sentencing
17 procedures, which made no distinction between the defendant
18 whose crimes were committed as an adult and those whose
19 crimes are committed as a juvenile. So, obviously, the
20 Court is, in Byars, making that distinction as well.
21 Then when you go to the second paragraph in the last
22 sentence in that paragraph, it says we granted cert to
23 address the effect of Miller on the Petitioners and other
24 similarly situated who were sentenced to life without parole
25 as juveniles. So, once again, it specifically states those

1 who it is referring to as similar situated are those who are
2 sentenced to life without, without parole as juveniles.
3 Therefore, this case only deals with juvenile defendants.
4 Not with adults. Those who are 18, and the defense has
5 admitted he is 18-years and ten months at the time he
6 commits this crime, that is, that is settled. That's not in
7 dispute. Therefore, he must be considered an adult, and
8 this does not apply in either Miller nor Byars. Regardless
9 of whatever evidence they put up, that's already been
10 litigated in these cases, and is not open for discussion
11 again.
12 Now, as I mentioned, and, and Mr. Dest mentioned as
13 well in quoting the motion that I, that I made, basically
14 it's like a motion to dismiss, but it's a return to
15 defendant's motion for resentencing. Since the Byars and
16 Miller case only deal with adults or only deal with
17 juveniles and not with adults, this puts us in a special
18 situation because there's nothing else that it would allow
19 the Court to reopen that sentence to have a resentencing.
20 There's no other case law that allows us to then come back
21 to this defendant and grant him a resentencing. He's
22 already -- he never appealed his case. So, that, that is
23 gone in his ability.
24 He filled a PCR and he lost the PCR. So, that aspect
25 is gone. His attorneys were effective. As a matter of

1 fact, he had two of the best attorneys in York County,
2 especially at that time, in Tom McKinney and John Wray, who,
3 between the two, probably had around 60 years of experience
4 and were well respected. And, if I had gotten in trouble,
5 would like to have them as my attorney. They were well
6 respected and they took very good notes. And, in the PCR,
7 it was clear that they had done all they could to help this
8 young man.
9 I would also point out to the Court, Your Honor, that
10 part of what the defendant did, when he entered his plea in
11 this case, he did so as an adult, and, as an adult, as I
12 mentioned, he has all the rights of an adult. One of which
13 is to enter into a contract, which he did. He entered into
14 a contract of a plea agreement. He entered into a plea
15 agreement to plead guilty to these charges, and to be
16 sentenced to life in prison. And the State agreed, as part
17 of their concessions in this, and part of, of what you --
18 the consideration that you have for any contract, that it
19 would no longer seek the death penalty in this case.
20 That is a huge gift to the defendant, quite honestly,
21 in a case where there is a triple homicide that is brutally
22 done over a drug deal. If the Court were to decide to allow
23 resentencing in this case, I think the Court would also
24 still be bound by the agreement that the defendant entered
25 into, entered into as an adult, as a contract with the

1 State, with his attorneys and proper counsel, agreeing that
2 he would be sentenced to life in prison with the only
3 discretion that the Court had, has at the time was to
4 whether some would run consecutive or concurrent, and the
5 Court decided ultimately consecutive.
6 With that being said, if not, then the, then this Court
7 is coming in, once again, and trying to take jurisdiction
8 where I don't believe the Court would have jurisdiction to
9 change a contract that was entered into and between an adult
10 and the State of South Carolina, and an adult who was
11 properly represented by his attorneys who, through the PCR
12 process, were determined to have adequately and well
13 represented the defendant.
14 I would also point out that the Court Administration
15 order that the defense had mentioned from Justice Beatty, I
16 think Justice Beatty somewhat is a -- it's a little
17 confusing. It almost seems as if well, Justice Beatty
18 issued an order that, that some hearings be conducted
19 regarding whether this applies or not, and I think that is
20 somewhat confusing to the defense making them think that
21 somehow Justice Beatty is making some decision as to the
22 merits of this, which it is not, and I think, if we look, as
23 Justice Beatty did, as he, I think, talked about a Court
24 Order that had been issued by Justice Pleicones when he was
25 Chief Justice not long ago, and, in that order, I have it

1 before me here, it's 415 S.C. 460. It says it is ordered
2 that the following procedures shall be followed statewide in
3 the management and disposition of all motions for
4 resentencing filed pursuit to Aiken versus Byars.
5 It says, upon filing, the Clerk of Court shall forward
6 a copy of the motion for resentencing to the South Carolina
7 Court Administration which will make recommendations to the
8 Chief Justice for assignment of a judge. The Chief Justice
9 shall issue an order assigning the matter to a Circuit Court
10 Judge. The assigned judge shall give exclusive -- shall be
11 given exclusive jurisdiction to handle that case from
12 beginning to end. In assigning these matters, the Chief
13 Justice shall take into consideration any actual or
14 potential conflicts and shall refrain from assigning the
15 matter to the original sentencing judge. Once an order has
16 been issued assigning a matter to a judge, copies of that
17 order shall be provided by the Clerk of Court to counsel of
18 record.
19 Appointment of an attorney for an indigent petitioner
20 shall first be attempted through the Public Defender's
21 Office. If no public defender is available, the assigned
22 judge shall then determine whether a qualified attorney is
23 available from the contract attorney list maintained by the
24 South Carolina Commission on Indigent Defense pursuant to
25 South Carolina Code Section 17-3-310(G)(6). If no such

1 attorney is available, the judge shall then determine
2 whether there is a qualified attorney available pursuant to
3 Rule 608 of the South Carolina Appellate Court Rules. If no
4 qualified attorney is available for any of these three
5 sources, then the judge may appoint another qualified
6 attorney. This order shall be effective immediately and
7 shall remain in effect until rescinded or modified by the
8 Chief Justice. And it's apparently signed by Justice
9 Pleicones and was dated March 16th, 2016.
10 I had not really contemplated this order until I looked
11 at Justice, Justice Beatty's order which referenced it, and
12 I realize now why Justice Beatty did what he did. It's
13 because the other order by Justice Pleicones says that, if
14 someone made the motion, this must be done. It doesn't say
15 there has to be a determination as to whether it's a proper
16 motion or whether the person making the motion is an adult.
17 It, I think, anticipated that only those that were
18 juveniles, after reading Byars and Miller, would be the
19 people making these motions. Therefore, this is just --
20 Justice Beatty's order is simply following a prior order of
21 the Supreme Court that requires automatic appointment of a
22 judge and automatic appointment of defense attorneys in
23 setting of hearing dates and that sort of thing simply
24 because someone makes the motion.
25 So, it's a -- perfunctory from the Justice. It should

1 not be used in any way, shape, or form to be a way that we
2 determine whether this case has any merit or not or it
3 should not be used as well as to whether Justice had --
4 Chief Justice Beatty has any opinion as to whether this
5 should be given any merit or not. So, I think that
6 confusion can be settled by looking at an original order.
7 I would point out again, Your Honor, that the
8 Constitution is upheld by treating an adult as an adult.
9 So, all these rights that the, that the defense has
10 mentioned are being upheld because he is an adult and being
11 treated as such. If we were to make it so that we just base
12 it solely on what experts say regarding someone's mental
13 capacity in their youth, then we run into a huge problem
14 because we're opening a Pandora's Box.
15 When do we then limit that?
16 Well, then every person who's under 20?
17 Will it be under 21?
18 Will it be 25 as the defense suggested when they said
19 that, that the mind and the brain of a young person changes
20 all the way and develops all the way up to 25-years of age
21 or would we say that certain people can be in their 30s and
22 40s and have it apply, and then we have to consider those --
23 may make certain considerations for them because they
24 weren't as well educated or they were slower mentally or
25 they had other mental health issues that prohibited them

1 from understanding everything and they acted like children
2 even though they were adults.
3 This Pandora's Box can not be opened because it would
4 be impossible for the Court to go back and do all those
5 things. It would be unjust for the Court to go back and do
6 all those things.
7 We have well settled cases before us today. We have
8 well settled law. Mr. Dest mentioned YOAs and those talk --
9 that the State recognizes young people -- can help young
10 people in YOAs. YOAs, by our Legislature, are only allowed
11 for nonviolent offenders. This is the most violent type of
12 case you can possibly have. There is no consideration for a
13 case like this in the YOA and there never will be and there
14 shouldn't be.
15 So, I would put out to the Court that nothing in the
16 Legislature ever contemplated that an adult should be
17 treated as a juvenile. Adults should be treated as adults,
18 and it is the State's position, and I agree wholeheartedly
19 in my research in looking at this, that the defendant is an
20 adult in this case. He committed this crime as an adult,
21 and he is not entitled, in any way, to any of the
22 considerations in Aiken v. Byars or in the Miller case by
23 the United States Supreme Court, and can not -- the case
24 should not go forward past this particular juncture. I
25 believe the Court should determine, at this point, that the

1 defendant is of age and the Court is without jurisdiction to
2 resentence.
3 I would simply point out one other thing that I looked
4 briefly through some of the other orders in Spartanburg, and
5 I know I at least came across this one, it's the only one I
6 had seen, on a case versus Patrick Strozier who also made an
7 Aiken V. Byars motion, and he was also 18-years old at the
8 time. Eighteen years old, 11-months, and 28-days according
9 to the order issued by the Honorable Mark Hayes here in, in
10 Spartanburg. And I've provided the defense a copy, and I'll
11 provide Your Honor a copy as well.
12 There were a number of -- if I may approach?
13 THE COURT: Yes, sir.
14 Any objection, counsel?
15 MR. DEST: No, Your Honor.
16 THE COURT: Thank you.
17 SOLICITOR THOMPSON: In this particular case, there
18 were a number of issues that the State had asked for
19 dismissal on. The Court never addressed all those issues.
20 The Court simply addressed the issue that the defendant was
21 already an adult at the time the crime was committed, and,
22 while it appears from this order that the defense -- as it
23 says, the defendant did not present any evidence or
24 testimony to contest this information at the hearing on this
25 issue, and I think that's simply to contest the age, but I'm

1 not sure, but I would point out that this is what I think
2 the Courts around the State are doing with people who are 18
3 or older because they are adults, and Aiken v. Byars and the
4 Miller case do not apply to adults. They only apply to
5 juveniles.
6 Thank you, Your Honor.
7 THE COURT: Thank you.
8 Mr. Thompson, do you want to mark this as -- do you
9 want to mark this as State's Exhibit No. 2?
10 SOLICITOR THOMPSON: Yes, please.
11 THE COURT: Okay. Any objection, counsel?
12 MR. DEST: No, Your Honor.
13 THE COURT: Okay.
14 (WHEREUPON, the order was marked as State's Exhibit No.
15 1 and received into evidence at this time.)
16 THE COURT: Thank you.
17 Okay. Mr. Dest, anything in reply?
18 MR. DEST: I believe Ms. Inzerillo will address --
19 THE COURT: Okay.
20 MR. DEST: -- the reply, Your Honor.
21 THE COURT: Yes, ma'am, Ms. Inzerillo.
22 MS. INZERILLO: Thank you, Your Honor.
23 THE COURT: Yes, ma'am.
24 MS. INZERILLO: May it please the Court, Your Honor?
25 THE COURT: Yes, ma'am.

1 MS. INZERILLO: Your Honor, as Mr. Dest stated, our
2 brief, I believe, comprehensibly addresses all of the
3 motions that that we make in this case, but I would like a
4 moment to address some of the points Mr. Thompson just made
5 --
6 THE COURT: Yes, ma'am.
7 MS. INZERILLO: -- in his response.
8 Your Honor, Mr. Thompson spoke of the culpability of
9 Mr. Cramer in this case, and I would ask the Court or remind
10 the Court that Miller and the other associated cases are
11 clear to caution Courts that, the severity of the crimes,
12 that prong is no more important than the prongs dealing with
13 the, the impact of youth on his decision making at the time.
14 I believe it was the Miller Court that indicated that, and a
15 lot of these cases you're gonna see very serious and vicious
16 acts, and they go through great detail in some of the acts
17 that were before them, but then also took the same care to
18 indicate that that is not the only consideration for the
19 Sentencing Court. That is merely one of five of the
20 factors, and that that should not outweigh the
21 considerations of youth and the impact that had as well as
22 any subsequent rehabilitation that can be demonstrated by
23 the offender.
24 Your Honor, Mr. Thompson also touched on the similarly
25 situated argument in the language in Aiken. I won't belabor

1 Aiken, Your Honor, and I know that the Court will review it
2 in making its findings, but I would point out that the
3 Court, in Aiken, is, is careful to cite language emphasizing
4 "the distinctive attributes of youth that diminish the
5 penological justifications for imposing the harshest
6 sentence." And that when they discuss juvenility in youth,
7 it's going back to this -- what they cite as "general lack
8 of maturity and underdeveloped sense of responsibility of
9 vulnerability to negative influences and outside pressures
10 including family and peers."
11 As we have noted, Your Honor, in our brief, that is
12 based in the science that we have put before the Court, and
13 that it is that science that is the common theme of all the
14 Miller cases, the Miller, Graham, and Roper, as well as
15 Montgomery, and that was adopted by Aiken, and that, where
16 arguing that applies to Mr. Cramer, that it is the science
17 that binds all of these together, and that that was the, the
18 focus of the Aiken Court when they were looking at juvenile
19 they and how it applied to sentencing.
20 Your Honor, we did note the YOA in pointing out to the
21 Court that the, the -- our Legislature does acknowledge that
22 there is a, a span of time in a youth offender where they're
23 more open to rehabilitation where that should be the goal of
24 the sentence. As the Court is aware of Mr. Cramer, due to
25 his murder conviction, would not be eligible for a life

1 sentence, but the, the underlying theme, again, is there
2 that the Court -- that the Legislature's acknowledged that
3 kids between these ages, 17 and 26, are kids, and they do
4 things and can be rehabilitated. And, again, Your Honor, it
5 would be our position that that also directly applies to the
6 neurobiological and the psychological studies that we have
7 put in our brief. That is the same undercurrent of
8 rehabilitation that should also apply to Mr. Cramer.
9 Your Honor, Mr. Thompson touched on some aspects of the
10 underlying case. As he noted, he has more familiarity with
11 the case than I can say that I do, and I believe that I
12 would speak for Mr. Dest on that we were not the original
13 attorneys on the case and don't have the intimate knowledge
14 of the case that Mr. Thompson does, Your Honor, and there's
15 also statements that we have made indicating that we believe
16 Mr. Cramer would show that rehabilitation and show the
17 youthful attributes as required by Miller. We would ask the
18 Court to consider leaving the record open allowing him to be
19 evaluated under the Miller factors if this Court does wish
20 to have a -- some sort of finality on that to determine
21 whether he would qualify under Miller or not.
22 Finally, Your Honor, in terms of the Strozier case, the
23 order that Mr. Thompson has put before Your Honor, I would
24 just note it's unclear what the defense did in that case. I
25 don't know anything about Mr. Strozier's case other than his

1 age as noted in Judges Hayes order. I am not sure Judge
2 Hayes considered the arguments that the defense is making in
3 Mr. Cramer's case, and we would ask that the -- this not be
4 relied upon as controlling for Your Honor even though it is
5 a fellow judge in your circuit, that if the Court would
6 consider the specific arguments that we are being -- making
7 on behalf on Mr. Cramer.
8 May I beg the indulgence for one moment, Your Honor?
9 THE COURT: Yes, ma'am.
10 (Pause.)
11 MS. INZERILLO: Your Honor, finally, in regards to
12 Chief Justice Beatty's order, we cite that not to
13 essentially profess to know what's going on in Judge --
14 Chief Betty's -- Chief Justice Beatty's mind. However, it
15 was interesting to us that if this question were so clear,
16 and if Aiken were so clear, the language that it only
17 applies to those under 18, then Mr. Cramer did provide all
18 of that information in his motions to the State as well as
19 what was appealed to the Supreme Court, and that it could
20 very easily been dismissed out of hand, which would of given
21 us the answer that we needed, but that was not done. And I,
22 I understand Mr. Thompson's argument that that could of been
23 a form order, Your Honor, but I also think that just as
24 quick of a form order could of been he's 18, it doesn't
25 apply, it goes no further, we're not granting him a hearing.

1 And so, Your Honor, we would find that at least
2 something the Court could take into consideration in not
3 outright dismissing as of a sort of perfunctory question
4 before the Court.
5 THE COURT: Thank you.
6 Anything else with regard to the motion?
7 SOLICITOR THOMPSON: No, Your Honor.
8 MR. DEST: Your Honor, that concludes our motion.
9 THE COURT: Okay. Thank you-all.
10 Counsel, for your information, and, Mr. Cramer, sir, I
11 am going to take this matter under advisement. I want to
12 study, review, and review everything, and I don't think that
13 is a surprise to the lawyers present, but I'm certain this
14 is weighing very heavily on your mind, and I want you to
15 understand that a written order will be coming. I am going
16 to send written instructions to your lawyers and to the
17 lawyer for the State, and then one side or the other will be
18 asked to probably draft that in more detail based on my
19 outline of what I would like for the order to say.
20 Okay?
21 THE DEFENDANT: (Nods affirmatively.)
22 THE COURT: Okay. And I will try to do that as quickly
23 as possible. Again, I know this is very important to you,
24 sir.
25 THE DEFENDANT: Thank you.

1 THE COURT: With regard to moving forward, since
2 you-all have made such an effort to be here today, and,
3 again, I appreciate that and I appreciate your very eloquent
4 arguments and your preparation and the written documents
5 handed up to me and forwarded to me before today on your
6 motions, and so while you-all are here though, I would like
7 to, in the event that, that I make the decision that we will
8 move forward on this matter for Mr. Cramer, that we go ahead
9 and put some type of scheduling order in place. And that
10 would only be if the defendant's motion is granted, and I'm
11 not trying to, to state that will happen. But, in the event
12 that it does happen, we need to address some other matters.
13 Okay?
14 MR. DEST: Yes, ma'am.
15 THE COURT: So, we have issues with regard to
16 discovery, the designation of expert witnesses, and then the
17 exchange of not only their reports, but other documents that
18 you-all will need by way of discovery.
19 So, with regard to the discovery issues, counsel, can
20 you tell me how readily available -- how old is -- this,
21 this case is 20 years old almost.
22 Is that---
23 SOLICITOR THOMPSON: Yes, Your Honor.
24 THE COURT: ---correct?
25 SOLICITOR THOMPSON: I believe it happened in '98.

1 THE COURT: '98.
2 Okay. And so I know that a lot of information now is
3 being scanned and it's available electronically. Maybe not
4 that far back.
5 SOLICITOR THOMPSON: Yes, it's not -- that is not
6 scanned into our system. Hopefully it will be in our
7 storage area, which I say, hopefully, cause sometimes it
8 gets moved around by the county. So, it could be a little
9 bit of a feat just to get it, to find it. It should be in
10 banker's boxes that would be properly labeled, and, at that
11 point, we would have to go into it, go through it, and
12 divide up what would be work product that attorneys did
13 during the course of preparing the case and trying to figure
14 out what they handed up in discovery at that time, if
15 there's anything else we would consider discovery now, and
16 then scanned it in and, and be able to give it to the, the
17 defense in a digital format.
18 So, that will be very time consuming for at least one
19 or two people to do because it will take some time to, to
20 just scan it in, quite honestly, and go through it and then
21 I'm assuming I will be the one having to go through it to
22 make sure what is discoverable and what isn't at that point.
23 And, and I know that will be a time consuming feat.
24 So, I would imagine a number of hours to, to do that.
25 Maybe multiple days to, to do that ultimately if I was

1 uninterrupted.
2 So, I think if, if we had -- if the Court has us go
3 forward, if you could give us at least 30 days. If it
4 becomes readily apparent that that's problematic, I will
5 immediately ask for more, but I should know right away. As
6 a matter of fact, when I go back, we'll see if we can't, at
7 least, locate the file and make sure we have it in our, you
8 know, accessible enough that we can get it rather easily.
9 THE COURT: Okay. Thank you, sir.
10 Okay. Mr. Dest or Ms. Inzerillo, what are y'all
11 thinking with regard to a timeline?
12 MS. INZERILLO: Your Honor, if, if Mr. Thompson needs
13 30 days to assess the situation and turn over discovery, we
14 would not have any opposition to that. As Mr. Dest
15 indicated, we'd already requested discovery from Mr.
16 Thompson, and would, of course, use this hearing to issue a
17 second formal request. And so 30 days is, is fine with
18 defense.
19 THE COURT: Okay. Okay. And so, taking this from any
20 order that would allow this matter to go forward, we could
21 do 30 days to get discovery requests or exchange discovery
22 requests, 30 days to respond, and then we have experts to be
23 identified.
24 Is that correct?
25 MR. DEST: Yes, ma'am. Yes, Your Honor.

1 THE COURT: Okay. And, again, and I know we touched on
2 this briefly before we came in, and we had a conference in
3 chambers, and I know that you-all don't control your
4 experts, and I'm not trying to -- I mean certainly if we
5 reach some point in the future and, and the expert has not
6 complied, we could discuss that at that time.
7 But if you-all identify your experts, how long would
8 you need to, to exchange -- to have those reports completed
9 and I know you-all are not drafting the reports. You're
10 relying on a third party to draft a report for your benefit,
11 but --.
12 MR. DEST: Your Honor, as we indicated in chambers, we
13 would -- if discovery -- if we're allowed to move forward
14 and discovery is turned over to us in a timely fashion, we
15 believe that it would take about 60 days for us to go
16 through that with our experts, and then, from that point
17 forward, it would probably be about 150 days beyond that in
18 which our experts could then generate a report that we would
19 then turn over to the State and the Court -- with the Court.
20 THE COURT: Okay. Mr. Thompson, what are your, what
21 are your thoughts on that?
22 SOLICITOR THOMPSON: I don't object to that at all,
23 Your Honor.
24 THE COURT: Okay. All right. Well, in the event that,
25 that we need this as a, as a second scheduling order or a

1 supplemental scheduling order, I will have my law clerk
2 draft using these notes at that time.
3 Again, I'm just making the best of our time together
4 because I know it was a lot of trouble for you-all to be
5 here, and I certainly wanted Mr. Cramer to understand what
6 was going on with regard to scheduling. And that, in the
7 event the case does move forward, this is just the very
8 first part of that, sir. And there will be a lot more
9 information needed and a lot of other folks involved before
10 there would be a final hearing in your case.
11 Do you understand?
12 THE DEFENDANT: Yes, ma'am.
13 THE COURT: Okay. Anything else, counsel, before we
14 adjourn today?
15 SOLICITOR THOMPSON: Nothing from the State, Your
16 Honor.
17 MR. DEST: Nothing from defense, Your Honor.
18 THE COURT: Okay. Thank you-all so much. I will issue
19 an order as quickly as possible.
20 Good luck to you, Mr. Cramer.
21 MR. DEST: Thank you.
22 THE DEFENDANT: Thank you.
23 MS. INZERILLO: Thank you.
24
25 * * *END OF REQUESTED TRANSCRIPT OF RECORD* * *

STATE OF SOUTH CAROLINA	)	**IN THE COURT OF GENERAL SESSIONS**
	)	
COUNTY OF YORK	)	**SIXTEENTH JUDICIAL CIRCUIT**
STATE OF SOUTH CAROLINA	)	
	)	
VS.	)	**DEFENDANT'S MOTION AND SUPPORTING MEMORANDUM REQUESTING RESENTENCING UNDER AIKEN v. BYARS**
	)	
JOSHUA K. CRAMER,	)	
	)	
DEFENDANT.	)	
	)	

The Defendant, by and through his attorneys Harry A. Dest, Circuit Public Defender, and Melissa A. Inzerillo, respectfully moves this court to allow the Defendant to be given an individualized sentencing hearing pursuant to Aiken v. Byars, 410 SC 534, 765 S.E.2d 572 (2014).

BRIEF RECITATION OF FACTS

According to a statement given by Joshua Cramer on June 3, 1998, Mr. Cramer met some men for a prearranged marijuana deal in Rock Hill, SC, in York County. A friend, Greg, set up the deal for a pound of marijuana and arranged for the buyers to come to Mr. Cramer's house. When the buyers arrived, Mr. Cramer got into the backseat of a car with the three other buyers. One of the persons stole a pound of marijuana from Mr. Cramer and ran out of the car. Mr. Cramer shot the remaining two people in the car, then burned the bodies. Greg, the intermediary, was shot by co-defendants in Chester County. Mr. Cramer testified against a co-defendant at his trial. Mr. Cramer was 18 years and 10 months old at the time of the murders.

PROCEDURAL HISTORY

On June 3, 1998, Joshua Cramer entered into a plea agreement with the state. *See attached.* As part of this agreement he gave a statement as to the events of the crime. In the agreement, both parties negotiated life sentences for the murders in lieu of the death penalty. The question for the sentencing judge was whether those life terms would run concurrently or consecutively. Mr. Cramer pled before the Hon. John C. Hayes III on July 28, 1998, and was sentenced to two consecutive life terms. In 2015, Defendant filed a timely motion for his case to be reconsidered pursuant to Aiken v. Byars, 410 SC 534, 765 S.E.2d 572 (2014) and for appointment of counsel. *See attached.* His motion was filed in the York County Clerk of Court's office and languished for approximately two years, until Solicitor Willy Thompson informed him via letter that his case could not be reconsidered due to the fact that he was 18 years old at the time of the crime. *See attached.* Mr. Cramer "appealed" the letter. *See attached.* Chief Justice Beatty did not dismiss the case immediately based on Mr. Cramer's age, but instead remanded the case back to the chief administrative judge for appointment of counsel and for a determination as to whether a motion had been timely filed. *See attached.* Administrative Judge John C. Hayes appointed the undersigned counsel and a judge was assigned to the case by Justice Beatty.

ARGUMENTS

Mr. Cramer's sentence should be reconsidered pursuant to Aiken v. Byars for two reasons. The psychological and neurobiological studies underlying the cases apply to Mr.

Cramer despite being 18 years of age at the time of the offense, and failure to consider his case would result in a due process violation resulting from a violation of the Equal Protection clause of the Fourteenth Amendment of the U.S. Constitution and Article I, Section 3 of the South Carolina Constitution.

1. At age 18, Mr. Cramer exhibited the same attendant characteristics of youth as those under 18, and is therefore similarly situated to the class announced by Miller v. Alabama and Aiken v. Byars.

In 2012, the South Carolina Supreme Court decided in its original jurisdiction whether a class of juveniles could be resentenced under the newly decided case Miller v. Alabama. Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014). The Supreme Court of the United States mandated in Miller that sentencing courts consider youth as a mitigating factor when crimes were committed by juveniles. Miller v. Alabama, 567 U.S. 460, 132 S.Ct. 2455 (2012). A small group of plaintiffs were selected as part of a class of juveniles incarcerated at the time serving a life sentence. The questions before the South Carolina Supreme Court were whether the rule in Miller applied retroactively and whether that subclass of plaintiffs could be afforded an individualized sentencing hearing wherein the sentencing court could determine a sentence based on evidence presented on factors associated with youth and the circumstances of the crime. Aiken, 410 S.C. at 537, 538. The Court initially found that Miller was retroactive, paving the way for prior sentences to be reheard. Id at 540. The Court then adopted the science and factors encapsulated in Miller and mandated sentencing courts to provide individualized sentencing hearing to a juvenile offender before sentencing is imposed. Id. at 540. In so doing, the Court noted that the Courts in "Roper [v. Simmons] and Graham [v. Florida]

emphasized that the distinctive attributes of youth diminish the penological justifications for imposing the harshest sentences on juvenile offenders, even when they commit terrible crimes." Id. at 542. The Court further stated: "Miller is clear that it is the failure of a sentencing court to consider the hallmark features of youth prior to sentencing that offends the Constitution." Id at 543. In acknowledging Miller's "requirement that courts fully explore the impact of the defendant's juvenility on the sentence rendered," Id., the Court mandated that sentencing courts apply the factors laid out in Miller[1] in determining whether a juvenile should be sentenced to life without parole. Id. at 544. Failure to do so violated the Eighth Amendment's prohibition against cruel and unusual punishment because sentencing a juvenile to life without parole without an individualized sentencing hearing violated the requirement of sentence proportionality required under the Eighth Amendment. Id. at 538. The proportionality of a sentence is governed by evolving standards of decency. Id.

While the court in Aiken, in footnote 1, defined a juvenile as a person under 17, pursuant to S.C. Code Section 63-19-20, then allowed for those under the age of 18 to be considered, the Court in its holding did not limit itself to that class. In its conclusion, the Court stated: "We hold the *principles in Miller v. Alabama* apply retroactively to these petitioners, *to those similarly situated,* and prospectively to all juvenile offenders who may be subject to a sentence of life imprisonment without the possibility of parole." Id. at 544 (emphasis added).

The reliance on the hallmark features of youth and other attendant features of youth comes from advances made in the study of brain development. It is now widely accepted scientifically that "children are different," and that these differences result from how a child's brain develops. Because a child's brain develops in stages, and each section

[1] The Miller factors are: the chronological age of the offender and the hallmark features of youth, social and familial environment of the child, the circumstances of the homicide offense, the incompetencies associated with youth, and the possibility of rehabilitation. Miller, supra; Aiken, 410 S.C. at 544.

can develop at different times, science now accepts that cognitively and emotionally, a young adolescent is different than an older adolescent, and youths are different from adults. The brain essentially develops from back to front, starting in early adolescence near the back of the cortex and finishing in the pre-frontal cortex. See *At what age is the Brain fully developed?, www.Mentalhealthdaily.com.* It is generally accepted that this development continues until about the age of 25. *Id.* The brain both adds to itself through myelination and prunes itself back through synaptic pruning. *Id.* Myelination makes the brain healthy and allows it to achieve more complex functions. Synaptic pruning allows for more efficient brain functioning by eliminating certain brain synapses and peaks during teenage years. *Id.* In addition, the brain evolves to allow strengthened connections between its regions and to develop the executive functions in the pre-frontal cortex. The fact that the pre-frontal cortex is the last to develop is significant because it controls a person's ability to assess risk, think ahead and regulate emotions. *Id.* It also defines a person's personality. *Id.* For these reasons, an adolescent can exhibit a higher capacity for rehabilitation. Due to the constant construction of the brain during teenage and young adult years, a person can exhibit "transient immaturity" that may not indicate a youth is incorrigible or unlikely to be rehabilitated. Graham v. Florida, 560 U.S.48, 130 S.Ct. 2011 (2010).

Psychologists and neurobiologists have also studied the emotional reactions of those between the ages of 16 and 19. One study found that the transition period between the ages of 16 and 19 is particularly important as psychosocial development is the same during this age range. E. Cauffman and Steinberg, *(Im)maturity of Judgment in Adolescence: Why Adolescents May Be Less Culpable Than Adults*, Behav. Sci. Law 18: 741-760 (2000). In addition, Cauffman and Steinberg found that responsible decision making plateaus at age 19, suggesting that once "the developmental changes of adolescents are complete, maturity of judgment may stabilize." *Id.* Moreover, while many

kids can perform at an adult's cognitive level by the time they are 16, they do not have the same level of social and emotional maturity until late adolescence. L. Steinberg, *Adolescent Development and Juvenile Justice*, Annu. Rev. Clin. Psychol. (2009). Steinberg further posits that, compared to adults, adolescents are more susceptible to peer influence, more impulsive, and more sensitive to short-term rewards. *Id.*

Significantly, more recent studies have shown that those between the ages of 18-25 may have the cognitive abilities of an adult but still exhibit the emotionality usually associated with teenagers. L. Steinberg, et al, *Are Adolescents Less Mature than Adults? Minors' Access to Abortion, the Juvenile Death Penalty, and the Alleged APA "Flip-Flop,"* 64 Am. Psychologist, 583-594 (2009). This is due to the brain's synaptic pruning and myelination occurring at different times. Additionally, one study found that the peak age for risky decision-making was between 19 and 21. B. Braams, et. al., *Longitudinal Changes in Adolescent Risk-Taking: A Comprehensive Study of Neural Responses to Rewards, Pubertal Development and Risk Taking Behavior,* 35 J. of Neuroscience 7226-7238 (2015); E. Shulman & E. Cauffman, *Deciding in the Dark: Age differences in Intuitive Risk Judgment,* 50 Dev. Psychol. 167-177 (2014). Therefore, even a late adolescent who may have completed schooling or have the cognitive abilities of an adult would still react to a situation much like a teenager. He would not think through the decisions even if cognitively he knows better.

South Carolina's statutory scheme has long recognized the differences in children and young adults. Children in the juvenile system are housed differently and given educational opportunities while there. The juvenile system also allows for placements and treatments in an attempt to rehabilitate the child. If a child is sentenced to a determinate sentence—committed to DJJ for a length of time not to exceed his or her 21st birthday---then the state still affords special protections to them. If a child is still incarcerated when they turn 17, then they are moved to the Youthful Offender Camp, not to adult prison.

The Youthful Offender Act, Section 24-19-5 *et. seq.* of the S.C. Code of Laws, acknowledges that young adults between the ages of 17 and 26 are still in need of rehabilitation. YOA inmates are allowed to continue schooling and learn a trade. They are housed separately from adult offenders. They are provided a special parole system and special assistance if given parole. The combination of the DJJ and YOA systems result in a class of inmates being treated differently because of their age and society's expectation that they can be rehabilitated.

Public policy scholars and psychologists have posited that those between the ages of 18 and 25 should be considered "emerging adults." Culturally, children are staying home longer, attending more schools, and are not exhibiting the same cultural hallmarks of marriage and homeownership as those in the past. Jeffrey Jensen Arnet, *Emerging Adulthood: A Theory of Development From the Late Teens Through the Twenties*, American Psychologist, 55, 469-480 (hereinafter Arnet); see also L. Chester and V. Shiraldi, *Public Safety and Emerging Adults in Connecticut: Providing Effective and Developmentally Appropriate Responses for Youth Under Age 21* (2016). Moreover, studies show that youth in the 18-25 year range still exhibit high risk behavior, such as unprotected sex and binge drinking. Arnet, pg 475. Emerging adults likewise pursue sensation seeking, which is the "desire for novel and intense experiences. Arnet, pg 475. This high risk, sensation-seeking behavior mirrors the impetuosity and impulsivity that define youth. Id.

Mr. Cramer exhibited these qualities despite being 18 years of age at the time of the crime. At the time of the murders, he was living with his parents and still attending school. *See* Defendant's statement dated June 3, 1998, *attached.* Having just been robbed, he was placed in a situation involving negative emotions that would have heightened his emotional response and lowered his cognitive one. It also appears from his statement that the presence of his peers may have impacted the events surrounding the murders. All of

these factors, in addition to any provided by the Defense, should be considered by a sentencing court in determining an appropriate sentence for Mr. Cramer's level of culpability.

Although the Courts in Roper, Miller and Aiken all determined that only those under the age of 18 could benefit from this specialized sentencing procedure, the Court in Roper acknowledged it was an arbitrary line. Roper v. Simmons, 543 U.S. 551, 125 S.Ct 1183 (2005). In picking this number, the court stated, "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 do not disappear when an individual turns 18.*" Roper, 543 U.S. at 574 (emphasis added). The Court, therefore acknowledged that choosing age 18 was a line in the sand, impacted primarily by cultural construct of our society. "The age of 18 is the point where society draws the line for many purposes between childhood and adulthood." Id, 543 U.S. at 574. Twenty years prior, this age cutoff was 16. Thompson v. Oklahoma, 487 U.S. 815, 108 S.Ct. 2687 (1988). In Thompson, the Court held that juveniles under the age of 16 could not be executed. Thompson, 487 U.S. at 838. Despite articulating the lessened culpability of juveniles in its order, the Court found that 16 was the cut off because states that had abolished the death penalty for minors used that age. Id. at 824. That bright line was modified 20 years later by the court in Roper because our society had evolved to recognize 18 as the cutoff for adulthood. Again, neither court bases that age cutoff on the science posited and adopted by the court, but on cultural norms or what states had chosen to do at the time. As these cases show, the appropriate age for certain actions change over time. States have adjusted the age at which citizens are considered adults. At one time, kids could drink at age 18. Now it is 21. A child can enlist in a war and vote at 18 but can't run for Congress until age 25. Our society has long noted that deliberation comes with age and sets higher ages for those actions that would require more maturity. Now, the science backs up what society has

long believed: that maturity comes in different stages, and that the characteristics of youth do not disappear when a juvenile turns eighteen.

At least one court has determined that Miller applies to a person who committed the crime over the age of 18. In People v. House, an Illinois court determined that the underpinnings of Miller—its reliance on the developing brains of teenagers and young adults—would apply to a 19 year old who was convicted of murder under accomplice liability. People v. House, 2015 IL App (1st) 110580 (rehearing denied, 2017) The court found the "designation that after age 18 an individual is a mature adult" as "arbitrary" and stated "[a]lthough the Court in Roper delineated the division between juvenile and adult at 18, we do not believe that this demarcation has created a bright line rule." Id., citing Roper, *supra*. The court stated further: "The lack of discretion afforded the trial court for the imposition of a mandatory life sentence is especially relevant when the defendant is a young adult, over 18, but still not considered a fully mature adult." Id, at 24, paragraph 100. It further noted that, while at 19 years and 2 months, the defendant was not a "juvenile" he was "barely a legal adult and still a teenager." Id, paragraph 101. At age 19 years and 2 months, House was older than Mr. Cramer, who was 18 years and 10 months at the time of the murders. The court further noted that other countries treat young adults differently; for example, defendants in Germany between the ages of 18 and 21 are tried in juvenile court and can be sentenced as such. The court noted similar delineations in Sweden and the Netherlands. Id. at 23, para. 96.

Likewise, the Supreme Court and Appeals Court in Washington State determined that youth was such a determinative factor in sentencing that a person over the age of 18 have his case resentenced so that it could be considered by the court. Matter of Light-Roth, 200 Wash.App.149, 401 P.3d 459 (2017), relying on State v. O'Dell, 183 Wash.2d 680, 358 P.3d 359 (2015). In both Light-Roth and O'Dell, the courts were faced with determining whether a person over the age of 18 was entitled to consideration of youth as

a mitigating factor in his sentence. In O'Dell, the Supreme Court of Washington applied the precepts laid out in Roper and Miller and found that, "[t]oday, we do have the benefit of those advances in the scientific literature. Thus, we now know that age may well mitigate a defendant's culpability, even if that defendant is over the age of 18." O'Dell, 183 Wash.2d at 695. The Court in Matter of Light-Roth agreed, allowing a 19-year-old's sentence to be reconsidered so that the court could consider his youth and impulsive decisions in sentencing.

The Court in Miller was clear that "youth is more than a chronological fact," but drawing the line at 18 minimizes this characteristic to a mere chronological fact. Miller, 567 U.S. 460, 476 (internal quotations omitted). Mr. Cramer cannot avail himself of the opportunity to explain how youth affected his decisions and actions the day of the murders, rendering him the same as those 14 and 15 year olds who were the subject of Miller and the majority of the plaintiffs in the Aiken case. As the Court in Aiken noted, "[m]any of the attorneys mention age as nothing more than a chronological fact in a vague plea for mercy." Aiken, *supra*, at 543. Because the science allows for the prospect that, at 18 years old, Mr. Cramer's brain may not have been fully developed, he is no different biologically than a 17 year old, and should be given the same protections as a 17 year old. Put a different way, what makes Mr. Cramer different at 18 years and 1 day than he was at 17 years and 364 days? Advancements in psychology and neurobiology allow for the fact that he would be the same person, but the law mandates he be treated differently. Under the law, he can receive a life sentence with no possibility of release by a court who would not take into account youth and its attendant factors at 18 years and 1 day, but that possibility would be considered a rare occurrence had he been two days younger. At 17 years and 364 days, a court could hear that he had the possibility to rehabilitate, but could not consider that in an individualized sentencing hearing if he was 18 years and 1 day old. Yet, science indicates he is just as likely to be rehabilitated in

both scenarios because his character is not yet fully formed. The arbitrariness of this age cutoff reduces his age, and the constitutional implications thereof, to a "vague plea for mercy." Aiken, *supra*. Failure to consider these factors results in a violation of the prohibition against cruel and unusual punishment as protected by the Eighth Amendment and adopted by the courts in Miller and Aiken because Mr. Cramer would be denied the individualized sentencing mandated by Miller. By extension, this denial would violate protections afforded to Mr. Cramer by section 15 of the South Carolina Constitution.

If the court wishes to accept that the current case law mandates this age cut off, Mr. Cramer should still be granted a resentencing hearing because he is similarly situated to the juveniles who would be afforded these protections. As noted earlier, the Court in Aiken extended its holding to the class before it, juveniles and those similarly situated. Aiken, 410 S.C. at 545. This is especially important when read in conjunction with the court's reliance on the Miller court's mandate regarding consideration of the impact of youthfulness on culpability. The Court specifically said that "the principles of Miller" apply to those "similarly situated." Aiken, 410 S.C. at 545. Further, the Court ordered that "the petitioners and those similarly situated are accordingly entitled to resentencing to allow the inmates to present evidence specific to their attributes of youth and allow the judge to consider such evidence in the light of its constitutional weight." Id. at 544. Moreover, the Court in Miller defined the class as "juvenile offenders whose crimes reflect the transient immaturity of youth." Montgomery v. Louisiana, 136 S.Ct. 718, 734, 193 L. Ed.2d 599 (2016). The Court protected this class through additional constitutional protections to make the likelihood that a life sentence would be a rare event reserved only for those whose crimes do not reflect transient immaturity. Miller, 567 U.S. at 479.

Because scientific studies are clear that brain development resulting in higher risk taking and diminished capacity to consider consequences continues past the age of 18, Mr. Cramer would be similarly situated to the subclass of juveniles adopted by the Miller

and Aiken courts. As noted above, studies have shown that offenders who are 18 or 19 still exhibit the attendant features of youth -- impetuosity, impulsivity, inability to deliberate consequences to actions—and therefore should be allowed to present this evidence to a sentencing court. Age, its attendant features, and its impact on an offender is the primary focus of the Miller factors. As a result, youth undertook a constitutional dimension, as the courts moved toward requiring sentencing courts to consider whether a youth's acts were indicative of transient immaturity. The constitutional aspect of youth affects those similarly situated as well. Under the Miller ruling, a defendant found to be similarly situated would be protected by the same Constitutional protections as youths or those involved in the class of plaintiffs under Aiken. *See generally*, Aiken v. Byars, *supra*. Because scientific studies are clear that brain development results in higher risk taking and diminished capacity to consider consequences continues past the age of 18, similarly situated defendants would be those over 18 at the time of the crime that exhibit similar qualities as those under eighteen. Those similarly situated could show that their actions were a result of transient immaturity and therefore would be ineligible for a life sentence.

By excluding Mr. Cramer from the subclass of youth entitled to constitutional protection, the court is also prohibiting him from showing that he has rehabilitated and matured, and thus not deserving of a life sentence with no possibility of release. The Court in Graham v. Florida, in its discussion regarding the harshness of a life without parole sentence on a juvenile, noted that offenders should not be given the most severe punishment because they are highly capable of rehabilitation due to the fact that their characters are not fully formed. Graham v. Florida, 560 U.S.48, 130 S.Ct. 2011 (2010). The Court in Graham noted that youths like its petitioner are guaranteed to die in jail, "no matter what he might do to demonstrate that the bad acts he committed as a teenager are not representative of his true character, even if he spends the next half century attempting

to atone for his crimes and learn from his mistakes." Graham, 560 U.S. 48, 79. This would be true for Mr. Cramer as well. He would be denied a "meaningful chance at release," Id. at 75, an outcome the Court found highly offensive. The Court in Miller determined that the possibility for rehabilitation was so important that it mandated sentencing courts to consider it as a factor. Miller v. Alabama, 567 U.S. 460, 132 S.Ct. 2455 (2012). A subsequent ruling of the Court equated a disproportionately long sentence with an Eighth Amendment violation. As the Court noted in Montgomery v. Louisiana, "Allowing those offenders to be considered for parole ensures that juveniles whose crime reflected only transient immaturity—and who have since matured—will not be forced to serve a disproportionate sentence in violation of the Eighth Amendment." Montgomery v. Louisiana, 136 S.Ct. 718, 193 L. Ed.2d 599 (2016). Since Mr. Cramer is ineligible for parole under his current sentence, a resentencing hearing under Aiken is his only recourse to show a court his crimes reflected transient immaturity.

Mr. Cramer can present evidence of rehabilitation and maturity should he be allowed an individualized sentencing hearing. Mr. Cramer has been incarcerated almost 20 years and is currently housed in the character behavioral unit in Lieber Correctional Facility, which rewards inmates for good behavior. Mr. Cramer has a work history within the prison and is also a teacher in a program that is similar to Scared Straight. Mr. Cramer should be allowed to present these, along with any other evidence of rehabilitation, to a sentencing court.

In adopting Miller, the court in Aiken adopted the scientific findings that illustrate how "children are different." In the present case, the neuroscience states that the deficiencies associated with those under 18 also apply to those who are 18 or 19 years old at the time of the crime. As noted above, the underlying science to Miller, Roper and Graham, equally applies to 18 year olds as to those under 18 years old. As the studies noted above demonstrate, an 18 year old would exhibit the same youthful qualities that

diminish culpability that concerned the courts in Roper and Miller. Scientifically speaking, Mr. Cramer, at 18 years old, would act recklessly and seek high risk behavior. He would not consider the consequences of his actions. He would react to peer pressure similarly to a 17 year old. He also can demonstrate the rehabilitation inherent in gaining maturity since youth. Therefore, scientifically speaking, he is similarly situated to the class of citizens the Courts sought to protect. As the court noted in Aiken, youth is "more than a chronological fact." Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014). Mr. Cramer's case should be viewed through the same scientific lens which transformed his youth and its attendant features into a constitutional component, and protect him from violations of the state and federal constitutions' prohibitions against cruel and unusual punishment as outlined and adopted in Miller and Aiken.

2. Failure to provide an individualized sentencing hearing under Aiken violates Mr. Cramer's due process under the Equal protection clauses of the SC and US constitutions.

Failure to provide an individualized sentencing hearing results in a due process violation under the equal protection clauses of the U.S. and S.C. Constitutions. The state Constitution, in Article I, Section 3, mandates that all citizens are afforded equal protection under the law and cannot be deprived of life, liberty or property without due process of law. Those protections are likewise guaranteed by the Fourteenth Amendment of the U.S. Constitution. If resentencing is not granted, Mr. Cramer is being denied liberty without due process of law and is being denied equal protection under the law.

The Equal Protection Clause is not violated if similarly situated members of a class are treated alike, the classification rests on some reasonable basis, and the classification bears a reasonable relation to a legitimate legislative purpose. McKnight v.

State, 378 S.C. 33, 661 S.E.2d 354 (2008). As the Supreme Court stated, "a classification neither involving fundamental rights nor proceeding along suspect lines...cannot run afoul of the Equal Protection Clause if there is a rational relationship between the disparity of treatment and some some legitimate governmental purpose." Amour v. City of Indianapolis, 566 U.S. 673, 132 S.Ct. 2073 (2012) (internal citations omitted, ellipsis in original). As previously shown, Mr. Cramer is similarly situated to the class of juveniles protected by Miller and Aiken. By separating Mr. Cramer from those scientifically similarly situated, the courts have prevented him from full consideration of relevant factors through a thorough individualized sentencing hearing. As a result, despite not being considered an adult biologically and psychologically, he is being treated as one in a courtroom. The result is he must serve a life sentence—a punishment the state holds only applicable for those that need to be removed permanently from its society.

Moreover, there is no rational basis for distinguishing Mr. Cramer, who was 18 at the time of the crime, from those under 18 at the time. As noted above, studies in neurobiology and psychology specifically determined that those teenagers over the age of 18 exhibit the same reckless behavior as those under 18. Mr. Cramer could show he possessed the same youthful attributes that propelled the Court in Miller to create a separate subclass of citizens who exhibited that behavior. However, he would not be afforded the chance to have a sentencing judge take into account his youth and its attendant characteristics, but would instead be subjected to a "one size fits all" sentencing. The Miller court expressly rejected this sentencing scheme in outlining its factors for courts to consider in sentencing.

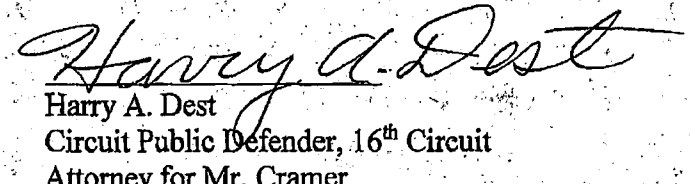
Moreover, the Court in Graham, expressed a desire that a person who can demonstrate rehabilitation and maturity be given a "meaningful chance at release." Graham v. Florida, 560 U.S.48, 130 S.Ct. 2011 (2010). Because recent studies have shown that an 18 year old is just as capable of rehabilitation as a 17 year old, this premise

applies equally to both age groups and both should be given a chance to demonstrate rehabilitation in an individualized sentencing hearing. Creating a distinction between the two violates the Equal Protection clause in that he is similarly situated to other youths in biological age but is not afforded the same constitutional protections. McKnight, *supra*. It also deprives Mr. Cramer of a chance at liberty, thus implicating a fundamental right. Amour v. City of Indianapolis, *supra*. Despite being scientifically equivalent to the protected class in Miller and Aiken, Mr. Cramer has been subjected to a life sentence with no possibility of release, which the Court in Miller decreed should be rare due to the attendant features of youth. Unlike a 17 year old, Mr. Cramer would not be given a chance to show that he is deserving of a meaningful chance of release, no matter what he did to redeem himself in prison and show he was rehabilitated. As a result Mr. Cramer is not afforded the same protections provided to those similarly situated and the result is an unconstitutional deprivation of liberty.

CONCLUSION

Mr. Cramer, despite being 18 years of age at the time of the crime, exhibited the same limitations of youth as those under the age of 18. Therefore, he is entitled to the same protections outlined in Aiken v. Byars. Failure to provide these protections violates his due process under the Fourteenth Amendment of the U.S. Constitution and Art. I, Section 3 of the S.C. Constitution.

Respectfully submitted,



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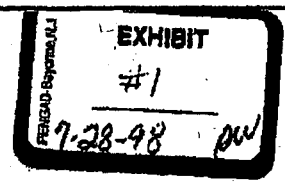
York, South Carolina
Nov. 1st, 2017



STATE OF SOUTH CAROLINA	)	IN THE COURT OF GENERAL SESSIONS
COUNTY OF YORK	)	SIXTEENTH JUDICIAL CIRCUIT
State of South Carolina	)	
v.	)	PLEA AGREEMENT
Joshua Kerr Cramer, Defendant.	)	98-GS-46-1015, 1016, 1017, 1018,

AGREEMENT made this 3rd day of June, 1998 between and among the State of South Carolina, as represented by Thomas E. Pope, Solicitor, Sixteenth Judicial Circuit and John R. Justice, Solicitor, Sixth Judicial Circuit; the Defendant, Joshua Kerr Cramer, and Defendant's attorney, Thomas A. McKinney.

IN CONSIDERATION of the mutual promises made herein, the parties hereto agree as follows:

1. The Defendant, Joshua Kerr Cramer, agrees to plead guilty to the following indictments now pending: murder of Kevin Tyrone Anthony for a sentence of life imprisonment without parole; murder of Marcus Hinton for a sentence of life imprisonment without parole; arson in the third degree for a sentence of not more than ten years (the Defendant was originally served with a warrant for unlawful burning of personal property but was indicted for arson in the third degree); distribution of marijuana ~~2nd~~ 1st JKC 7-28-98 offense for a sentence of up to ~~ten~~ five JKC 7-28-98 years imprisonment; accessory before the fact of murder for a sentence of life imprisonment without parole; and two counts of possession of a firearm during the commission of a violent crime for a sentence of five years imprisonment in addition to the punishment provided for the principal crime. This sentence does not apply in cases where a life sentence without parole is imposed. Both the State and the Defense remain free to be heard concerning consecutive or concurrent sentencing.

2. The Defendant, Joshua Kerr Cramer, is presently charged with Conspiracy to Commit Murder in Lancaster County, South Carolina. In exchange for this plea, Solicitor John Justice agrees to dismiss this pending charge.
3. In exchange for this plea the State agrees to dismiss the charge of receiving stolen goods and the State further agrees that it will not seek the death penalty against the Defendant, Joshua Kerr Cramer in regards to the aforementioned charges.
4. The Defendant agrees to provide complete and thorough cooperation to both the Sixth and Sixteenth Circuit Solicitor's Offices and all involved law enforcement agencies including a truthful and forthright statement concerning his involvement in the pending charges, and to further cooperate by giving true and honest testimony at any appropriate judicial proceeding. Further, if deemed appropriate by the prosecution, this Agreement is contingent upon Joshua Kerr Cramer passing a lie detector test to the satisfaction of the prosecution.
5. The State agrees that any self-incriminating information provided by the Defendant as a result of his cooperation provided by the terms of this Agreement will not be used against the Defendant in the event that the Defendant withdraws his plea.
6. In the event that the Defendant withdraws his plea the State will proceed with a trial and will seek the death penalty against the Defendant.
7. The parties hereby agree that this Plea Agreement contains the entire agreement of the parties and this Agreement may be modified only in writing, signed by all parties.

June 3, 1998
York, South Carolina

Thomas E. Pope, Solicitor
Sixteenth Judicial Circuit

John R. Justice, Solicitor
Sixth Judicial Circuit

Joshua Kerr Cramer
Defendant

Thomas A. McKinney
Attorney for Defendant

SLED
CF002 5/95

VOLUNTARY STATEMENT
(NOT UNDER ARREST)

I, Josh Garner ~~am not under arrest for, nor am I being detained for any criminal offenses concerning the events I am about to make known to~~ LT. TIM HAGER, SPIKE McCRAW REID LAW ~~I understand I am free to walk away without saying anything, and~~ I volunteer the following information of my own free will, ~~for whatever purposes it may serve.~~ pursuant to an Agreement signed this date & in the presence of my Atty, Tom McKinney.

I am 19 years of age, and I live at 984 MEADOW LAKES RD. ROCK HILL, S.C. 29732

I (can) ~~cannot~~ read and write and completed the 12TH / 1YR. COLLEGE grade in school. DOB: 5-2-79

The attached 10 pages is my statement that I have provided to law enforcement officers in the presence of my Attorney. I have reviewed each page and it is accurate as is and have initialed as such.

EXHIBIT
#2
7-28-98 pw

I have read each page of this statement consisting of 11 page(s), each page of which bears my signature, and corrections, if any, bear my initials, and I certify that the facts contained herein are true and correct.

This statement was completed at 11:27A.M. on the 3rd day of JUNE, 19 98.

x Joshua K Garner
Signature of person giving voluntary statement

SWORN TO AND SUBSCRIBED TO BEFORE ME THIS 3rd DAY OF JUNE, 19 98

E. DeWitt McCraw, Jr.
NOTARY PUBLIC FOR SOUTH CAROLINA
My Commission Expires: 9-22-2002

WITNESS:

WITNESS:

I certify that I have been given a copy of this statement consisting of 11 pages. x Joshua K Garner

STATEMENT OF JOSH CRAMER

On Monday, March 2, 1998 I went to work at the Shrimp Boat on Heckle Blvd. I had to be at work at 10:00 a.m. I think that my mother took me to work and that she also picked me up from work at 4:00 p.m. and then took me home. She also took me to York Tech for my English and Math classes that began at 5:45 p.m. and ended at ~~8:00~~ 8:30 p.m. My grandfather picked me up after classes and I went home.

Greg Sims paged me around 11:00 p.m. I called Greg back, using the fax line. Greg told me that he knew ~~some boys that wanted~~ to buy 1 pound of marijuana. Two to three days prior to this, Greg had told me about some boys that wanted to buy marijuana. On the phone on March 2, 1998 he said they just wanted to look at the marijuana. I had a feeling that something was up and that these people may try to rip me off. During my telephone conversation with Greg he told me that they would be at my house shortly. After a short period of time I saw them coming into the driveway and I went outside to meet them. Greg got out of the vehicle that was parked facing the driveway. When I saw who was in the car I thought everything was ok. I knew Tryone, Ryan and Greg but I did not know the driver of the vehicle. I later found out his name was Marcus. I said, "what's up, Ty". Ty said, "what's up". I told them that I would be back in a minute. I went underneath my house and got 1 pound of marijuana and a 9 mm pistol. There was still one and one-half pounds of marijuana left under the house. Greg stayed at my house because there was not enough room in the car for everyone. He stayed outside out of sight. I got into the back seat with Tyrone. I was sitting behind the front passenger seat. Marcus Hinton was driving and Ryan Sims was in the front passenger seat. I gave the drugs to Tyrone. Ryan asked to see the drugs and Tyrone handed the drugs to him. When Ryan

got the drugs he jumped from the car and started running (see attached map "A" as to where this occurred). Marcus, Tyrone and I went back to my house to pick up Greg. Marcus was still driving and Tyrone was in the front passenger seat. Greg and I were in the back. We rode around the neighborhood and I told Marcus to drive back to where Ryan ran. We were looking for Ryan. We could not find Ryan. I do not think that Greg knew that they were going to rip me off. When we got back to the stop sign (see map "A") I said something like, "I really don't know you or what you set up but I'm fixing to fire some shots." At this point I ~~believed they~~ were all involved in ripping me off except Greg and I wanted to scare them. Tyrone asked me if I was going to fire shots into the air. Marcus said, "don't be threatening me". I put the gun to Marcus' head and fired. Tyrone said, "this is me", "this is me". I put the gun to Tyrone's forehead and pulled the trigger. I then pushed the seat forward and got into the driver's seat. I slid Marcus' body over and pulled him back a little. Tyrone was still in the front passenger seat and Greg was in the back seat.

JKC p.2

I drove the Honda vehicle to Irby Road and Greg and I put the bodies in the trunk of the car. Greg acted frightened. When we were pulling Tyrone's body from the car his wallet fell from his pants pocket onto the ground. I picked up the wallet and put it in my pocket. I then drove to Passmore's store and tried to call Kimball Lee but got no answer. I drove to Kimball's house. I knocked on the window and went to the screen porch. Kimball was on the telephone and saw me and motioned for me to go to the door. Kimball came outside and I told him that I had shot Tyrone and another boy after they ripped me off. He said that Tyrone knew better than that (to rip me off) because he knew we carried guns. Kimball paged Murray and

Murray called Kimball back. Kimball later told Murray what had happened. Kimball and I were on the porch. I told Kimball that Greg Sims was in the car. Kimball asked me what I was going to do and I told Kimball that there was only one thing I could do. Kimball went into his house and got a potato for me to put on the end of my pistol when I shot Greg. The original plan was for me to shoot Greg where we took the bodies to be burned. It was Kimball's idea to burn the car and bodies. I wanted to bury the bodies but I did not have a shovel. We had discussed this and decided to burn the bodies.

I drove the vehicle to Strait Road. ~~(see attached map "B")~~ Greg was with me. Kimball followed me in his mother's car. Kimball didn't drive his car when something was up because it was too "hot". I left the vehicle on some land owned by Art Whitesell and Greg and I got into the car with Kimball. We went to Amy Deese's apartment at Yorkshire Apartments where Murray Adkins was visiting. We then went to Dave Wallace's house and Anna Stanley and Murray got there about the same time we did. Kimball and Murray went into Dave's house and stayed for 4-5 minutes. Greg and I stayed in the car. I don't think that Dave wanted to be involved because he has been in trouble for drugs before and served time. Murray put his SKS rifle in the trunk of Kimball's car and Murray got into the car with me, Greg and Kimball. Anna had already left in her car. Greg got scared when Murray put the gun in the trunk. Greg said he was glad he had friends like us to take care of him. Greg told me that he could get money for me tomorrow to cover the loss of my drugs. Kimball had a gas can in the trunk of his mother's car and we stopped at the Amoco station at the intersection of Saluda Street and Highway 72. Kimball pumped the gas and Murray paid for the gas. We bought this gas so we could burn the bodies and the car. We went back to Strait

JIC p.3

Road and Greg and I got out of Kimball's vehicle. Greg and I walked a short distance from Kimball's vehicle and I turned around and went back. When I got back both Kimball ~~or~~ and Murray told me that I had to shoot Greg. They both agreed that Greg had to be shot. I checked my gun and thought I had one bullet left. I drove the Honda with the bodies in the trunk down Border Road as far as I could go (see attached map "C"). Greg was in the Honda with me. I had previously taken a clothes basket from the trunk of the car and threw it on the ground. This was done when Greg and I put the bodies in the trunk. I had put the ~~clothes basket back~~ into the car when we ~~went back to the car~~ and I also put Tyrone's wallet in the car. I poured gas on the car door and in the car. I had on two shirts. I took my top shirt off and ripped it. I stuck part of my shirt in the gas tank. I put the gas can in the car. I lit the seat and then my shirt that was sticking out from the gas tank. Greg stood on the railroad tracks. When the car caught on fire the horn blew for 15-20 seconds. Greg and I started running down the railroad tracks. I looked back and flames were 30-40 feet high. I was running behind Greg. I aimed the gun at Greg and fired but the gun just clicked. There was a casing in the gun that had not ejected and I thought it was a bullet.

JKC

JKC p.4

Greg and I ran to an abandoned store on Highway 324 where Kimball and Murray were supposed to pick us up. I think that after Kimball and Murray dropped us off earlier they went back to Kimball's house and left Murray's gun. Kimball and Murray were at the store and picked us up and they took me to my house. This was around 3:00 a.m. At my house Murray got out of the car and wanted my 9 mm gun and some more ammunition but I did not have any. He then asked me for my rifle but I told Murray that the firing pin had come out but that I had put it back in. I told Murray that I had not fired this gun

in a while and I did not know if it worked. Murray told me that he would just go get his own gun. Murray, Kimball and Greg left and I went into my house, washed and changed my clothes. I wrapped my clothes in a nylon jacket and took them across the street and burned them. I had lost my pager earlier at the scene of the shootings. I got on my little brother's bicycle and rode back to the scene and found my pager. I had a page with 000000 on the screen. This was a code that meant that I was supposed to call my voice mail to get a message. This page came in around 4:00 a.m. I went back home and called my voice mail. I had a message from Murray that said, "I took care of that for you." I think that I erased this message. I laid down until it was time to go to work.

JIC p.5

The next morning Debra Sims paged me around 8:00 a.m. She knew my pager number because she had bought pot from me in the past. I did not call her back but she called me at work around 11:00 a.m. and she wanted to know if I had seen Greg. I told her no. My mom took me to work that morning. I had to be at work at 10:00 a.m. Ryan called me at work and asked me if I had seen Marcus and the others. I told him I had not seen them since they dropped me off at my house. Ryan called again and said that he wanted to bring the drugs back and that he just wanted out. He told me that he would leave the drugs in the drain pipe in my driveway. Ryan called me back later and said never mind that he did not trust the people he was around and that he wasn't going to leave the drugs. I told Ryan that I would page him later to arrange a meeting with him. We paged each other back and forth but neither of us left a number where we could be reached.

Kimball and Anna picked me up from work at the Shrimp Boat at 4:00 p.m. We went to Kimball's house and I used a broom to try to clean a blood stain

from the driveway. I had gotten a solution from the Shrimp Boat to try to get the blood off of the driveway. Kimball and I had talked about finding Ryan because he was the last link. We knew that Ryan had to be killed. This was not discussed in front of Anna. JKC

Later in the evening Kimball, Anna and I went to the Rodeway Inn. I rode with Kimball. Murray came over later. At the motel we watched CN2. Some time during the evening Murray and Kimball went into the bathroom and talked and then Murray and I went into the bathroom and talked. Murray told me that he and Kimball told Greg that they had to get rid of my gun even though they did not have my gun. I still had the gun with me in the motel. I think they took Murray's gun. Murray told me that he had to get Kimball to go back to Kimball's house to get Murray's gun. Kimball told me that when they got out of the car Greg was walking in front of them. He told me that everytime Murray would raise the gun to shoot Greg, Greg would turn around and look at him and he would lower the gun as if nothing was happening. After this happened two or three times Murray then shot Greg and he fell down. Kimball said that after Murray shot Greg three or four times they both ran away and then Murray went back and shot Greg again to make sure he was dead. JKC P.6

Kimball was taking me home from the motel around midnight. We went to Meadowlakes to the back lake. I got out of the car and Kimball went down a short distance and turned around and came back to where I was. I threw my gun and clip in the lake. We saw a Crown Victoria car and Kimball told me to get out of the car. I got out of the car and ran to the Handy Pantry at Rawlinson Road near Food Lion. I saw several police cars going by and saw a county car. I stayed at this location and a police car stopped and the

police got me and took me to the Moss Justice Center.

WITNESS:

Monica A. McKinney

Joshua K Cramer

Joshua Kerr Cramer

DATE: 6/3/98

06-03-98

6/3/98

STATE OF SOUTH CAROLINA

COUNTY OF York

The State of South Carolina,

vs.

Joshua K. Cramer
Defendant.

IN THE COURT OF GENERAL SESSIONS

INDICTMENT No(s). 98-GS-46-1015, 1016, 1017, 1018, 2192

DEFENDANT'S GUILTY PLEA AFFIDAVIT

Solicitor: Thomas E. Pope

Defense Attorney(s): Thomas H. McKinney, John D. Rhea

Affiant hereby states to the Court that the Defendant wants to plead guilty to the following charges: Murder, Murder, Accessory Before The Fact, Arson 3rd degree, Distribution of Marijuana

In connection with this plea, I do hereby certify that the answers to the following questions are true:

EXHIBIT # 3 7-28-98 DW

Defendant's Background and Understanding:

1. How old are you? 19 D.O.B: 5-2-79
2. How far did you go in school? High school grad. York Tech
3. (a) Can you read and write the English language? ☑ Yes ☐ No
   (b) Are you able to read and understand this form? ☑ Yes ☐ No
   (c) If not, who is explaining it to you and filling out your answers? Name of person:
4. What kind of work do you do? worked in a restaurant - [redacted] JKC
5. Have you ever been treated for abuse of alcohol or drugs or for mental illness? ☐ Yes ☑ No If so, when? For how long? Did you successfully complete the program? ☐ Yes ☐ No
6. Have you taken any medication, drugs or alcohol in the last 24 hours? ☐ Yes ☑ No If Yes, what? How much? When? Does this affect your ability to understand what you are doing here today? ☐ Yes ☐ No
7. Are you today under the influence of any medication, drugs or alcohol? ☐ Yes ☑ No
8. Are you today aware of any physical, emotional, or nervous problem that might keep you from understanding what you are doing? ☐ Yes ☑ No If Yes, explain:

Waiver of Constitutional rights

1. Do you understand that you have the right to remain silent, that is, your right against self-incrimination? You cannot be compelled to testify or give evidence against yourself. Do you understand this right? ☑ Yes ☐ No Do you wish to give up this right and plead guilty? ☑ Yes ☐ No
2. Do you understand that you have a right to a jury trial; that you have the right to have a jury decide whether or not you are guilty beyond a reasonable doubt? The jury would base its decision on the evidence which the State presents and on any evidence which you might wish to introduce. If you decide to plead not guilty and have a jury trial, the Judge will instruct the jury that you are presumed innocent, and the State would have to produce evidence that would convince all 12 members of the jury that you were guilty beyond a reasonable doubt. Do you understand this right? ☑ Yes ☐ No Do you wish to give up your right to a jury trial and plead guilty? ☑ Yes ☐ No
3. Do you understand that you have the right to confront and be confronted by the witnesses against you: that is, the right to see, hear and cross-examine any witnesses who might be called to testify against you during the trial and the right to subpoena and call witnesses in your own behalf. Do you understand these rights? ☑ Yes ☐ No
4. If your case has not yet been before the Grand Jury, you have the right to have the case presented to the grand jury. After hearing evidence, 12 of the 18 people on the grand jury would have to agree that you were probably guilty before the charge against you could be reported out as a True Bill ready for trial. A Grand Jury might return a No Bill, which would mean that the charges would be dismissed. Do you understand this right? ☑ Yes ☐ No Do you wish to give up the right to have the grand jury examine your case? ☑ Yes ☐ No
5. Do you understand that when you plead guilty, you give up these constitutional rights? ☑ Yes ☐ No Is that what you want to do? ☑ Yes ☐ No Do you understand that you will not get a jury trial if you plead guilty? ☑ Yes ☐ No

Nature of the Charges and Consequences of Pleading Guilty

1. Has your attorney discussed with you the charge(s) and the possible punishment for the charge(s)? ☑ Yes ☐ No
2. What acts did you do which cause you to think that you are guilty of the charge or charges to which you now want to plead guilty? See sworn statement dated 6/3/98 - JKC
3. Are you pleading guilty for any reason other than the fact that you are guilty? ☐ Yes ☑ No If so, what is the other reason?
4. What is your understanding of the maximum possible penalty for this charge: (Include jail time, fines, forfeitures, and any special mandatory parole, if applicable.) See executed plea agreement dated 6/3/98 - JKC
5. Is this an offence with graduated penalties? ☐ Yes ☐ No If so, do you understand that if you plead guilty to this offense and at a later time you are convicted of or plead guilty to the same crime, the punishment will be higher the next time? ☑ Yes ☐ No
6. Do you have any questions about the nature of the charges against you and the possible punishments? ☐ Yes ☑ No If Yes, please write them here:

7. Do you understand that when you plead guilty, you admit the truth of the charges against you? ☑ Yes ☐ No
8. If you have defenses to the charges against you, the Judge does not know whether you do or not if you do not tell him. Do you understand that if you plead guilty, you will waive or give up any defenses to the charges you have. ☑ Yes ☐ No
9. You may have given an incriminating statement in this case. Do you understand that if you plead guilty, you waive or give up the right to contest or challenge whether such a statement was freely and voluntarily given in accordance with your constitutional rights? ☑ Yes ☐ No
10. Understanding the nature of the charges against you and the consequences of a guilty plea, do you still wish to plead guilty? ☑ Yes ☐ No

Plea Negotiations

1. Has any plea agreement been made by you with the Solicitor's office? ☑ Yes ☐ No If so, what do you understand the agreement to be? See executed plea agreement dated 6/3/98
2. Do you understand that the recommendation of the attorneys is not binding on the Court and that the Judge could still sentence you up to the maximum if he felt it appropriate? ☑ Yes ☐ No
3. Do you still wish to plead guilty? ☑ Yes ☐ No

Voluntariness of Plea

1. Has anyone promised you anything or held out any hope of reward to get you to plead guilty? ☐ Yes ☑ No ~~If yes~~, explain: See plea agreement attached - see dated 6/3/98
2. Has anyone threatened you or used force to get you to plead guilty? ☐ Yes ☑ No If yes, explain
3. Have you had enough time to make up your mind as to whether or not to plead guilty? ☑ Yes ☐ No
4. Are you pleading guilty of your own free will and accord? ☑ Yes ☐ No

Satisfaction With Attorney

1. Has your attorney reviewed this form with you and answered any questions you have about it? ☑ Yes ☐ No
2. Are you satisfied with the manner in which your attorney has advised you and represented you? ☑ Yes ☐ No
3. Have you talked with your attorney as often and for as long as you feel necessary for him to properly represent you? ☑ Yes ☐ No
4. Do you need any more time to talk to your attorney? ☐ Yes ☑ No
5. Have you understood your talks with your attorney? ☑ Yes ☐ No
6. Has your attorney done everything for you that you feel your attorney could have done or should have done? ☑ Yes ☐ No If no, explain:
7. Are you completely satisfied with your attorney's services? ☑ Yes ☐ No
8. Has your attorney done anything in this case that you feel your attorney should not have done ☐ Yes ☑ No If yes, explain:
9. Do you have any complaint that you want to make about your attorney, the Solicitor, or any police officers? ☐ Yes ☑ No If yes, explain:

Concluding Questions

1. Do you understand all of these questions? ☑ Yes ☐ No If not, which ones did you not understand:
2. Have you attached additional pages if there was not enough room to answer any questions and have you signed each page? ☑ Yes ☐ No ☐ N/A
3. Do you now want to plead guilty? ☑ Yes ☐ No
4. Do you understand that you have the right to appeal ~~the conviction or~~ sentence of the Court (Judge), that if you want to do so, either you or your attorney must do this within ten (10) days? ☑ Yes ☐ No

Signed by me in the presence of my attorney(s) this 27 day of July, 19 98. I have been given and have retained a copy.

Joshua Adams
Defendant

CERTIFICATE OF COUNSEL

I represent the above-named defendant in this case. I have read and fully explained to the defendant the allegations contained in the indictment(s) in this case and the elements thereof. To the best of my knowledge and belief, the statements, representations, and declarations made by the defendant in the foregoing Affidavit are in all respects accurate and true. I have explained to the defendant the charges contained in the indictment(s), the possible punishments, and all constitutional rights to include the right to a jury trial. I have also explained to the defendant the right to have this case submitted to the grand jury for its consideration. In my opinion the defendant understands the charges, the possible punishments, and the constitutional rights in this case. The defendant has indicated to me ~~their~~ his desire to plead guilty. The plea of guilty offered by the defendant accords with my understanding of the facts the defendant has related, is consistent with my advice, and in my opinion, is voluntarily and understandingly made. I have provided the defendant with a copy of this Affidavit.

Signed by me in the presence of the defendant and after full discussion of the contents of the certificate with the defendant this 27th day of July, 19 98.

John D. Rhett
John D. Rhett (Please Print Name)
(803) 329 - 1848 Phone Number
Attorney for the above-named Defendant

Thomas A. McKinney
Thomas A. McKinney (Please Print Name)
(803) 329 - 1848 Phone Number
Attorney for the above-named Defendant

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At What Age Is The Brain Fully Developed?

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It is widely debated as to which age the brain is considered "fully mature" or developed. In the past, many experts believed that the brain may have been done developing in the mid to late teens. Then along came some evidence to suggest that development may last until at least age 20. These days, a consensus of neuroscientists agree that brain development likely persists until *at least* the mid-20s – possibly until the 30s.

The fact that our brains aren't developed until the mid 20s means that "legal adults" (those age 18+) are allowed to make adult decisions, without fully mature brains. Someone who is 18 may make riskier decisions than someone in their mid-20s in part due to lack of experience, but primarily due to an underdeveloped brain. All behaviors and experiences you endure until the age of 25 have potential to impact your developing brain.

At what age is the brain fully developed?

Although brain development is subject to significant individual variation, most experts suggest that the brain is **fully developed by age 25**. For some people, brain development may be complete prior to age 25, while for others it may end after age 25. The mid-20s or "25" is just an average age given as checkpoint for when the brain has likely become mature.

It may seem logical that those aged 18 to 25 are completely mature, the brain still is maturing – specifically the area known as the "prefrontal cortex." Changes occurring between ages 18 and 25 are essentially a continued process of brain development that started during puberty. When you're 18, you're roughly halfway through the entire stage of development. The prefrontal cortex doesn't have nearly the functional capacity at age 18 as it does at 25.

This means that some people may have major struggles with impulsive decisions and planning behavior to reach a goal. The brain's reward system tends to reach a high level of activation during puberty, then gradually drifts back to normal activation when a person reaches roughly the age of 25. Adults over the age of 25 tend to feel less sensitive to the influence of peer pressure and have a much easier time handling it.

How the brain changes during development

From early stages of adolescence into adulthood, the brain experiences major growth and pruning. Initial developments begin near the back of the cortex, and tend to finish in the frontal areas (e.g. prefrontal cortex). There are a couple key ways by which the brain changes during various stages of development including: myelination as well as synaptic pruning.

1. *Myelination*: The nerve fibers in your brain are covered with a substance called "myelin." This helps provide insulation so that neurons can effectively transmit signals. During developmental stages, the process of myelination promotes healthy brain functioning and allows for more complex functions.
2. *Synaptic pruning*: This is a process by which brain synapses are selectively "pruned" or eliminated throughout brain development. The process of synaptic pruning tends to peak during teenage years, and wanes in later adolescence. It should be noted that the pruning occurs until the brain is fully developed (likely into the mid-20s). This allows for more efficient brain functioning.
3. *Increased connectivity*: The connections between brain regions appear to be strengthened, thus making communication more efficient. The brain is able to transmit greater amounts of information between regions and becomes better at planning, dealing with emotions, and problem solving.
4. *Executive functions*: A majority of the executive functions that we develop are via the prefrontal cortex. This allows us to help assess risk, think ahead, evaluate ourselves, set goals, and regulate our emotions. Although many of these functions are developed during teenage years, they are still under slight development and strengthened until our mid-20s.

What does the prefrontal cortex do?

There are a variety of functions for which the prefrontal cortex is responsible. Although significant development of the prefrontal region occurs during adolescence, experts argue that it continues until (at least) our mid 20s.

- **Attention**: The ability to focus on one thing, while ignoring distractions is a function of our prefrontal cortex. Those with attentional deficits (e.g. ADHD) may have abnormalities within the prefrontal region. Similarly, those who abuse drugs and/or alcohol may end up with attention problems as the brain forms.
- **Complex planning**: The prefrontal region is responsible for complex planning. Anytime you set a goal that requires some degree of planning, your prefrontal region is at work. Planning out tasks in your day, developing a business plan, etc. – this region is responsible. An underdeveloped prefrontal region means that your planning capabilities haven't been solidified.
- **Decision making**: We often struggle to make good decisions when we are teenagers, but as we enter our 20s, our decision making improves. This is due to the fact that our prefrontal cortex helps us think logically and make more calculated assessments of situations. Our brain weighs the risks and tells us whether a certain behavior or choice is a good idea vs. a bad one.
- **Impulse control**: Struggling with impulsivity is often related to deficits in the prefrontal cortex. The ability to maintain self-discipline and avoid impulsive behaviors hasn't reached its peak until the 20s. This means that if you struggle with impulsivity when you're 18, it may get better as you continue to age.
- **Logical thinking**: Justifying behaviors based off of emotions rather than logic is common among teens. When the prefrontal cortex fully develops, logical thinking simultaneously improves. This means you will be better at rationalizing and making smarter choices. It also means that your ability to write and solve math problems will improve.
- **Organized thinking**: Organizing your thinking can be difficult when you're a teen. A barrage of thoughts are typically influenced by hormones and you may have concentration difficulties. As you continue to age and your thoughts become more organized. The organization of your thoughts is a result of your prefrontal cortex.
- **Personality development**: Your personality is directly expressed based off of your prefrontal cortex. Without proper stimulation, you may struggle with identity issues and developing a favorable personality. Since personality development continues throughout the 20s, you may want to consider how environmental inputs may affect who you are.
- **Risk management**: The ability to assess risky situations and determine whether they will result in long-term benefit is a byproduct of your prefrontal cortex. Those who are poor at assessing risk may have underdeveloped prefrontal regions. The ability to turn down immediate gratification for long-term rewards is a result of this region.
- **Short-term memory**: Your short-term memory function is influenced by the prefrontal cortex. When still in development, your short-term memory isn't as good as it will be by the time you're 25. As the brain continues to mature, your cognitive function and memorization capacity will improve.

Promoting Healthy Brain Development

If you are under the age of 25 and your brain is not yet fully developed, you may want to take advantage of this critical period. This means that you can effectively be a co-creator in how your brain decides to mold itself. Engaging in healthy behaviors and giving your brain optimal stimulation will help ensure healthy prefrontal cortex development.

- **Cognitive challenges:** Giving your brain cognitively demanding or challenging tasks can help stimulate development. Examples of things that may boost brain function include: brain training games and applications (e.g. Lumosity), Dual N-back training, working memory training, writing, regurgitating and processing information, etc. All activities that may help increase IQ may improve brain development.
- **Dietary intake:** It is widely disputed as to what diet should be eaten during adolescence to ensure healthy brain development. It is recommended to eat plenty of vegetables, some fruits, proteins, fats, and the right carbohydrates. Avoiding artificial sweeteners and substances with high sugars may be beneficial as well.
- **Education:** Proper education and/or learning can go a long way towards improving brain development. The more you learn before the age of 25, the more solidified that information will (likely) become. Getting a good education provides cognitive stimulation to the brain in a variety of ways.
- **Environmental enrichment:** There are numerous studies showing the benefits of environmental enrichment on the brain. It appears as though living in an enriched environment such as: going to a great school, having positive social connections, access to healthy foods, trying new things, learning new skills, and having lots of resources can improve the brain's development.
- **Exercise:** Getting enough exercise has become highly underrated in a society focused on immediate gratification. The psychological benefits of exercise are very significant; blood flow improves, neurotransmitter levels get optimized, your emotions become more positive, and you can actually grow new brain cells.
- **Meditation:** Not only is meditation a great activity for stress reduction, but there are studies demonstrating (that if you're doing it properly) it can enhance development of your prefrontal cortex. This makes you more resilient to stress, improves your attention, and clarity of thinking. Consider taking up a meditation practice if you want to improve brain development.
- **Sleep optimization:** Most people talk about pulling all-nighters like it's an impressive feat. In reality, not getting enough sleep and/or poor sleep quality can detrimentally affect brain development. To ensure that your brain develops properly, give it enough time to recover and rejuvenate itself by getting adequate sleep.
- **Socialization:** Positive social contacts and/or friends are what humans need in order to stimulate brain development. Staying involved in groups

and social functions is a great way to stay connected and can reap benefits for the developmental outcome of your brain.

- **Stress reduction**: A daily practice of stress reduction can go a long way towards reducing activity in anxious, stress-provoking brain centers and can enhance development of the prefrontal cortex. Brains that are under chronic stress may not develop as well as those that are allowed some down-time for relaxation.
- **Supplementation**: Certain supplements may help strengthen development of the brain. These include things like fish oils (omega-3 fatty acids), antioxidants, etc. It is important to weigh the pros and cons of each supplement before taking it. Also realize that while supplementation can provide benefit, getting proper sleep and eating a healthy diet are more beneficial.

Detrimental influences upon brain development

Unfortunately many people are exposed to things that may have a detrimental impact on the development of their brain. These include negative social influences, substance abuse, and/or prolonged levels of high stress. Although some people will have more resilient brains than others as a result of genetics, it is recommended to minimize exposure to problematic stimuli and scenarios.

- **Alcohol abuse**: Drinking excessive amounts of alcohol to the point of abuse may have an impact on the developing brain. It is critical to avoid abusing alcohol while the brain is still developing as excess drinking can disrupt formation of the prefrontal cortex. Some reports have gone as far as to suggest alcohol damages the brains of teens.
- **Chronic stress**: If you are constantly under duress and/or have severe anxiety, it is best to take steps to minimize it. Excessive amounts of stress have been documented as disrupting the architecture of the developing brain. Furthermore, high stress may inhibit our brain's ability to mitigate stress in the future.
- **Drug abuse**: It is recommended to avoid exposure to illicit drugs regardless of age, but especially in the critical years of development. Any illicit (or even non-illicit) drugs have potential to alter brain development. This could lead to poorer cognition later in life and impairments in the prefrontal cortex.
- **Poor diet**: Shoveling down sugar-coated cereal and refined carbohydrates each day without getting sufficient protein, veggies, fats, and fruits may create problems. Diet plays an important role in brain function and can even influence whether someone develops a mental illness. A poor diet may also affect developing brains.
- **Relationship troubles**: Being in abusive relationships also isn't healthy for us. This encourages dependence and inhibits the ability to express

ourselves. In order to ensure healthy brain development, it is necessary to make healthy, positive friends and establish non-toxic relationships.

- **Sleep problems:** Those that fail to get an adequate amount of sleep (in terms of quality and quantity) may have underdeveloped brains. Sleep helps ward off stress and getting enough of it is known to help promote healthy brain development. If you have any severe sleep problems and/or aren't getting enough sleep, it may inhibit optimal brain development.
- **Social isolation:** Remaining isolated from society can have profound effects on personality, mood, and our ability to perform in social situations. Those that are isolated from social contact may experience suboptimal brain development. Establishing positive social contacts is key during this period.

Final thoughts: Brain Development Continues Throughout 20s

Neuroscientists largely agree that the human brain hasn't fully developed until (at least) the mid-20s. Although the changes that the brain incurs after adolescence are not well-studied, increases in myelination and pruning of neural pathways are believed to occur. Additionally our personality as well as development of the prefrontal cortex is finalized well into our 20s.

Although you may consider yourself an adult at age 18, keep in mind that your brain still has a ways to develop. Your cognition, ability to assess risk, and think logically will continue to improve as you age. This is considerably different than neuroscience views of the past in which we thought the brain was done developing in the teenage years.

And despite the fact that brain development may be done by our 30s, it doesn't mean that someone with a fully developed brain cannot change it. There is considerable evidence to suggest that we can still change our own brains with a process called "neuroplasticity." Our brains are constantly adapting to our environment, experiences, and other inputs to which it is exposed.

- Source: http://www.nature.com/neuro/journal/v6/n3/full/nn1008.html
- Source: http://www.jeffreyarnett.com/arnett2009theemergenceofmergingadulthood.pdf
- Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3621648/
- Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2892678/

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{34 comments... add one}

Lisa Bryant May 27, 2015, 5:52 pm

My how things would differ if the worldview of 22 year-old children were correct. They have no business trying to make life decisions, much less serving in the military. I could go on and on.

REPLY LINK

Tzipora March May 10, 2016, 8:28 am

Does it make you feel less bitter and washed up to call all 22 year olds children? Everyone does not fall into a black and white box, from one 22 year old to one insecure woman. All you accomplished with your weak voice here was making yourself sound foolish and condescending. Very unattractive. Even a child could tell. Please do go on and on. If you do, leave the people who serve this country out of your mouth. Ungrateful and disrespectful.

REPLY LINK

David Perez June 25, 2016, 12:06 am

Wow this article is right. Tzipora March is a great example of that... Being immature...

REPLY LINK

Lottie July 19, 2016, 1:05 pm

Maybe you should leave Tzipora alone. It is unnecessary and incredibly unfeeling for Lisa to start something unilaterally about all 22 year olds. And I don't see ANY peer reviewed medical journals or books on that list of references. I would check my facts if I were you. This doesn't sound like anything I have ever read on the subject.

REPLY LINK

jj March 22, 2017, 11:24 pm
You guys are being stupid. Did you see the internet?
There is more than 1 article.Think before you type.

LINK

Low Profile March 7, 2017, 7:19 am
Exactly! Tzipora March demonstrated the impulsivity for all of us to notice. The narcissistic immaturity is quite telling.

REPLY LINK

Observant November 10, 2016, 6:47 pm
Woa Tzipora! If you're over 22, then what's your excuse for being so rude and ignorant... you missed the whole point Lisa was making. She was not attacking the youth, she is against using them...

REPLY LINK

Dante linares June 22, 2016, 10:16 pm
Leave my girl Lisa alone. All she did was state her opinion.

REPLY LINK

Amunaptra December 29, 2016, 1:13 pm
Way to make a blanket judgment, as though it were objective fact. Congratulations! You're part of the problem. I am Generation X, as though that says anything about me, in the slightest. I have two sons, 22 and 16. Unlike most Boomers, and the next two decades of child bearers, I did not treat my children as though they could not know anything, or that their perceptions were inferior to those of adults.

What, I hear so many ask, happened to these Millennial kids? They were told they could know nothing, adults always have the answers and don't forget it, but you don't learn to adult from a seminar or book. You learn through emotional growth and hands on experience. Examples, as well. Also, the children of the last 0-25 years or so have often been fed a constant stream of lies in adolescence that "everyone takes home a trophy".

Not downing a word of encouragement, or suggesting a different (sportsmanlike) strategy for achieving success, but if there's nothing to achieve, what's the point? (And no, I don't agree with parents that yell at their kids for losing or failing at something, or make it about themselves). No. They were taught that there's no score. Aww. Too bad the adult world doesn't give a sh-t if you lose.

Adult life doesn't care that you showed up. Only whether or not you contribute to the game in a way that's acknowledgeable. But no. You sad sack boomers, flower children, and even most GenXers told them they can't know anything. Their emotions aren't even valid. ("You don't know the first thing about stress! You're just a kid. I wish all I had to worry about was some kids making fun of me. You better respect me! I'm your parent, I deserve it").

Yeah. Like the kids asked to be born. And get stuck with an emotionally retarded overseer they have no choice about. Why? Because their emotional needs were probably not addressed as children, either. Instead of attempting to invalidate emotions (since adolescents, and almost every adult, for that matter has extreme difficulties handling overload) I acknowledged my kids' feelings.

I encourage and have, releasing emotions. Crying, even screaming (just not directed at an innocent bystander), and naturally, just talking about it. Or making oneself available when I and they are ready. Boundaries are still important. Emotionally stunted children make depressed, anxious, frustrated, even homicidal adults. I should know.

Since my childhood woes were insignificant so often, ("just wait until you're grown up" does nothing for an eight year old with a nervous disorder resulting from an adult stranger molesting them in a mall bathroom stall), I did not expect to be treated with concern that a stranger had done so. After all, can't possibly be as bad as adulthood. Except to a child, it is that bad if it causes extreme anguish.

Pet goldfish death, being bullied, etc. Suppression/repression is the highest contributing factor to illegal and prescription drug use, alcohol abuse, child mortality at the hands of parents, domestic violence, all that good sh-t that proves just 'how emotionally superior' adults are. Nah. But keep lying to yourselves. Personally, if every one of these 'misled youths' rose up and slaughtered their creators and indoctrinators for being perpetually lied to, emotionally castrated, and filled with textbook knowledge, but nothing applicable to living, itself.

Love, relationships, empathy, competitiveness, appreciation for personal achievements that appeal to the child more than the parent. No. Most parents say to their children, this is how you will live your life. This is the life I saw fit to give you, and it is mine to dictate because you can't know what you want for yourself.

Magically, however, when the law says you're legally an adult, then you better be ready to decide what college, or how long before I have grandkids, how to manage your money, blah blah blah. Because eighteen equals revelation! Participation trophies spare feelings and give a false sense of

accomplishment, or just (as my youngest son said once "I don't want to go to that awards ceremony, Mom.

Everybody's just getting the same award, just with different names on them. Nothing special about them". He was 9 or 10. I hugged him hard, for that one) no sense of anything to work for. Also, I work with quite a few of these 'kids'. Almost every single one takes pride in their work.

Have perspectives on love that don't sound so much like a prison sentence, but mutual respect and trust. Many do not wish to ever have children, and are very thorough in avoiding any possibility of pregnancy occurring, period. They cite the state of the world, their own childhoods, their possible emotional ineptitudes or lack of time versus a career, etc. as reasons.

I think that's rather responsible to be able to say "I may never be emotionally, financially, or whatever enough to be the type of parent a child deserves, so I choose not to reproduce". I prefer that, to the irresponsibility of many of their parents, as well as generations before.

REPLY LINK

Joseph D June 14, 2015, 6:43 am

Lisa, I think your comment is rather ignorant. If I wished to resemble you, I would say "I Know" your opinion is ignorant. However, I hope I never resemble you throughout the duration of my entire life. Contrary to your assumption, someone's brain being fully developed does not indicate that all of their decision making is automatically correct. In fact, we need young minds to question the status quo. I am a 21 year old college student, and find your assumption that "I have no business making life decisions" offensive.

A bigger detriment to society are those who claim themselves "experts" or assert that "they know better". It was only a few decades ago that brain function was thought to be completely localized (certain areas concretely relating to specific functions without fluctuation) and now the concept of neuroplasticity is universally accepted. A few decades ago there was no such thing as plate tectonics and the center of the Earth was "without a doubt" molten lava.

Now it is understood that the very center of the Earth is solid. Henry Ford viewed anyone who considered himself an "expert" as a detriment to his innovation, and would consequently fire them. He claimed his company had not one expert among them. According to Henry Ford, "As soon as a man believes himself an expert, a great many things become impossible". So now here I am, amused at your expert attitude. How many things you must know, and how many things you must consider to be impossible.

Progress is not guaranteed to move forward. The second we consider ourselves "experts" we stop moving forward. There have been civilizations throughout history that have deteriorated, and I do not believe it impossible for humanity as a whole to deteriorate. The Maya, had they continued their scientific progress, would likely have landed on the moon centuries before us. Despite the economic turmoil in which Greece currently finds itself, Ancient Greece had significant scientific, philosophic, and societal achievements which echo on to this very day.

Now I can agree that the youth are not always prudent, but the way in which the brain prioritizes what's "important" is entirely relative to the milieu and culture it is subject to. It is because you consider the subjection of young minds to TV, Media, and Advertising normal that you consider their "inability to make decisions" normal. You should also recognize that we are growing up in a different culture than the one you grew up in, and will consequently have differing values.

A radical idea it would be to consider NOT basing our values on what is fed to us through a screen, a paper, or a single book in isolation of all others. It also seems to me that values seem to evolve for the better with the pass of each generation, or else we would still be burning "witches". So what are you saying? Do you believe we should not be allowed to make decisions now? Perhaps we should all just become "another brick in the wall" (a reference I imagine you can relate to).

You're right(sarcasm), we should all be good children, sit still, and not question the shadows of this cave we live in (a reference to Socrates in case you didn't catch it).

REPLY LINK

John Smith January 6, 2016, 10:59 am

Woman posts 3 sentences...

21 year-old child replies with six meandering, self-important paragraphs in an attempt to belittle her with his astounding intelligence and learnedness.

Hasn't yet learned that "brevity is the soul of wit".

REPLY LINK

Alwin Arnold March 12, 2016, 8:29 pm

Who is belittling who? Your scorn is unwarranted.

REPLY LINK

Stephanie Orr March 19, 2016, 2:28 am
Very well said.

REPLY LINK

Cori Suther September 8, 2016, 8:57 am
Thank you for responding to that immature and arrogant brain.

REPLY LINK

Low Profile March 7, 2017, 7:24 am
Well said John, well said.

REPLY LINK

Christein C July 17, 2016, 2:06 am
Funny, you mentioning witch burning. I don't recall Lisa saying she was an expert. I believe it was you who brought up the term, then spent the subsequent paragraphs tearing down your own scarecrow.

After reading an article regarding the lack of a developed brain in our youthful twenties, it's nice to know that our imagination is beyond its years.

REPLY LINK

Lottie July 19, 2016, 1:07 pm
Amen brother. I would love to chat more with you about this sort of stuff if you are interested.

REPLY LINK

Amunaptra December 29, 2016, 4:18 pm
Ironically, Shakespeare (who is often credited for the appearance of "brevity is the soul of wit" in Hamlet, though it existed prior) was anything 'but' brief. And like much language (particularly English), there are multiple interpretations, and most would agree that 'wit' is a subjective interpretation, and two common words to place before 'wit/witted' are 'dim' and 'dull'.

"A 21-year old child, self-important, belittle, astounding". Predictable responses from those that insist that the only source of wisdom is time, and that time doesn't officially begin until when? The answer, from ages 1-some undisclosed age in adulthood (usually when something your self righteous ass finally evidences itself as being somewhat valid, but don't get cocky now,

because they're still the same number of years ahead of you), "when you're older".

So typical of the great high sages to tell their understudies that they can not know anything independent of what the sage discloses, and as long as the great high lives, the distance from student to master will remain precisely the same. But let's do speak of the self-important 'child' that dared to speak in defense against one more hysterical attempt at the preceding generation(s) to shift the burden of responsibility for (once again) inadequately cloning itself, using a combination of failed methods and new ones that exempted them, as well as any parent who can't handle that their little half-clones might not be remarkable.

Maybe it was the secondary material (choice of mating partner), certainly can't have anyone thinking it's you, so new rules. Everyone wins or nobody wins! And you can feel like such a good parent for protecting your attempt at immortality from the harsh judgmental world they will walk into, like a flurry of arrows with not much more than graduation attire and a diploma to defend themselves.

Oh, yeah. And crippling uncertainty about who they are, suddenly finding themselves in more possession of a life that's never felt like their own because in the great vehicle of existence, they've never spent enough time behind the wheel to gain a feel for driving, much less on such unpredictable terrain. Yeah. I totally see how it's their fault.

After all, when they were asking questions, or for a little time in the driver's seat, you distinctly remember telling them they'd understand when they were an adult. So. Video games, phones with cameras, social media, celebrity gossip, marijuana, porno, no winners or losers, an extreme shortage of memorable consequences for infractions that are relatable to adulthood, internet, etc. All of these things were created by who?

The world's problems by who? Income to debt ratios? More hungry children in the country following the advent of smaller and supposedly healthier portions of food at school? This kid can't sign his name on the back of a check, why? I guess it was the kids. Pretty impressive, really. Play it over and over again, so you can't hear the question "Where did we go wrong!?"

The answer in the back of the book isn't going to change, no matter how many quick glances you take at it, and still insist your answer is correct. For those of you that believe in fairy tales, remember your God made man in his image, and then blamed man for his own inadequacy. The inadequacy of the infallible.

REPLY LINK

Joy October 28, 2015, 9:35 pm

This was very insightful. Thank you!

REPLY LINK

Darrell December 7, 2015, 4:57 pm

Brain development is not linear. Babies, toddlers, and children develop phenomenally quickly. Youth are still developing, but most of it is there. And maturity is not a binary "mature/not mature". We develop maturity in a lot of different aspects (muscles, patience, tact, humor...) throughout our lives. There are some extremely petulant, immature adults (politicians, anyone?). Think of it like the frequency channels we see on our stereos.

Some bars go high (loud), others not so much. Just make sure you answer children's questions truthfully. If you don't know, teach them how to find out. "Smart" people are simply curious people. As evidence, I have met some very clever people with significant mental disabilities.

REPLY LINK

Ayon August 27, 2016, 7:35 am

You're spot on Darrell. It's really sad that all societies over the world doesn't understand this and compartmentalize mentally disabled persons.

REPLY LINK

PJ February 8, 2016, 9:52 am

Less can be more, Joseph. On the other hand, you can be relieved to know that you might outgrow that knee-jerk trigger, problem-with-perceived-authority that spawns long emotional rants in response to someone's 3 sentence comment as you get older. Eat well, sleep well, and in a few years you may be less easily set off.

This article was interesting, as I have seen (being old now) the very obvious changes in people from about 18 to mid-20s, greatly in the categories mentioned — impulsivity; planning; and especially in the ability to separate one's emotional definition of self from nearly everything else, which I think I will attribute to the article's comment on "response to peer pressure."

There is a great deal of 'everything is threatening or insulting' that is at the front during that era of many peoples' lives that (blessedly) recedes back to a normal

"it isn't about you" status as they move toward 30.

REPLY LINK

Lottie July 19, 2016, 1:09 pm

Emotional, are you serious? I thought he sounded incredibly mature and calm in response to a very unkind statement by someone else.

REPLY LINK

Rodney "RJ" Young February 26, 2016, 5:09 pm

These comments are hilarious!

REPLY LINK

B Smith May 15, 2016, 1:22 am

I have seen many young people "mature" very rapidly when they become parents. The realization that they are "on" makes for big changes.

REPLY LINK

Niko May 22, 2016, 4:30 pm

This article is so true, at least on my example. I've lived my life in high stress environment. I've started new life 500 km away at 24. I'm 26 now and I'm killing it in every aspect of my life. For a second I even thought I have a brain cancer how different I've become. But I did work a lot on my behavior, thinking about what I don't like and gradually changing it.

REPLY LINK

Colleen May 25, 2016, 3:02 pm

How many people actually know that the front of their brain isn't fully mature until their mid 20s? Thank you for sharing this! It's very interesting. We should share this information in school's on a daily basis! God Bless.

REPLY LINK

Sophie Searle August 30, 2016, 9:32 am

"22 year old children" is a very silly statement to make. You are not a child when you are in your 20s. You are a child when you are 12 and rely on your parents completely and have much to learn. The inability to do something such as planning or decision making as well as a 25 year old does not make you a child and that isn't what this article said at all.

REPLY LINK

Jose Jackson January 21, 2017, 9:37 pm

All depends on the environment folks were raised in. For some folks could be their 30 and maybe even 40 something years before brain develops fully regardless of academia level attainment.

REPLY LINK

Liam October 4, 2016, 4:13 pm

Joseph D, Lottie, Tzipora, Sophie: I understand how complex it is to grasp the concept of development when it's not as easily observed as physical growth which is very obvious. When the topic of someone's cognitive ability reaching maturation is brought forward I feel it is an extremely overlooked topic, and one of concern. The answers on this are in front of your face, for easily proven examples:

-What age group do insurance companies find to be the highest risk?

-Why do many rental car companies require you to be 25 to rent, but any younger you get an "underage driver" fee while being at least 21?

I'm now 30 and looking back through my mid 20's I feel as though mentally I am more sound, although I stood 6'3" 190 pounds at the age of 20 my thoughts weren't that far off from my late teens on topics of social acceptance and critical thinking. I am much more confident in leading my life and not following the paths laid out for me with no compulsion to be validated which plagues this society.

REPLY LINK

Liam October 4, 2016, 4:25 pm

There are plenty of 22 year old people that make the same poor decisions that they would have made at 16 or 17 which would legally still make them a minor and at that age arguably still finishing puberty. I see many people haven't responded well to the reference of a child, but many are much more that

than being matured and taking full responsibility for their actions. The title of "Adult" IS awarded to early too often.

REPLY LINK

Eva T October 12, 2016, 7:33 pm

I am 14 but the thing is that some kids mature faster because that is what they have seen or they are forced to because of their situation. All this ranting from multiple people, one comment lasting 6 paragraphs, from some woman expressing her opinion. Am I the only one who seems to think that by replying to that comment and the ones after you are acting childish, take it from a kid you ARE. That just shows that not even 20, 30, 40, or even 50 year olds are completely mature. Can we stop this lone line of ranting at my comment and not go any further? Please and thank you.

REPLY LINK

Susan October 22, 2016, 10:49 am

Good grief. The adults are making snide remarks and then becoming outraged when the younger people are making an effort to defend themselves. You can't very well say nasty things and then allude to people's immaturity if they are, understandably, offended. In all seriousness, if you are tearing people down because of your own emotion and generalisations, you are the more immature one.

REPLY LINK

C. Dunatov January 13, 2017, 3:40 pm

Excuse me, but I'm calling B.S. While it seems logical that the human brain is not fully developed until the mid twenties because most people are making dumb and immature decisions up until that age and/or even later; isn't it at least possible that maturity and brain development is greatly related to when an individual is forced to "grow up"? Fifty years ago it was unheard of to have your 30 year old children and their children living with their parents.

Nowadays that's more often than not. People don't actually have to start making adult decisions until much later in life now, so they don't. Frankly, I'm tired of being told I'm a child based on my age. I'm 22 years old, I moved out of my parents home when I was 18. My parents were of the strict/abusive nature and I have been working and paying my own way since 16.

I'm now a homeowner. I work and pay taxes just like anyone else. Just because you may have made immature decisions up until your mid twenties, does not mean that my brain is under developed. I was forced to grow up and do for myself at a much younger age than most; and you have the nerve to tell me that I'm not as much of an adult as you are.

I think this study needs to do more than just look at when the average person starts acting like an adult, and start looking at what happens when you're not allowed to mooch off your parents indefinitely. See if your study is different.

REPLY · LINK

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(Im)maturity of Judgment in Adolescence: Why Adolescents May Be Less Culpable Than Adults

Elizabeth Cauffman, Ph.D* and
Laurence Steinberg, Ph.D

A crucial step in the establishment of effective policies and regulations concerning legal decisions involving juveniles is the development of a complete understanding of the many factors—psychosocial as well as cognitive—that affect the evolution of judgment over the course of adolescence and into adulthood. This study examines the influence of three psychosocial factors (responsibility, perspective, and temperance) on maturity of judgment in a sample of over 1,000 participants ranging in age from 12 to 48 years. Participants completed assessments of their psychosocial maturity in the aforementioned domains and responded to a series of hypothetical decision-making dilemmas about potentially antisocial or risky behavior. Socially responsible decision making is significantly more common among young adults than among adolescents, but does not increase appreciably after age 19. Individuals exhibiting higher levels of responsibility, perspective, and temperance displayed more mature decision-making than those with lower scores on these psychosocial factors, regardless of age. Adolescents, on average, scored significantly worse than adults, but individual differences in judgment within each adolescent age group were considerable. These findings call into question recent arguments, derived from studies of logical reasoning, that adolescents and adults are equally competent and that laws and social policies should treat them as such. Copyright © 2000 John Wiley & Sons, Ltd.

The existence of a juvenile justice system separate from the adult criminal justice system is predicated on two fundamental assumptions about adolescents: (1) that

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they are less capable of mature judgment than adults and are therefore less culpable for any offenses that they commit; and (2) that they are more amenable to treatment than adults, and therefore are more likely to profit from rehabilitation (Scott & Grisso, 1997). Over the last decade, however, policy-makers in the United States have called for dramatic changes in law and social policy that challenge the developmental assumptions on which the existence of the juvenile justice system rests. Specifically, many policy-makers and politicians, in response to growing fears about violent juvenile crime, have called for lowering the age at which juveniles accused of crimes can be transferred to adult court and exposed to adult sanctions. This "jurisdictional boundary," once firmly fixed at 17 or 18, has been lowered in many states to 14 or even younger, and some states no longer have a lower age limit for criminal prosecution at all (Griffin, Torbet, & Szymanski, 1999). In a growing number of localities, a 12-year-old child accused of a serious crime will be tried and sentenced in the criminal justice system. Similar proposals to lower the age of transfer to adult court are now beginning to surface in several European nations.

Without empirical evidence on the differential culpability and amenability of adolescents versus adults, there is no basis for knowing where to set the jurisdictional boundary or for evaluating whether a proposed change in boundary is sensible in light of developmental research. Perhaps because changes in jurisdictional boundary have been proposed only very recently, little systematic research has examined whether adolescents are inherently less culpable or more amenable than adults. With respect to culpability, we do not know, for example, whether juveniles are developmentally less mature than adults in ways that impair their judgment and make them inherently less accountable for their actions and, if so, at what age individuals demonstrate a level of maturity that qualifies them for adult standards of accountability. With respect to amenability, we do not know whether there are predictable changes in malleability over the course of adolescence and, if so, whether there is a turning point in development after which individuals become relatively unaffected by attempts at rehabilitation.

The present study focuses on the first of these issues—whether there are developmental changes during the adolescent years in psychological characteristics relevant to determinations of culpability.[1] In particular, we ask whether there are predictable patterns of change in individuals' antisocial judgments between adolescence and adulthood and, if so, whether these patterns of change are related to age-related changes in various components of maturity. Because culpability refers to the extent to which a person can be considered blameworthy or deserving of punishment for a given behavior, the evaluation of culpability is largely a moral decision. Nevertheless, if any such moral standard is to be applied to offenders of varying levels of maturity, it is important that evaluations of maturity (and subsequent determinations of culpability) be grounded in an accurate understanding of the factors that influence how adolescents make decisions.

Roughly speaking, accounts of adolescent immaturity within the literature on psychological development fall into two broad categories: those that attribute youthful immaturity to *cognitive* differences between adolescents and adults (i.e., deficiencies in the way adolescents think), and those that attribute immaturity to *psychosocial*

[1]For the purposes of the present work, we use the term "adolescence" to refer to the range of ages most affected by the ongoing transfer debate—from about age 13 to age 18.

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differences (i.e., deficiencies in adolescents' social and emotional capability). These cognitive and psychosocial differences are assumed to result in differences in "maturity of judgment," a term we use here to refer to the complexity and sophistication of the process of individual decision-making as it is affected by a range of cognitive, emotional, and social factors. We believe that "judgment" better captures the mix of cognitive and psychosocial processes of interest than does "decision-making," a term that traditionally has had a more purely cognitive flavor within the psychological literature. For the purposes of this study, therefore, we use the term "judgment" to refer to the cognitive and psychosocial factors that influence decisions, while we use the term "decision-making" to refer to the actual choices made.

Two points about what we mean by "maturity of judgment" warrant some additional elaboration. The first is that "judgment," within the framework we employ in this study, refers to the *process* of decision-making, and not to any particular decision outcome. *Maturity* of judgment, then, refers to the way that the process of decision-making changes with development. Under the law, one's level of culpability may depend upon the degree of maturity of the process through which a decision was made. Put another way, the question of whether a juvenile offender "ought to have known better" cannot be answered by looking only at the nature of his or her behavior. The very question relies on an assumption that there is an underlying set of characteristics that influences one's decision-making and one's resultant behavior. This set of characteristics, which evolves from "definitely could not have known better" to "definitely should have known better" during the course of development, is by definition what we call maturity of judgment.

The second point about maturity of judgment is that within the framework we have advanced (Cauffman & Steinberg, 1995; Steinberg & Cauffman, 1996), judgment is neither exclusively cognitive nor exclusively psychosocial; it is the byproduct of both sets of influences. Accordingly, an individual can exhibit poor judgment because of some sort of intellectual deficiency, such as faulty logic or ignorance of some crucial piece of information; because of some emotional or social shortcoming, such as impulsivity or susceptibility to peer pressure; or both (Scott, Reppucci, & Woolard, 1995). Thus, we would argue that a young teen who robs a liquor store with his friends exhibits poor judgment regardless of whether he does so because he miscalculates the likelihood of violence, or whether he does so because he was encouraged by his friends or feared their disapproval. The question is not whether robbing a liquor store is a bad decision. The question is whether this decision arose from factors that put adolescents, relative to adults, at an inherent disadvantage when faced with choices in potentially antisocial situations.

Having made this theoretical distinction between decisions and the maturity of judgment that underlies them, we can now turn to the question of what, exactly, those factors are that differentiate someone who "ought to know better" from one who does not. To date, most research on adolescent judgment and decision-making, and on whether adolescents' judgment is less mature than that of adults, has focused on the cognitive processes involved and has more or less ignored emotional and social influences on decision-making. Most of these efforts to identify the underlying cognitive factors that account for age differences in risk-taking and antisocial decision-making have not been successful (Fischhoff, 1992; Furby & Beyth-Marom, 1992). Contrary to the stereotype of adolescents as markedly egocentric, for example, or as doomed by deficiencies in logical ability, studies show that adoles-

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cents (at least, from age 15 on) are no more likely than adults to suffer from the "personal fable" (the belief that one's behavior is somehow not governed by the same rules of nature that apply to everyone else, as when a cigarette smoker believes that he is immune to the health effects of smoking) and no less likely than adults to employ rational algorithms in decision-making situations (Jacobs-Quadrel, Fischhoff & Davis, 1993). In fact, there is substantial evidence that adolescents are well aware of the risks they take (Alexander, Kim, Ensminger, Johnson, Smith, & Dolan, 1990), and that increasing adolescents' awareness of various risks has little impact on their decision-making outside the laboratory (Office of Technology Assessment, 1991a,b,c; Rotheram-Borus & Koopman, 1990). Moreover, there is little evidence that growth in the logical abilities relevant to decision-making occurs in any systematic way much past age 16 (Overton, 1990).

The failure of researchers to find strong evidence of cognitive differences between adolescents and adults that might account for developmental differences in decision-making has led to two very different sorts of speculation. One line of reasoning, derived from behavioral decision theory, is that adolescents and adults employ the same logical processes when making decisions, but differ in the sorts of information they use and the priorities they hold (Furby & Beyth-Marom, 1992). According to this view, for example, adolescents engage in unprotected sex more often than adults not because adolescents suffer from a "personal fable" that permits them to deny the possibility of pregnancy, or because they are misinformed about the risks of the activity, but because, in the calculus of a 16-year-old, the potential benefits of unprotected sex (spontaneity, heightened physical pleasure) simply outweigh in value the potential costs (pregnancy, infection). Within this model, age differences in risky decision-making stem from differences in concerns, not competencies (Beyth-Marom, Austin, Fischhoff, Palmgren, & Jacobs-Quadrel, 1993; Furby & Beyth-Marom, 1992; Gardner & Herman, 1990). This distinction, between concerns and competencies, is directly relevant to any discussion of adolescent culpability, since it is the assumption that adolescents are less competent than adults (and not that adolescents merely have different priorities) that undergirds the very existence of a separate juvenile justice system. Overall, there is little evidence from studies of *cognitive* development to support the assertion that adolescents, once they have turned 16, should be viewed as less culpable than adults.

This is not the end of the story, however. Indeed, a different perspective on the question of age differences in decision-making has been suggested by several writers, including the present authors, who have argued that there may be developmental differences between adolescents and adults in *non-cognitive* realms that account for age differences in behavior and that may have implications for assessments of culpability (e.g., Cauffman & Steinberg, 1995; Scott et al., 1995; Steinberg & Cauffman, 1996). We and others have suggested, specifically, that observed differences in risky decision-making between adolescents and adults may well reflect differences in capabilities, and not simply priorities, but that the particular capabilities involved are not those which are assessed by measures of logical reasoning.

According to our view, there may well exist psychosocial factors that affect the sorts of decision individuals make, that follow a developmental progression between adolescence and adulthood, and that bear on the question of adolescent culpability. In several publications (e.g., Cauffman & Steinberg, 1995; Steinberg & Cauffman, 1996), we have proposed a model of maturity of judgment that emphasizes three

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broad categories of psychosocial factors that are likely to affect the ways in which individuals make decisions, including decisions to commit antisocial or criminal acts. These three categories of psychosocial factors include (1) *responsibility*, which encompasses such characteristics as self-reliance, clarity of identity, and independence; (2) *perspective*, which refers to one's likelihood of considering situations from different viewpoints and placing them in broader social and temporal contexts; and (3) *temperance*, which refers to tendencies to limit impulsivity and to evaluate situations before acting. These categories are not mutually exclusive, nor are they without some cognitive elements. The ability to appreciate the long term consequences of an action, for example, is an important element of perspective, but requires the cognitive ability to weigh risks and benefits, and is related to the ability to forgo immediate gratification, which is an element of temperance. Although systematic data on the developmental course of each of these phenomena, their interrelations, and their joint and cumulative impact on decision-making are lacking, most major theories of adolescent psychosocial development suggest that there are significant developmental changes in several aspects of responsibility, perspective, and temperance over the course of adolescence. More important, there is reason to suspect that developments in these areas may potentially affect individuals' decision-making and risk-taking in ways that ought to be taken into account in making culpability determinations.

Although there has been some research to date on the development of various aspects of responsibility, perspective, and temperance during adolescence (for a review, see Steinberg & Cauffman, 1996), few studies have compared adolescents and adults directly on these dimensions, and fewer still have attempted to examine the relations between these psychosocial elements of mature judgment and decision-making in situations relevant to legal concerns. These are the goals of the present study. We hypothesize that elements of responsibility, perspective, and temperance develop during the course of adolescence. Because we argue that these factors are key elements of what we define to be "maturity of judgment," we further hypothesize that those who are responsible, temperate, and circumspect will make better decisions. (For example, they will be less likely to rob liquor stores.) We do not (nor *can* one) measure maturity of judgment directly. Rather, we hypothesize that maturity of judgment depends upon certain psychosocial qualities and test this by examining whether these qualities affect the decisions that participants make under various circumstances, including those that involve decision-making in antisocial contexts. The extent to which these psychosocial factors do, indeed, affect decisions provides an indication of how accurately we have identified the composite elements of maturity of judgment. We do not assess cognitive elements of mature judgment, as these have received considerable research attention; we focus instead on exploring the less clearly understood role of psychosocial factors in the decision-making process.

METHOD

Sample

The data for the present analyses were obtained from self-report questionnaires administered to eighth, tenth, and twelfth grade students as well as college students

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attending schools in the Philadelphia area. (See Table 1 for descriptive information on the study sample.) The junior high and high school were both located in the same school district and were selected to yield a diverse sample in terms of ethnicity, socioeconomic status, and type of community (suburban and urban) that was demographically comparable to the student body of the college from which the adult sample was drawn. In general, the sample is evenly divided among males and females and is quite diverse with respect to other demographic variables: notably, approximately 40% of the respondents are from ethnic minority groups and nearly one-third come from homes in which the parents have not attended school beyond the 12th grade. Similar patterns in gender, ethnicity, and socioeconomic status were observed within each age group (with the exception that female adults outnumbered male adults four to one, a factor that we take into account in subsequent analyses).

Because the adult sample was drawn from a college population, it may differ from the high-school sample not only in age but also in other dimensions that may distinguish individuals who go on to post-secondary education from those who do not. Accordingly, we conducted all analyses with and without eliminating high-school participants with a grade-point average lower than a C in order to make the high-school group comparable to the population of students admitted to the college from which adult participants were recruited. Because the pattern of age differences observed in the analyses using only the higher-performing high-school students was not significantly different from the pattern observed using the entire sample, we report only the analyses conducted using the complete sample.

Table 1. Characteristics and demographics of the study sample

	Total sample (n=1,015)				
				College sample (n=205)	
	8th grade (n=417)	10th grade (n=238)	12th grade (n=155)	Under 21 (n=115)	21 & over (n=90)
Mean age (SD)	13.7 (.73)	15.5 (.59)	17.5 (.63)	19.4 (.62)	25 (5.5)
Sex					
Male	50%	45%	43%	17%	27%
Female	50%	55%	57%	83%	73%
Parental education					
Some high school	10%	5%	6%	15%	22%
High school graduate	29%	24%	25%	20%	17%
Some college	37%	47%	46%	37%	36%
College & beyond	24%	24%	23%	28%	25%
Ethnicity					
African-American	24%	22%	26%	24%	23%
Asian	3%	3%	1%	25%	17%
Hispanic	3%	2%	4%	1%	5%
White	63%	67%	62%	45%	44%
Other	7%	6%	7%	5%	11%

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Procedure

A "passive consent" procedure was used to obtain tacit approval from the parents of eighth, tenth, and twelfth grade students, whereby parents were provided an opportunity to withhold consent for their children's participation.[2] All parents with children in the participating school grades were informed, by first-class mail, of the date and nature of the study three weeks in advance of the scheduled questionnaire administration. Parents were asked to call or write their child's school or the investigator of the study if they did not want their child to participate in the study. We also obtained active consent from all participating adolescents. Students in attendance in participating schools on the days of survey administration were informed about the purpose of the study and asked to complete the questionnaire. All students were informed that their participation in the study was voluntary and that they could withdraw from the study at any time. Of the potential participants, 5% were withheld from the study by their parents, approximately 5% of the students elected not to participate, and 8% were absent from school on the day of administration. The sample of adults was recruited through announcements in undergraduate psychology classes inviting students to participate in the study in exchange for extra credit; informed consent from these individuals was obtained at the time of survey administration.

Measures

Demographic Information

Participants were asked to report their age, sex, ethnicity, and socioeconomic status. Socioeconomic status was based upon parents' level of education, as research has indicated that parental education may be the most stable component of a family's social class (Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Participants were partitioned into five age groups. Adolescent participants were categorized by grade (8th, 10th, or 12th), while adults were divided into two groups of roughly equal size: one composed of those under 21 years of age, and one composed of those 21 and older.

Components of Psychosocial Maturity: Responsibility, Perspective, and Temperance

Responsibility

Responsibility was assessed using the personal responsibility scale of the Psychosocial Maturity Inventory (PSMI Form D; Greenberger, Josselson, Knerr, & Knerr,

[2]Studies show that the use of "active consent" procedures (i.e., procedures requiring active parental written consent in order for their adolescents to participate in research) screen out disproportionate numbers of students who are dissatisfied with school, whose parents have lower education levels, who have low self-esteem, and, most importantly for the present study, who exhibit higher levels of risk-taking (Dent, Galaif, Sussman, & Stacy, 1993).

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1974) which has excellent validity and psychometric properties (Greenberger & Bond, 1976). Items on the personal responsibility subscale tap *self-reliance* (i.e., feelings of internal control and the ability to make decisions without extreme reliance on others, e.g., "Luck decides most things that happen to me" [reverse coded]); *identity* (i.e., self-esteem, clarity of the self, and consideration of life goals, e.g., "I change the way I feel and act so often that I sometimes wonder who the 'real' me is." [reverse coded]); and *work orientation* (i.e., pride in the successful completion of tasks, e.g., "I hate to admit it, but I give up on my work when things go wrong." [reverse coded]). The scale contains 30 items to which participants respond on a four-point Likert scale ranging from "strongly agree" to "strongly disagree," with higher scores indicating more responsible behavior. In the present sample, the internal consistency of the scale was .87.

Perspective

Two distinct aspects of perspective were assessed. First, the ability to see short and long term consequences (i.e., "time perspective," also referred to as "future orientation") was measured using the Consideration of Future Consequences Scale (CFC) (Strathman, Gleicher, Boninger, & Edwards; 1994). The CFC (alpha = .76) consists of 12 items on a Likert-type scale ranging from 1 (extremely uncharacteristic) to 5 (extremely characteristic). For each of the statements (e.g., "I often do things that don't pay off right away but will help in the long run.") participants are asked to indicate how characteristic the statement is of them. This scale is highly correlated with other measures of future orientation, such as the Stanford Time Perspective Inventory (Zimbardo, 1990). Because the CFC scale was originally designed for use with college students, we simplified the wording of the items so that participants ranging in age from early adolescence to young adulthood could complete the scale. (For consistency, we used the simplified version for all participants, regardless of age.) Second, the Consideration of Others subscale from the Weinberger Adjustment Inventory (WAI) (Weinberger & Schwartz, 1990) was used to assess how often participants take other people's perspectives into account (e.g., social perspective taking). The five-item scale (alpha = .73) asks participants to rate from 1 to 5 (1 = almost never to 5 = almost always) how often over the "past year or more" their behavior could be described by statements such as "Before I do something, I think about how it will affect the people around me." CFC and the Consideration of Others scores ($r = .37, p < .001$) were converted to standardized units and averaged to produce an overall perspective score for use in subsequent analyses. The resultant perspective measure was scaled to range from 0 (low perspective) to 5 (high perspective).

Temperance

Participants responded to items tapping aspects of temperance, including impulse control and self-restraint from aggressive behavior, as assessed using subscales of the Weinberger Adjustment Inventory. Participants were asked to describe themselves on a five-point Likert-type scale (1 = almost never, to 5 = almost always) regarding what they have usually been like or felt like over the "past year or more." A 12-item

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temperance score (alpha = .83) was calculated by aggregating subscales measuring *impulse control* (e.g., "I do things without giving them enough thought" [reverse coded]) and *suppression of aggression* (e.g., "I lose my temper and 'let people have it' when I'm angry" [reverse coded]).

Psychosocial Maturity

According to the theoretical framework described earlier, psychosocial maturity is defined to encompass elements of responsibility, perspective, and temperance. Accordingly, a composite measure of "psychosocial maturity" was constructed by averaging the *z*-scores of the responsibility, perspective, and temperance aggregates described above and renormalizing the resulting scale to range from 0 to 5. Statistical analyses were performed using this continuous variable. In figures depicting the relation between psychosocial maturity and other variables, we divide the sample into tertiles reflecting different levels of psychosocial maturity.

We recognize that the operational definitions of psychosocial maturity and its subcomponents, responsibility, perspective, and temperance, may not provide what would ultimately be considered a definitive assessment of the hypothesized underpinnings of maturity of judgment as outlined in the introduction to this article. Because the study of psychosocial maturity in relation to decision-making is in the early stages, the emphasis of the present study is on determining whether a representative set of psychosocial factors is meaningfully related to decision-making, and whether these factors vary across adolescence and between adolescence and adulthood. We anticipate that future research will address the issue of developing a more complete picture of the myriad psychosocial factors that may eventually be shown to influence maturity of judgment.

Antisocial Decision-Making

Antisocial decision-making was assessed via the Youth Decision-Making Questionnaire (YDMQ) (Ford, Wentzel, Wood, Stevens, & Siesfeld, 1990). The YDMQ presents participants with a set of hypothetical situations that involve choosing between antisocial and socially accepted courses of action (e.g., shoplifting versus not shoplifting). For each hypothetical situation, participants are asked to indicate, on a four-point scale ranging from definitely choosing the responsible action to definitely choosing the irresponsible action, how they would behave if they were confronted with such a dilemma (alpha = .76). For example, "You're out shopping with some of your close friends and they decide to take some clothing without paying for it. You don't think it's a good idea, but they say you should take something too." Participants are then presented with three possible scenarios. First, "Suppose nothing bad would happen to you (such as getting arrested) if you took the clothing. Would you shoplift or would you refuse to take the item?" The next scenario asks the participant to imagine that something bad *would* happen, and the third scenario suggests that the participant doesn't know what would happen. We refer to these variations in consequences as (a) consequences, (b) no consequences, and (c) unknown consequences. For each scenario and each consequence, participants are

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asked to indicate whether or not they would do the antisocial action on a four-point scale ranging from (for the above example), "definitely shoplift" to "definitely refuse to shoplift."

The measure employed in the present study was modified somewhat from Ford et al.'s (1990) original instrument in two ways. First, in order to satisfy time constraints, and to provide the most clear-cut choices between antisocial and socially accepted behavior, only five of Ford's original nine scenarios (the scenarios with the most clear-cut choices between right and wrong) were selected for inclusion in the present study: (1) smoking marijuana; (2) shoplifting; (3) joy-riding in a stolen car; (4) cheating on a test; and (5) deceiving one's employer. Second, the "unknown consequences" scenario was added, since this more accurately reflects many real-life situations.

Two caveats about our measure of decision-making are in order. First, it is important to note that, for the purposes of this study, we define "antisocial" decision-making in terms of the extent to which individuals make socially sanctioned choices. We recognize that, in theory, the maturity of a decision is independent of its social acceptance. While such arguments are philosophically interesting, legal professionals who make decisions about the adjudication and treatment of juvenile offenders are interested in knowing whether juveniles have the competencies necessary to abide by the law. Our decision to equate "good" decision-making with socially accepted behavior is consistent with everyday practice in the courts, and we have taken care to ensure that the "right" and "wrong" choices in the scenarios used for this measure are not of the sort that might be subject to reasonable debate.

The second caveat concerns the use of hypothetical dilemmas to assess decision-making, and, more specifically, the extent to which one can generalize responses to such dilemmas to real-world decision-making. The use of hypothetical dilemmas to index responsibility, decision-making, moral development, and antisocial inclinations has a long history in the study of adolescent development (Berndt, 1979; Bronfenbrenner, 1967; Devereux, 1970; Fischoff, 1992; Furby & Beyth-Marom, 1992; Kohlberg, 1969; Steinberg & Silverberg, 1986). Although individuals' responses to hypothetical dilemmas often exhibit higher levels of moral reasoning than are employed in real-world versions of the same situations (Arsenio & Ford, 1985), responses to hypothetical decision-making situations are often used to index judgment and reasoning. Furthermore, previous work employing similarly structured hypothetical vignettes has supported the validity of such instruments in studies of adolescent development and behavior (Berndt, 1979; Brown, Clasen, & Eicher, 1986; Devereux, 1970; Steinberg & Silverberg, 1986). For example, adolescents who endorse antisocial responses to hypothetical dilemmas are in fact more likely to commit delinquent acts, more likely to use illegal substances, and more likely to come from family environments shown to be associated with increased risk for problem behavior (Brown et al., 1986; Devereux, 1970; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Lamborn & Steinberg, 1993).

RESULTS

The present study examines the development of several psychosocial factors, as well as their relation to antisocial decision-making. The results of the study are organized

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as follows: First, we discuss age differences in antisocial decision-making. Second, we discuss the development of responsibility, perspective, and temperance. Next, the relations between these psychosocial factors and antisocial decision-making are considered. Finally, the role of age in the decision-making process is re-examined in the context of the observed relations between psychosocial factors and decision-making. To ensure that age differences in decision-making and psychosocial development were not skewed by the over-representation of females in the adult sample, all analyses were performed separately among males and females. These segregated analyses yielded age differences consistent with those obtained for the entire sample, which we describe in further detail in the following sections.

Age Differences in Decision-Making

Based on significant, though modest, correlations between decision-making and age ($r = .15, p < .0001$) as well as between decision-making and sex ($r = .20$, $p < .0001$), we conducted a 2 × 5 multivariate analysis of variance (MANOVA) using gender and age as the independent variables. Data were analyzed using the three separate components of the decision-making situation as the dependent variables (i.e., consequential, non-consequential, and unknown consequences).

Antisocial decision-making was significantly affected by both age, (multivariate $F(12, 2596) = 5.29, p < .0001$), and sex ($F(3, 981) = 5.71, p < .001$), but not by the interaction between the two ($F(12, 2596) = 1.1$, ns). As shown in Figure 1 and Table 2, the univariate analyses indicate that antisocial decision-making differed by

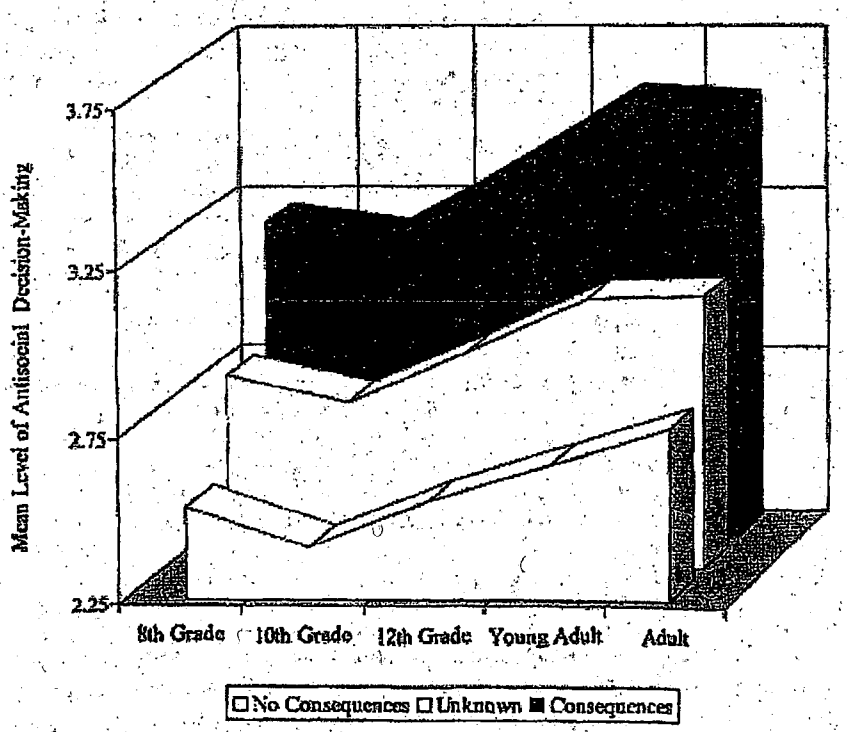

Figure 1. Age difference in antisocial decision-making.

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Table 2. Age different in antisocial decision-making

Decision making	Grade	Mean	SD	Singnificant Scheffe post hoc tests ($p < .05$)
Consequences	8th	3.21	.64	8th *vs* YA, A
	10th	3.16	.68	10th *vs* 12th, YA, A
	12th	3.36	.50	12th *vs* 10th, YA
	Young adult (YA)	3.59	.36	YA *vs* 8th, 10th, 12th
	Adult (A)	3.57	.39	A *vs* 8th, 10th
No consequences	8th	2.53	.73	8th *vs* A
	10th	2.41	.73	10th *vs* YA, A
	12th	2.55	.60	
	Young adult (YA)	2.66	.65	YA *vs* 10th
	Adult (A)	2.77	.59	A *vs* 8th, 10th
Unknown consequences	8th	2.83	.64	8th *vs* YA, A
	10th	2.75	.66	10th *vs* YA, A
	12th	2.90	.55	
	Young adult (YA)	3.06	.46	YA *vs* 8th, 10th
	Adult (A)	3.07	.47	A *vs* 8th, 10th
Composite	8th	2.86	.61	8th *vs* YA, A
	10th	2.77	.64	10th *vs* YA, A
	12th	2.94	.48	
	Young adult (YA)	3.10	.43	YA *vs* 8th, 10th
	Adult (A)	3.14	.43	A *vs* 8th, 10th

age regardless of whether we examined decision-making with potential negative consequences, ($F(4,983) = 13.02, p < .0001$), without consequences ($F(4,983) = 4.63, p < .001$) or with unknown consequences ($F(4,983) = 5.88, p < .0001$). As expected, Figure 1 shows that participants are most likely to endorse antisocial choices when it is anticipated that there are no negative consequences of their decisions. This is true regardless of age.

Univariate analyses also revealed significant sex differences in decision-making (consequences ($F(1,983) = 16.42, p < .0001$), no consequences ($F(1,983) = 7.89, p < .005$), or unknown consequences ($F(1,983) = 8.43, p < .005$), with females less likely than males to engage in antisocial decision-making under all three conditions (see Table 3). To simplify further analyses, decision-making scores were averaged over the three levels of consequences; when this is done, the same age differences, $F(4,993) = 8.27, p < .001$, and sex differences $F(1,993) = 12.67$, $p < .0001$, are observed. Based on these findings, our further analyses of decision-making scores used the composite measure only.

Age Differences in Psychosocial Maturity

Three psychosocial factors (responsibility, perspective, and temperance) were hypothesized to be key elements of mature judgment, and therefore to influence decision-making. Before investigating the relations between measures of these psychosocial characteristics and the measure of decision-making, we examined age differences in these traits, individually, and determined the extent to which they are intercorrelated.

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Table 3. Gender differences in antisocial decision-making and psychosocial development

	Mean score		
	Males	Females	*F* statistic
Decision-making			
Consequences	3.13	3.42	16.42***
No consequences	2.42	2.63	7.89**
Unknown consequences	2.75	2.95	8.43**
Composite measure	2.77	3.00	12.67***
Psychosocial development			
Responsibility	3.01	3.12	ns
Perspective	2.62	2.89	4.69*
Temperance	2.68	2.99	21.06**
Maturity	2.56	3.30	8.34**

*$p<.05$.
**$p<.005$.
***$p<.0001$.

Responsibility, perspective, and temperance were all significantly intercorrelated (for responsibility and perspective, $r=.40$; for perspective and temperance, $r=.36$; for temperance and responsibility, $r=.40$; all $p_s<.001$). A 2 (gender) × 5 (age) MANOVA was performed on these three aspects of psychosocial maturity. Analyses revealed significant differences in psychosocial maturity by both age, ($F(12,2580)=11.39, p<.0001$) and sex, ($F(3,975)=3.86, p<.01$) but not as a function of the interaction between the two, ($F(12,2580)=.49$, ns). Univariate analyses indicate an effect of age on each psychosocial variable: responsibility, ($F(4,977)=8.53, p<.0001$), perspective, ($F(4,977)=29.14, p<.0001$), and temperance, ($F(4,977)=7.95, p<.0001$). As seen in Table 4, psychosocial maturity improves as a function of age, with 8th and 10th graders displaying the lowest levels of maturity. Gender was also found to affect psychosocial development. Univariate analyses indicate that females demonstrate more perspective ($F(1,977)=5.27, p<.05$) and are more temperate, ($F(1,977)=9.50, p<.005$) than males (see Table 3). There were, however, no significant differences between the genders in responsibility ($F(1,977)=2.84$, ns).

In order to assess the development of psychosocial maturity overall (calculated by averaging the responsibility, perspective, and temperance scores), a 2 (gender) × 5 (age) analysis of variance (ANOVA) was performed using the composite measure of psychosocial maturity. Results indicate significant differences in psychosocial maturity as a function of both age, $F(4,992)=20.22, p<.001$, and gender, $F(1,992)=9.75, p<.005$, but not as a function of the interaction between the two. As shown in Figure 2 and Table 3, older participants exhibit higher levels of psychosocial maturity, and females exhibit greater psychosocial maturity than males.

Age, Psychosocial Development, and Antisocial Decision-Making

Based on the significant correlations between decision-making and responsibility, perspective, and temperance (for responsibility and decision-making, $r=.31$; for

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Table 4. Age differences in components of psychosocial maturity: responsibility, perspective, and temperance

Components of psychosocial maturity	Grade	Mean	SD	Significant scheffe post hoc tests ($p<.01$)
Responsibility	8th	2.99	.43	8th *vs* 12th, YA, A
	10th	3.03	.45	10th *vs* 12th, YA
	12th	3.18	.39	12th *vs* 8th, 10th
	Young adult (YA)	3.23	.39	YA *vs* 8th, 10th
	Adult (A)	3.18	.47	A *vs* 8th
Perspective	8th	2.55	.66	8th *vs* 10th, 12th, YA, A
	10th	2.76	.70	10th *vs* 8th YA, A
	12th	2.78	.67	12th *vs* 8th YA, A
	Young adult (YA)	3.25	.53	YA *vs* 8th, 10th, 12th
	Adult (A)	3.28	.59	A *vs* 8th, 10th, 12th
Temperance	8th	2.74	.97	8th *vs* YA, A
	10th	2.69	.95	10th *vs* YA, A
	12th	2.87	.92	12th *vs* YA, A
	Young adult (YA)	3.29	.70	YA *vs* 8th, 10th, 12th
	Adult (A)	3.25	.68	A *vs* 8th, 10th, 12th
Psychosocial maturity	8th	2.84	.72	8th *vs* 12th, YA, A
	10th	2.92	.78	10th *vs* YA, A
	12th	3.11	.63	12th *vs* YA, A
	Young adult (YA)	3.49	.52	YA *vs* 8th, 10th, 12th
	Adult (A)	3.45	.62	A *vs* 8th, 10th, 12th

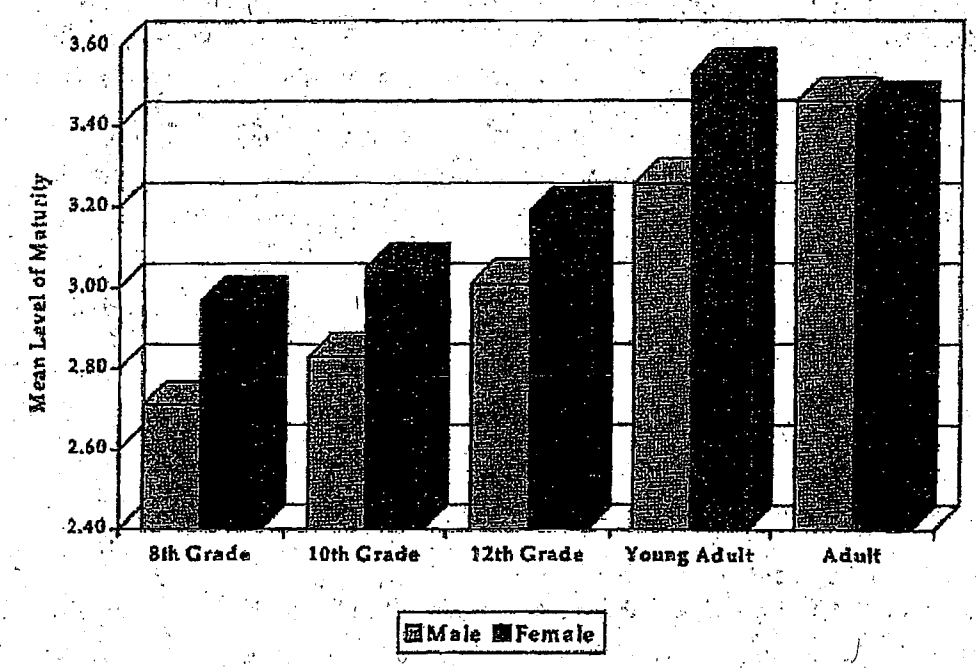

Figure 2. Age and gender differences in psychosocial maturity.

perspective and decision-making, $r=.41$; for temperance and decision-making, $r=.47$; all $p_s < .001$), a multiple regression analysis was performed to test the hypothesis that differences in decision-making are, in fact, attributable to differences

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in components of psychosocial maturity. All three psychosocial variables were entered into the regression equation simultaneously, and, as expected, this block of psychosocial variables was a highly significant predictor of decision-making ($F(3,986) = 135.0, p < .0001$). Examination of beta weights indicates that less antisocial decision-making is demonstrated by individuals who are more responsible ($\beta = .07, p < .05$), who have more perspective ($\beta = .26, p < .0001$), and who are more temperate ($\beta = .35, p < .0001$). This relation was further tested by regressing the measure of decision-making on the composite measure of psychosocial maturity. As expected, individuals who are, overall, more psychosocially mature exhibit less antisocial decision-making ($\beta = .48, p < .0001$). In light of this, and in light of the fact that each of the psychosocial variables is significantly related to antisocial decision-making, we used the global measure of psychosocial maturity in further analyses.

One central hypothesis of this study is that age differences in antisocial decision-making are attributable to differences in psychosocial maturity. This question was addressed in two ways. First, in hierarchical regressions, we entered age at step one and the composite measure of psychosocial maturity at step two. If the age effect is, as we believe, a result of increases in psychosocial maturity, then any significant effect of age at step one will become nonsignificant when the psychosocial measure is introduced into the equation. In other words, antisocial decision-making should be less prevalent among participants with higher levels of psychosocial maturity, regardless of age. This is indeed the case: Age is a significant predictor of decision-making ($\beta = .08, p < .01$). However, when psychosocial maturity is entered on the second step of the equation, the effect of age no longer remains significant. In fact, results indicate that psychosocial maturity, rather than age, is the more powerful predictor of decision-making ($\beta = .52, p < .0001$). As shown in

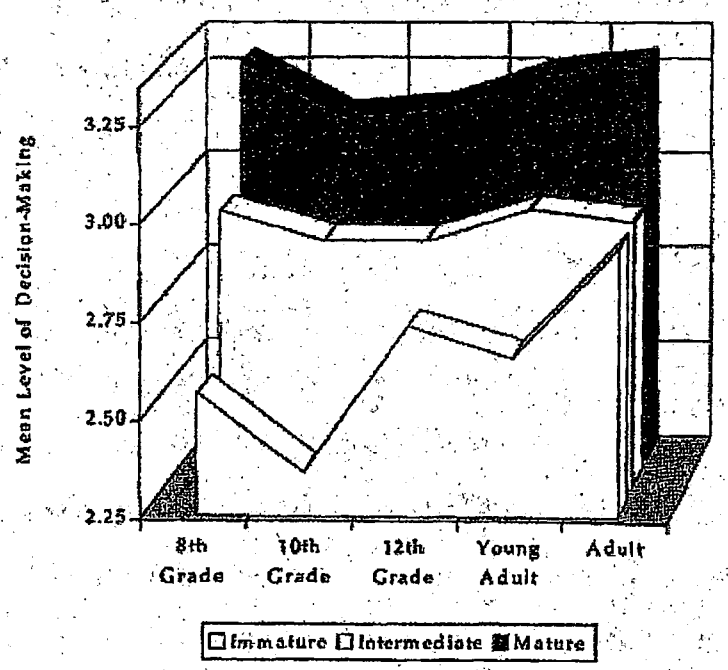

Figure 3. Antisocial decision-making and mature psychosocial development.

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Figure 3, the decision-making scores of adolescents and adults with the highest levels of psychosocial maturity are greater than those with the lowest levels, regardless of age.

We have shown that antisocial decision-making is negatively correlated with levels of responsibility, perspective, and temperance (and with the overall measure of psychosocial maturity constructed using these three factors). We also have demonstrated that, although there are significant age differences in antisocial decision-making, these differences become nonsignificant when the effect of psychosocial maturity is taken into account. To test the prediction that, among participants of the *same* age, psychosocial maturity should predict decision-making, multiple regression analyses were conducted separately within each age group. Overall, the analyses indicate that psychosocial maturity significantly predicts decision-making within each of the five age groups considered. (For 8th graders, $b = .50, p < .0001$; for 10th graders, $b = .60, p < .0001$; for 12th graders, $b = .34, p < .001$; for young adults, $b = .47, p < .0001$; and for older adults, $b = .40, p < .0005$.) At all ages, individuals who are more psychosocially mature, as indexed by measures of responsibility, perspective, and temperance, are less likely to make antisocial decisions.

DISCUSSION

The present study examined the relations among age, psychosocial maturity, and antisocial decision-making in a sample of more than 1,000 adolescents and adults between the ages of 12 and 48. As anticipated, individuals were found to differ significantly in their psychosocial maturity (in the domains of responsibility, perspective, and temperance), as well as in their antisocial decision-making, as a function of age. Moreover, antisocial decision-making was more strongly influenced by psychosocial maturity than by age. This suggests that, as hypothesized, the measured characteristics of responsibility, perspective, and temperance are, indeed, a part of what we think of as "maturity of judgment." While there are likely to be other factors (such as cognitive ability) that affect overall maturity of judgment, as well, we can nevertheless conclude that it is justifiable to consider an individual's levels of responsibility, perspective, and temperance in describing his or her "maturity of judgment."

Although socially responsible decision-making is more common among older participants than among younger ones, at least in the hypothetical situations studied here, it does not appear to increase appreciably after age 19. College students under the age of 21 perform similarly to those over 21, suggesting that once the developmental changes of adolescence are complete, maturity of judgment may stabilize. Based on age differences in the composite index of psychosocial maturity employed in this study, the steepest inflection point in the developmental curve occurs sometime between 16 and 19 years. This appears to be especially true with respect to the development of perspective and temperance, but less true with regard to the development of responsibility, which appears to develop more gradually. Thus, the period between 16 and 19 marks an important transition point in psychosocial development that is potentially relevant to debates about the drawing of legal boundaries between adolescence and adulthood. More fine-grained analyses of

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developmental differences within this three-year period are necessary before more specific conclusions can be drawn.

This is not to say that, as a class, adolescents are irresponsible, solipsistic, or reckless in any absolute sense. It is important to remember that responsibility, perspective, and temperance—the three components of maturity of judgment studied here—are more predictive of antisocial decision-making than chronological age alone. Indeed, psychosocially mature 13-year-olds demonstrate less antisocial decision-making than psychosocially immature adults. Figure 3 demonstrates that significant numbers of adolescents exhibit below average or above average levels of maturity of judgment, while among adults there are very few individuals in the most immature category. The significant numbers of psychosocially mature *and* immature adolescents suggest that it is important to consider individual differences, rather than simply age, when assessing decision-making ability or maturity of judgment among adolescents. Nevertheless, it does appear as if the average adolescent is less responsible, more myopic, and less temperate than the average adult. Sometimes developmental stereotypes turn out to be true.

The results of this research, on the *psychosocial* contributors to decision-making, stand in contrast to those obtained from studies of the *cognitive* contributors to decision-making, which generally find few differences between adults and middle adolescents. Indeed, the results of this study provide a partial answer to a question that has long perplexed psychologists interested in explaining age differences in risk-taking: if adolescents and adults process information in similar ways, why do adolescents take more risks? The answer, we believe, is that risk-taking is the byproduct of an interaction between cognitive and psychosocial factors. It is adolescents' deficiencies in the psychosocial domain, not the cognitive domain, that lead them to take more chances and to get into more trouble.

Before interpreting the results in further detail, we first acknowledge several of the study's limitations. The fact that our study included a significant number of adult participants over the age of 21 allowed us to obtain insight into the development of decision-making beyond the high-school and early college years. In addition, the sample studied was both economically and ethnically diverse, allowing the results to be applied to populations beyond the white–middle class samples usually studied in this sort of research. The fact that our adult sample was limited to college students warrants caution in interpreting the findings, however, since there are likely to be significant psychosocial, cognitive, and decision-making differences between adults who enroll in college and those who do not. It is important to note, though, that the social origins of the college students in this sample were quite similar to those of the participating adolescents, and that the study's findings were not changed by eliminating from the sample those high-school participants with grades low enough to make them ineligible to attend the college in question. There may, of course, still exist differences between the college sample and the proportion of high-school participants with "C or better" grades who elect not to pursue higher education. While caution is thus warranted in interpreting comparisons between these groups, the fact that the results were not significantly affected by omitting the students with the poorest grades suggests that the magnitude of any residual education effect is likely to be small.

Another of the most problematic aspects of controlled decision-making studies is that they typically rely on hypothetical dilemmas (Fischhoff, 1992). As noted in the

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"Measures" section, responses to hypothetical dilemmas are often different from responses to real-world situations. While such hypothetical dilemmas do, nevertheless, provide useful information regarding decision-making tendencies, an obvious limitation of this approach in the assessment of decision-making is that such laboratory situations minimize the potential effects of psychosocial factors on judgment, especially in the realms of responsibility and temperance. It is thus interesting to note that even for hypothetical dilemmas, individuals' psychosocial maturity influences their responses. Nevertheless, psychologists interested in age differences in judgment must begin to move beyond the laboratory. Examples of the sort of real-world research needed include work by Ambuel and Rappaport (1992), who studied cognitive competence among teenagers who were visiting a medical clinic for a pregnancy test; and by Lewis (1980), who examined age differences in factors influencing abortion decisions among participants awaiting the results of pregnancy tests. Future studies should attempt to examine the ways in which responsibility, temperance, and perspective come into play in these and other real-world settings.

A related issue is that, as is common in the type of research described here, the present study relies on self-reports of psychosocial characteristics and decision-making tendencies. Despite the assurances of anonymity provided to the participants, social desirability biases are likely to skew responses toward more socially acceptable (less antisocial) responses. Participants might therefore report less antisocial decision-making and more psychosocial maturity than an independent evaluation might indicate. Here again, however, this effect is more likely to minimize the observed differences between groups than to exaggerate it.

Finally, we should note that our choices of specific psychosocial factors to explore in this study were motivated by a desire to explore those areas theoretically most likely to influence decision-making. Future research will be necessary to generate a more comprehensive understanding of the many psychosocial characteristics not specifically explored here, and to determine with greater precision the relative importance of such different characteristics in influencing mature judgment. By establishing the merit of considering psychosocial influences on decision-making, the present study lays a foundation for more detailed empirical explorations of these relations.

How can the results of this study be used to inform the debate on juvenile culpability and waiver? Are the observed age differences in psychosocial maturity of judgment appreciable and consistent enough to warrant the drawing of legal distinctions between adolescents and adults (or among adolescents of different ages)? The present study indicates that, indeed, psychosocial characteristics continue to develop during late adolescence, and that these changes result in significant declines in antisocial decision-making. In our view, the age differences observed here are *appreciable* enough to warrant drawing a legal distinction. They may not, however, be *consistent* enough, since significant numbers of adolescents exhibit high enough levels of maturity of judgment to outperform less mature adults. Individuals differ considerably in the timing of the development of psychosocial maturity, making it difficult to define a chronological boundary between immaturity and maturity. Nevertheless, it is clear that important progress in the development of these characteristics occurs some time during late adolescence, and that these changes have a profound effect on the ability to make consistently mature decisions.

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Our finding that adolescents are less psychosocially mature than adults in ways that affect their decision-making in antisocial situations lends scientific credibility to the argument that juvenile offenders may warrant special treatment because of diminished responsibility. Indeed, we can even be more specific about the *ways* in which adolescents' psychosocial functioning is diminished: they score lower on measures of self-reliance and other aspects of personal responsibility, they have more difficulty seeing things in long-term perspective, they are less likely to look at things from the perspective of others, and they have more difficulty restraining their aggressive impulses. Our reading of relevant rulings, moreover, suggests that when American legal opinions refer to individuals' maturity (or immaturity) of judgment, the courts have in mind something close to the psychosocial factors we have discussed. For example, in *Kent v. United States* (1966), the United States Supreme Court reviewed the District of Columbia's statutory criteria for waiver to adult court, which included such factors as "the *sophistication and maturity* of the juvenile as determined by consideration of his home, environmental situation, *emotional attitude*, and pattern of living" (italics added).

Our analysis suggests that a developmental perspective can inform, but cannot resolve, the transfer debate. Even setting aside the weighty political, practical, and moral questions that impinge on the discussion, the developmental analysis we have presented here does not point to any one age that politicians and practitioners should use in formulating transfer policies or practices. Rather, the framework we propose argues strongly against transfer policies that are solely offense-based and argues instead for a return to offender-based policies that permit the relevant decision-makers (e.g., judges, prosecutors, and defense attorneys) to exercise judgment about individual offenders' maturity and eligibility for transfer. This approach would be workable both within a system that employed judicial waiver and within one that relied on prosecutorial discretion. To the extent that transfer via legislative exclusion is solely offense based, however, it is a bad policy from a developmental perspective.

The irony of employing a developmental perspective in the analysis of transfer policy is that the exercise reveals the inherent inadequacy of policies that draw bright-line distinctions between adolescence and adulthood. Indeed, an analysis of the developmental literature indicates that variability among adolescents of a given chronological age is the rule, not the exception. In order to be true to what we know about development, a fair transfer policy must be able to accommodate this variability.

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Adolescent Development and Juvenile Justice

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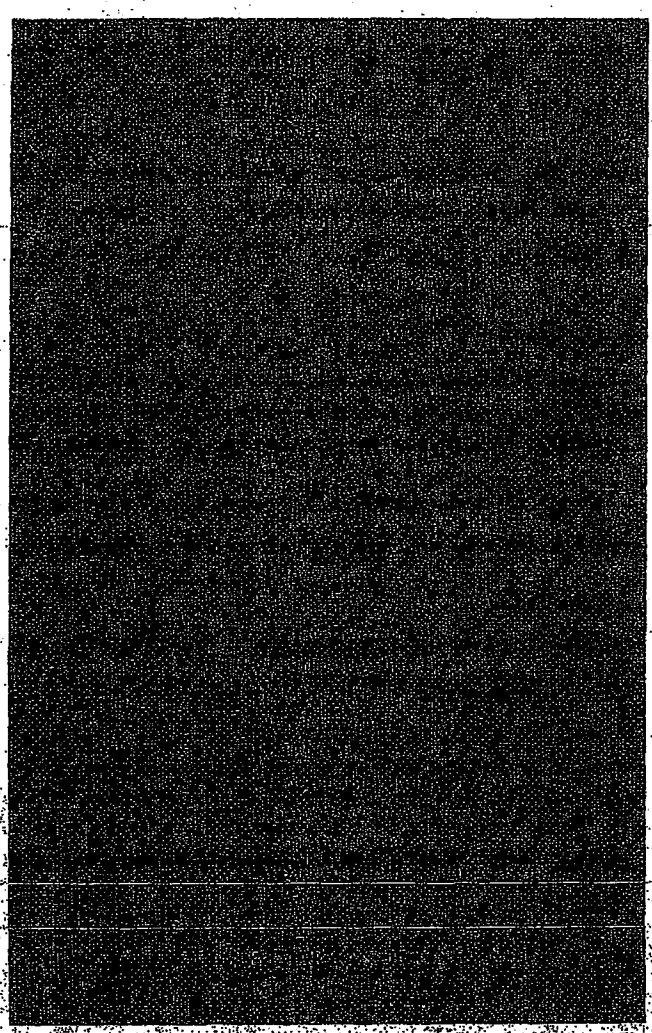

INTRODUCTION

Few issues challenge a society's ideas about both the nature of human development and the nature of justice as much as serious juvenile crime. Because we neither expect children to be criminals nor expect crimes to be committed by children, the unexpected intersection between childhood and criminality creates a dilemma that most people find difficult to resolve. Indeed, the only ways out of this problem are either to redefine the offense as something less serious than a crime or to redefine the offender as someone who is not really a child (Zimring 1998).

For most of the twentieth century, American society has most often chosen the first approach—redefining the offense—and has treated most juvenile infractions as matters to be adjudicated as delinquent acts within a separate juvenile justice system designed, at least in theory, to recognize the special needs and immature status of young people and to therefore emphasize rehabilitation over punishment. Indeed, for much of the past century, states believed that the juvenile justice system was a vehicle to protect the public by providing a system that responds to children who are maturing into adulthood. States recognized that conduct alone—that is, the alleged criminal act—should not be dispositive in deciding when to invoke the heavy hand of the adult criminal justice system. They recognized that by providing for accountability, treatment, and supervision in the juvenile justice system—and in the community whenever possible—they promoted short-term and long-term public safety.

During the last two decades of the twentieth century, there was a dramatic shift in the way juvenile crime was viewed by policy makers and the public. Rather than choosing to define offenses committed by youth as delinquent, society increasingly opted to deal with young offenders more punitively in the juvenile justice system or to redefine them as adults and try them in adult criminal court. This trend was reflected in the growing number of juvenile offenses adjudicated in adult criminal court, where adolescents are exposed to a far more adversarial proceeding than in juvenile court; in the increasingly punitive response of the criminal justice system to juvenile offenders who are found guilty; and in what some observers have referred to as the "criminalization" of the juvenile justice system itself through increased use of punishment, rather than rehabilitation, as a legitimate juvenile justice goal (Feld 1993).

This transformation of juvenile justice policy and practice raises difficult, but important, questions for psychologists interested in the development and well-being of young people.

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These questions are variations of the more general question of whether adolescents are fundamentally different from adults in ways that warrant the differential treatment of juveniles who break the law. In particular:

- Do adolescents have the psychological capabilities necessary to function as competent defendants in adult court?
- Should juveniles accused of crimes be held to the same standards of blameworthiness as adults and punished in the same ways as adult criminals who have committed similar crimes?
- How does exposing juveniles to especially punitive sanctions affect their behavior, development, and mental health?

These questions provide this review's focus. More broadly, the purpose of this review is to integrate developmental psychological considerations into moral, legal, political, and practical analyses of juvenile crime. Because addressing this issue necessitates at least a rudimentary understanding of the rationale and workings of the juvenile justice system, I begin not with a discussion of the science of adolescent development, but rather with a short history of juvenile justice in America and a brief overview of the process through which individuals are adjudicated within the system.

Following this brief introduction to American juvenile justice, I then summarize findings from recent studies of adolescent development that bear on whether adolescents differ from adults in ways that have implications for justice system policy and practice. Because not all aspects of adolescent development are pertinent to how young people are, or should be, treated in the justice system, I limit my discussion to studies that are especially relevant to these issues. Readers interested in a broader and more comprehensive treatment of adolescent development are encouraged to consult several recent reviews of this literature (Collins & Steinberg 2006, Smetana et al. 2006) as well as a recently updated handbook on adolescent psychology (Lerner & Steinberg 2009). I then look specifically at what we know about adolescents' competence to stand trial, criminal culpability, and response to various types of sanctions and interventions.

Competence to stand trial: the ability of a defendant to understand the court proceeding, reason with relevant facts, and assist counsel

Criminal culpability: the extent to which an individual is judged to be responsible for a crime

JUVENILE JUSTICE IN AMERICA: AN OVERVIEW

The Origins of the Juvenile Justice System

Economic recessions in the early nineteenth century pushed children out of work in America's new factory system during the industrial revolution. Concerns about poor children on the street led to the creation of institutional care for children. In New York City, the Society for Prevention of Pauperism in 1824 became the Society for the Reformation of Juvenile Delinquents, and in 1825 opened the nation's first House of Refuge. Boston followed a year later and Philadelphia in 1828. These Houses of Refuge were designed to maintain class status and prevent unrest (Krisberg & Austin 1993, Platt 1977).

In 1899, Jane Addams and her Hull House colleagues established what is generally accepted as the nation's first juvenile court. Juvenile court judges, in the early part of the twentieth century, were authorized to investigate the character and social background of both predelinquent and delinquent children. They examined personal motivation as well as criminal intent, seeking to identify the moral reputation of problematic children (Platt 1977). Ben Lindsey, of Denver, was the juvenile court judge whose practice most closely matched the rhetoric of the emerging juvenile court:

> We should make it our business to study and know each particular case, because it will generally demand treatment in some little respect different from any other case.... (a) Is the child simply mischievous or criminal in its tendencies? (b) Is the case simply an exceptional or isolated instance in which a really good boy or girl has gone wrong for the first time because too weak to resist a strong temptation? (c) Is the child a victim of incompetent

Transfer: one mechanism through which juveniles' cases are referred to criminal (adult) court

Disposition: in the juvenile justice system, the outcome of an adjudication; comparable to a sentence in criminal court

parents? Does the home or parent need correction or assistance? (d) What of environment and association, which, of course, may embrace substantively all of the points of study? How can the environment be improved? Certainly by keeping the child out of the saloon and away from evil examples. (e) Is the child afflicted with what we call "the moving about fever" – that is, is he given to playing "hookey" from school, or "bumming" and running away, showing an entire lack of ambition or desire to work and settle down to regular habits? [Ben B. Lindsey, "The Boy and the Court," *Charities* 13 (January 1905):352; cited in Platt (1977)]

Julian Mack, Chicago's second juvenile court judge, similarly described the ideal juvenile court proceeding:

> The problem for determination by the judge is not Has this boy or girl committed a specific wrong but What is he, how has he become what he is, and what had best be done in his interest and in the interest of the state to save him from a downward career. It is apparent at once that the ordinary legal evidence in a criminal court is not the sort of evidence to be heard in such a proceeding. (Mack 1909)

It is beyond the scope of this article to discuss the likely causes of the transformation of the juvenile justice system away from the rehabilitative ideal espoused by its founders and toward the more punitive regime that exists today (but see Scott & Steinberg 2008 for a discussion). However, it is worth noting that the early rhetoric on the rationale and purpose of the juvenile court is significant in two ways that bear on contemporary debates about justice system policy and practice. First, it is clear that the founders of the juvenile justice system began from the premise that adolescents are developmentally different from adults in ways that should affect our interpretation and assessment of their criminal acts. The questions raised by Judges Lindsey and Mack are relevant to the most vexing challenges that practitioners face today in determining (*a*) whether an adolescent's antisocial behavior is due to transient immaturity or contextual disadvantage, as opposed to deep-seated criminal character and (*b*) how best to construct a response to a juvenile's delinquent or criminal acts that will decrease the likelihood of recidivism. The difference between now and then, however, is that at the time of the court's founding, there was no science available to inform consideration of either issue. Owing to the dramatic increase in empirical research on normative and nonnormative adolescent development that began in the late 1970s, there has been a remarkable expansion of the scientific knowledge relevant to each of these matters.

Critical Decision Points Along the Juvenile Justice Pipeline

Juvenile justice is regulated mainly by state law, which makes it difficult to generalize about the system in ways that apply universally. Despite whatever differences exist across jurisdictions in policies and practices, however, the points of decision are essentially similar: referral, intake, detention, transfer, adjudication, disposition, and release (see Steinberg & Schwartz 2000).

Referral. Entrance into the pipeline begins with a referral to the juvenile justice system or a police arrest. Depending upon the state, a child may be too young or too old for the juvenile justice system. Children who are too young are most often diverted from the system or sent to the branch of juvenile court that has jurisdiction over neglected and abused children. Children who are too old are tried as adults. A juvenile may also be charged with an offense that results automatically in adult prosecution. If the juvenile is charged as an adult, most states allow for judges, after a hearing, to decide that the case should be transferred to juvenile court if the public interest requires it, or if the juvenile can prove that he or she is amenable to treatment in the juvenile justice system.

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Intake. If the child enters the juvenile justice system after being arrested, referred by a private petitioner (such as a school or next-door neighbor), or transferred from criminal court, there will be an intake decision. Should the case proceed, or should the juvenile be diverted? If the latter, should it be an informal diversion, without further involvement by the juvenile court, or should the child be sent to a program, such as a community panel or teen court (and returned to juvenile court if he or she fails to obey a community-ordered disposition)? Some cases are diverted to other systems, such as the mental health system. Some cases are dropped entirely because intake officers decide that this particular combination of youth and offense does not belong in the juvenile justice system. Many factors thus enter into the decision to divert a case: The youth's age, prior history, the seriousness of the offense, and the youth's explanation or attitude will affect the intake decision.

Detention. If the intake officer decides that the case should proceed to a hearing, the officer must decide whether the child should be sent home (with or without supervision) or should be detained, either in a maximum-security detention center or in a detention alternative. Juveniles and their parents will need to explain to an intake officer how pretrial supervision will occur, and they will have to convince the officer that the juvenile will appear for trial. If the child is detained, there will be a court appearance within 24–72 hours. Most states call this first court appearance a detention hearing. Here a judge or referee will decide whether to continue the detention status. This is usually the first time that the child meets his or her attorney. Here the child must be able to discuss with counsel the circumstances of the arrest and out-of-court issues related to the detention decision (such as school attendance or the presence of an interested adult in the juvenile's life).

Transfer. Most persons under the age of 18 who are tried as adults are done so because of statutory exclusion of their case from the juvenile justice system. State law may exclude them because of their age—in New York, for example, a 16-year-old will be tried as an adult for any offense. Every state excludes some offenses from juvenile court jurisdiction if a child is of a certain age (for example, a state can decide that 15-year-olds who are charged with armed robbery will have their cases begin in adult criminal court). Some states permit prosecutors to file the juvenile's case directly in the adult system, where the juvenile may or may not have an opportunity to have the case transferred to juvenile court. Every state also allows judges to transfer children of a certain age—usually 14, but in some instances, even younger—to criminal court if they are charged with an offense as serious as a felony. States usually must prove that the juvenile is "not amenable to treatment" in the juvenile justice system. At transfer hearings, it is important that the juvenile is able, for example, to discuss with counsel his or her recent placement history and its reason for failure. He or she should be able to understand options, such as proposed placements, counseling programs, or plea agreements.

Adjudication. If the child continues to be detained within the juvenile justice system, an adjudicatory hearing (comparable to the trial in criminal court) must be held within 10–30 days. (Although this is the general rule, in some states juveniles charged with high-profile crimes such as murder will have a longer time to wait until their trials.) Demands on juveniles at adjudicatory hearings are many. They will include the need to understand the nature of the charges against them and to consult with counsel. They will have to weigh the costs and benefits of entering an admission (guilty plea). They should be able to help counsel identify potential witnesses, know whether an alibi or other defenses are available, and consult with counsel during cross-examination of state witnesses.

Disposition. If the juvenile admits to the offense, or if the juvenile court finds by proof beyond a reasonable doubt that the child has committed the offense, the court will proceed to disposition (sentence). Juveniles are

expected to assist counsel in presenting disposition options to the juvenile court. Assistance might include suggesting dispositions or helping the attorney and experts develop client-specific dispositions. Juvenile dispositions historically have been aimed at providing treatment, rehabilitation, or supervision in a way that best serves the needs of the juvenile, although in recent years some legislatures also have included incapacitation for public safety as a valid rationale. Under any of the models, the juvenile court will have a range of discretion. In some states, the juvenile court has wide latitude, from ordering that a child return home under supervision (probation) to placing a child in maximum-security institutions, known as training schools, reform schools, or youth development centers. In other states, which use a "youth authority" model, the court will either order probation or, if placement is warranted, transfer custody of the child to the youth authority, which will then determine the appropriate level of care.

Release. Most juvenile court dispositions are for indeterminate periods of time. However, dispositions cannot be for a longer period than an adult would serve for a similar crime in the criminal justice system. The court will usually review the juvenile's case every six to nine months. Sometimes the reviews are formal hearings, whereas in other instances they are informal reviews of reports provided by probation officers or institutional staff. Many juveniles in placement, particularly those with mental health needs or who have been placed in inappropriate placements, end up being returned to juvenile court for a new disposition. Most often, those juveniles are placed in detention pending a new placement plan. When juveniles are released from institutions, they are placed on aftercare probation, which is analogous to parole. A juvenile who is on probation or on aftercare probation status can have that status revoked, or "violated," for new offenses or for violating the terms of probation, such as associating with gang members, truancy, or missing curfew. A violation of probation may lead to rearrest, detention, and another hearing, the outcome of which may be a new disposition.

The Relevance of Developmental Science to Decision Making in the Justice System

Although there are few decision points in the pipeline where the developmental status of the juvenile is taken into account explicitly, at each decision juncture, information about the juvenile's stage of development should play an important role in the outcome of the decision. A juvenile's developmental status is relevant with respect to the adjudication process because a just and fair hearing requires the competent participation of the individual in his or her defense. As noted earlier, at both the adjudication and transfer hearings, certain competencies are expected to be in place, including those that potentially affect the juvenile's ability to understand the charges, assist counsel, and enter pleas (Scott & Grisso 2005). To the extent that these competencies are based on capabilities that develop over the course of childhood and adolescence, an accurate understanding of how and along what timetable these capabilities develop is crucial to deciding whether an individual possesses the skills necessary to participate in the process.

Under the law, characteristics of the offender and the circumstances of the offense can mitigate criminal responsibility and lessen the punishment that is ordered by the court. A crime that is committed impulsively is punished less severely than one that is premeditated, as is a crime that is committed under coercive pressure from others. Familiarity with the expected developmental timetables of phenomena such as self-control, foresight, and susceptibility to peer pressure is therefore important for making determinations of culpability. In theory at least, an offender who, by virtue of developmental immaturity, is impulsive, shortsighted, and easily influenced by peers should be punished less harshly than one who is better able to control himself, anticipate the future consequences of his behavior, and resist the

antisocial urgings of his friends (Steinberg & Scott 2003).

Finally, decision makers in the system often must assess the youngster's potential for change and risk for future offending when making transfer or disposition decisions (Mulvey & Leistico 2008). Such determinations of developmental plasticity are especially important at transfer hearings, because a youngster who is or seems hardened and unlikely to profit from rehabilitation is more likely to be charged as an adult than is one who is or is seen as malleable and amenable to intervention. Similarly, a juvenile who is deemed to be at high risk of recidivism, either because of a long prior record of offending or other characteristics associated with continued and/or dangerous criminal behavior (e.g., failure to respond to prior attempts at rehabilitation, a history of uncontrollable violence, or likelihood of inadequate adult supervision in the community) will be more likely to be sent to institutional placement.

In order to make well-informed decisions about the treatment of juveniles who have entered the juvenile justice pipeline, therefore, policy makers, practitioners, and mental health professionals need to be familiar with the developmental changes that occur during childhood and adolescence in the capabilities and characteristics that are relevant to competence, culpability, and likely response to treatment. Legislators need this information in order to create age-related laws and statutes that are developmentally appropriate and scientifically reasonable; if, for example, we know that the ability to understand charges or enter pleas does not generally develop until a certain age, it makes little sense to draw age boundaries that would subject developmentally incompetent individuals to court proceedings that necessitate their participation in order to satisfy ordinary due process requirements. Judges need this information in order to make wise and fair decisions in the courtroom; if we know that the capacity to regulate one's own behavior is unlikely to be present before a certain age, it is important that this information be taken into account at the time of sentencing or disposition. Mental health professionals need this information in order to perform accurate assessments and make appropriate treatment recommendations; individuals at different stages of development may need very different sorts of interventions. And attorneys need this information in order to practice law more effectively; prosecutors may consider a juvenile's developmental status in deciding when it is appropriate to charge an individual as an adult, and defense attorneys need to know how best to interact with clients who may not fully understand their situation. Understanding the nature of psychological development during adolescence, therefore, will likely improve policymaking, judicial decision making, forensic evaluation, and legal practice.

BRAIN, COGNITIVE, AND PSYCHOSOCIAL DEVELOPMENT IN ADOLESCENCE

When lawmakers focus on juvenile justice policy, the distinction between adolescence and adulthood, rather than that between childhood and adolescence, is of primary interest. However, most studies of adolescent development have compared adolescents with children, and only in recent years has scientific interest focused intensely on the psychological transition between adolescence and adulthood, largely in response to new research showing continued brain maturation through the end of the adolescent period. This work has provided support for the uniqueness of adolescence as a stage of life that is also distinct from adulthood with respect to several aspects of brain and psychosocial development.

Adolescent Brain Development

Although most of the developmental research on cognitive and psychosocial functioning during adolescence involves psychological studies, recent work in developmental neuroscience is beginning to shed light on the neural underpinnings of psychological development across adolescence and adulthood. In the past several years, a new perspective on risk taking

Socioemotional system: the brain system governing the processing of social and emotional information and the experience of reward and punishment

Cognitive control system: the brain system governing executive function, including deliberative thinking, impulse control, foresight, and the evaluation of risk and reward

(including antisocial risk taking) during adolescence has emerged, one that is informed by advances in developmental neuroscience (Casey et al. 2008, Steinberg 2008). According to this view, risky behavior in adolescence is the product of the interaction between changes in two distinct neurobiological systems: a socioemotional system, which is localized in limbic and paralimbic areas of the brain, including the amygdala, ventral striatum, orbitofrontal cortex, medial prefrontal cortex, and superior temporal sulcus; and a cognitive control system, which is mainly composed of the lateral prefrontal and parietal cortices and those parts of the anterior cingulate cortex to which they are interconnected (Steinberg 2007).

According to this dual-systems model, adolescent risk taking is hypothesized to be stimulated by a rapid and dramatic increase in dopaminergic activity within the socioemotional system around the time of puberty, which is presumed to lead to increases in reward seeking. However, this increase in reward seeking precedes the structural maturation of the cognitive control system and its connections to areas of the socioemotional system, a maturational process that is gradual, unfolds over the course of adolescence, and permits more advanced self-regulation and impulse control. The temporal gap between the arousal of the socioemotional system, which is an early adolescent development, and the full maturation of the cognitive control system, which occurs later, creates a period of heightened vulnerability to risk taking during middle adolescence (Steinberg 2008). As one writer has characterized it, the process may be akin to "starting the engines without a skilled driver behind the wheel" (Dahl 2001).

Neurobiological evidence in support of this dual-systems model is rapidly accumulating. A growing literature, derived primarily from rodent studies but with implications for human development, indicates that the remodeling of the dopaminergic system within the socioemotional network involves an initial postnatal rise and then, starting in preadolescence, a subsequent reduction of dopamine receptor density in the striatum and prefrontal cortex; this pattern is more pronounced among males than females (Sisk & Foster 2004, Sisk & Zehr 2005, Teicher et al. 1995). As a result of this remodeling, dopaminergic activity in the prefrontal cortex increases significantly in early adolescence and is higher during this period than before or after. Because dopamine plays a critical role in the brain's reward circuitry, the increase, reduction, and redistribution of dopamine receptor concentration around puberty, especially in projections from the limbic system to the prefrontal area, is likely to increase reward-seeking behavior and, accordingly, sensation seeking.

There is equally compelling neurobiological evidence for changes in brain structure and function during adolescence and early adulthood that facilitate improvements in self-regulation that permit individuals to modulate their inclinations to seek rewards, although this development is presumed to unfold along a different timetable and to be independent of puberty (see Paus 2005 for a summary). Because of synaptic pruning and the continued myelination of prefrontal brain regions, resulting in improved connectivity among cortical areas and between cortical and subcortical areas, there are improvements over the course of adolescence in many aspects of executive function, such as response inhibition, planning, weighing risks and rewards, and the simultaneous consideration of multiple sources of information. There is also improved coordination of affect and cognition, reflected in improved emotion regulation, which is facilitated by the increased connectivity between regions associated with the socioemotional and cognitive control systems.

The development of the cognitive control system, which is manifested chiefly in improved connectivity across brain regions, must be distinguished from the well-publicized maturation of the frontal lobes because of synaptic pruning. Although both processes result in improved thinking abilities, they occur at different times in adolescence and have different implications for cognitive development. Whereas increases in connectivity take place throughout adolescence and well into adulthood, the decline in gray matter density that reflects synaptic

pruning takes place in preadolescence and early adolescence and is more or less complete by age 16. Consequently, performance on tasks that activate the frontal lobes continues to improve through middle adolescence but not beyond age 16 on tasks of moderate difficulty (Conklin et al. 2007, Crone & van der Molen 2004, Hooper et al. 2004, Luna et al. 2001). In contrast, adult-like performance on more demanding cognitive tasks, especially those that require coordination between and among multiple cortical and subcortical brain regions, is not attained until later in development.

The upshot of this developmental neuroscience is that changes in the socioemotional system at puberty may promote reckless, sensation-seeking behavior in early and middle adolescence, while the regions of the prefrontal cortex that govern cognitive control continue to mature over the course of adolescence and into young adulthood. This temporal gap between the increase in sensation seeking around puberty and the later development of mature self-regulatory competence may combine to make adolescence a time of inherently immature judgment. Thus, despite the fact that in many ways adolescents may appear to be as intelligent as adults (at least as indexed by performance on tests of information processing and logical reasoning), their ability to regulate their behavior in accord with these advanced intellectual abilities is more limited. As the next section makes clear, research on adolescent cognitive and psychosocial development is consistent with this neurobiological profile.

Adolescent Cognitive Development

The application of information about normative adolescent development to policy and practice in the justice system necessitates differentiating between cognitive and psychosocial development, which appear to follow different developmental trajectories (Steinberg 2008). Briefly, on relatively less-demanding tasks that are mainly or exclusively cognitive in nature, and where improvement in adolescence is likely due to synaptic pruning of the frontal lobes, adolescents evince adult levels of competence by age 16. In contrast, on more challenging tasks that involve the coordination of affect and cognition, and on many measures of psychosocial maturity, performance continues to improve well into young adulthood, most likely because this improvement is mediated by improved connectivity across brain regions, a relatively later development. As I discuss below, this temporal disjunction has created a great deal of confusion with regard to where we should draw the legal boundary between adolescence and adulthood, because different developmental literatures suggest different chronological ages.

The most important cognitive capacities involved in decision making are understanding (i.e., the ability to comprehend information relevant to the decision) and reasoning (i.e., the ability to use this information logically to make a choice). These capacities increase through childhood into adolescence. Between late childhood and middle adolescence (roughly between the ages of 11 and 16), individuals show marked improvements in reasoning (especially deductive reasoning) and in both the efficiency and capacity of information processing (Hale 1990, Kail 1997, Keating 2004, Overton 1990). Research has demonstrated conclusively that, as a result of gains in these areas, individuals become more capable of abstract, multidimensional, deliberative, and hypothetical thinking as they develop from late childhood into middle adolescence (Kuhn 2009). These abilities reach an asymptote sometime around 16, and by this age, teens' capacities for understanding and reasoning in making decisions, at least in controlled experiments, roughly approximate those of adults. This comparability between middle adolescents and adults is not limited to basic cognitive abilities such as memory or verbal fluency or to performance on tasks of logical reasoning. Studies of capacity to grant informed consent to receive medical treatment or participate as a research subject, for example, show little improvement beyond age 16 (Belter & Grisso 1984, Grisso & Vierling 1978, Gustafson & McNamara 1987, Weithorn & Campbell 1982).

The notion that adolescents and adults demonstrate comparable capacities for understanding and reasoning should not be taken to mean that they also demonstrate comparable levels of maturity of judgment, however. As my colleagues and I have argued elsewhere, maturity of judgment is affected both by cognitive capabilities as well as psychosocial ones, and although the former show adult levels of maturity by 16, the latter do not (Steinberg et al. 2008b). As a result, adolescents may be less able to deploy their cognitive capacities as effectively as adults in exercising judgment in their everyday lives when decisions are influenced by emotional and social variables. The development of these psychosocial factors is described in the next section.

Adolescent Psychosocial Development

New perspectives on adolescent "cognition-in-context" emphasize that adolescent thinking in everyday settings is a function of social and emotional, as well as cognitive, processes, and that a full account of youthful judgment must examine the interaction of all of these influences (Scott et al. 1995, Steinberg & Cauffman 1996). Even when adolescent cognitive capacities approximate those of adults, youthful decision making may still differ from that of adults due to psychosocial immaturity. Indeed, research indicates that psychosocial maturation proceeds more slowly than cognitive development, and that age differences in judgment may reflect social and emotional differences between adolescents and adults that continue well beyond mid-adolescence. Of particular relevance to the present discussion are age differences in susceptibility to peer influence, future orientation, reward sensitivity, and the capacity for self-regulation. Available research indicates that adolescents and adults differ significantly with respect to each of these attributes.

Peer influence. Substantial research evidence supports the conventional wisdom that teens are more oriented toward peers and responsive to peer influence than are adults (Steinberg & Monahan 2007). Resistance to peer influence increases between adolescence and adulthood as individuals begin to form an independent sense of self and develop greater capacity for autonomous decision making. Studies of age differences and age changes in resistance to peer influence suggest somewhat different patterns vis-à-vis antisocial versus neutral or prosocial peer pressure prior to middle adolescence (with resistance to antisocial influence decreasing during this time, especially among boys, but resistance to other forms of peer influence increasing), but similar patterns after age 14 (with resistance to all forms of peer influence increasing). Because the main justice policy and practice questions concern differences between adolescents and adults, especially during the latter part of the adolescent period, it is this increase in resistance to peer influence from age 14 on that is of particular interest.

Recent studies of the neural underpinnings of resistance to peer influence in adolescence indicate that improvements in this capacity may be linked to the development of greater connectivity between cortical and subcortical regions, which likely facilitates the better coordination of affect and cognition (Grosbras et al. 2007, Paus et al. 2008), although it should be noted that this conclusion is based on studies of individual differences in brain morphology and function among same-aged adolescents who differ in their self-reported resistance to peer pressure and not to cross-sectional or longitudinal studies that link age differences in resistance to peer influence to age differences in brain structure or function. Nevertheless, it is reasonable to speculate that the social and arousal processes that may undermine logical decision making during adolescence, when connectivity is still maturing, do not have the same impact during adulthood. One recent behavioral study found, for instance, that adolescents, college undergraduates, and adults performed similarly on a risk-taking task when performing the task alone, but that the presence of same-aged friends doubled risk taking among adolescents and increased it 50% among the undergraduates, but had no

impact on the adults (Gardner & Steinberg 2005).

Peer influence affects adolescent judgment both directly and indirectly. In some contexts, adolescents might make choices in response to direct peer pressure, as when they are coerced to take risks that they might otherwise avoid. More indirectly, adolescents' desire for peer approval and consequent fear of rejection affects their choices even without direct coercion. The increased salience of peers in adolescence likely makes approval seeking especially important in group situations. Thus, it is not surprising, perhaps, that adolescents are far more likely than are adults to commit crimes in groups (Zimring 1998). Peers also may provide models for behavior that adolescents believe will assist them to accomplish their own ends. For example, there is some evidence that during early and middle adolescence, teens who engage in certain types of antisocial behavior, such as fighting or drinking, may enjoy higher status among their peers as a consequence. Accordingly, some adolescents may engage in antisocial conduct to impress their friends or to conform to peer expectations; indeed, in one of the most influential accounts of so-called adolescence-limited offenders (that is, individuals who commit crimes during adolescence but not before or after), imitation of higher-status peers is hypothesized to be a prime motivation for antisocial behavior (Moffitt 1993).

Future orientation. Future orientation, the capacity and inclination to project events into the future, may also influence judgment because it affects the extent to which individuals consider the long-term consequences of their actions in making choices. Over the course of adolescence and into young adulthood, individuals become more future oriented, with increases in their consideration of future consequences, in their concern about the future, and in their ability to plan ahead (Greene 1986, Nurmi 1991, Steinberg et al. 2008c).

There are several plausible explanations for this age gap in future orientation. In part, adolescents' weaker future orientation may reflect their more limited life experience (Gardner 1993). To a young person, a short-term consequence may have far greater salience than one five years in the future. The latter may seem very remote simply because five years represents a substantial portion of her life. There is also evidence linking the differences between adolescents and adults in future orientation to age differences in brain structure and function, especially in the prefrontal cortex (Cauffman et al. 2005).

Adolescence-limited offenders: antisocial individuals whose offending begins and ends during adolescence

Reward sensitivity. Research evidence also suggests that, relative to adults, adolescents are more sensitive to rewards and, especially, to immediate rewards, a difference that may explain age differences in sensation seeking and risk taking (Galvan et al. 2007, Steinberg et al. 2008a). Although it had once been believed that adolescents and adults differ in risk perception, it now appears that age differences in risk taking are more likely mediated by age differences in reward sensitivity than by age differences in sensitivity to the potential adverse consequences of a risky decision (Cauffman et al. 2008, Millstein & Halpern-Felsher 2002). Thus, adolescents and adults may perceive risks similarly (both in the lab and in the real world) but evaluate rewards differently, especially when the benefits of the risky decision are weighed against the costs. So, for example, in deciding whether to speed while driving a car, adolescents and adults may estimate the risks of this behavior (e.g., being ticketed, getting into an accident) similarly, but adolescents may weigh the potential rewards (e.g., the thrill of driving fast, peer approval, getting to one's destination sooner) more heavily than adults, leading to lower risk ratios for teens—and a higher likelihood of engaging in the (rewarding) activity. Thus, what distinguishes adolescents from adults in this regard is not the fact that teens are less knowledgeable about risks, but rather that they attach greater value to the rewards that risk taking provides (Steinberg 2004).

The heightened salience of rewards to adolescents, relative to adults, is seen in age

differences in performance on the Iowa Gambling Task, in which subjects are given four decks of cards, face down, and are instructed to turn over cards, one at a time, from any deck. Each card has information about how much money the subject has won or lost by selecting that card. Two of the decks are "good," in that drawing from them will lead to gains over time, and two of the decks are "bad"; drawing from them will produce net losses. Because a few cards in the "bad" decks offer very high rewards, though, a person who is especially sensitive to rewards will be drawn to the "bad" decks, even if he or she keeps losing money as a result. At the beginning of the task, people tend to draw randomly from all four decks, but as the task progresses, normal adults pick more frequently from the good decks. Children and younger adolescents (as well as adults with damage to the ventromedial prefrontal cortex) do poorly on this task (Crone et al. 2005, Crone & van der Molen 2004, Hooper et al. 2004). Performance improves with age, with the most dramatic improvement taking place during middle adolescence. This likely reflects a decrease in susceptibility to choosing based on the prospect of an immediate, attractive reward. Further evidence that adolescents tend to value immediate rewards more than adults do is seen in age differences in performance on tests of delay discounting, in which individuals are asked to chose between a smaller immediate reward (e.g., receiving $600 tomorrow) and a larger delayed one (e.g., receiving $1000 in one year) (Steinberg et al. 2008c). Heightened reward sensitivity, indexed by self-report or task performance, is especially pronounced during early and middle adolescence, when reward circuitry in the brain is undergoing extensive remodeling. There is some evidence from both human and animal studies that this may be linked to pubertal maturation (Dahl 2004).

Self-regulation. In addition to age differences in susceptibility to peer influence, future orientation, and reward sensitivity, adolescents and adults also differ with respect to their ability to control impulsive behavior and choices. Thus, the widely held stereotype that adolescents are more reckless than adults is supported by research on developmental changes in impulsivity and self-management over the course of adolescence (Galvan et al. 2007, Leshem & Glicksohn 2007). In general, studies show gradual but steady increases in the capacity for self-direction through adolescence, with gains continuing through the high school years and into young adulthood. Similarly, impulsivity, as a general trait, declines linearly between adolescence and adulthood (Steinberg et al. 2008a).

An illustration of behavioral research that sheds light on age differences in impulse control is the study of performance on a task known as the Tower of London. In this test, the subject is presented with an arrangement of colored balls, stacked in a certain order, and several empty vertical rods onto which the balls can be moved. The subject is then presented with a picture of a different configuration of balls and asked to turn the original configuration into the new one by moving one ball at a time, using the fewest number of moves (Berg & Byrd 2002). This task requires thinking ahead, because extra moves must be used to undo a mistake. In several studies, our research group found that early and middle adolescents performed similarly to adults when the problem presented was an easy one (i.e., one that could be solved in two or three moves), but that they did not plan ahead as much as late adolescents and young adults on the harder problems; unlike the older subjects, the younger individuals spent no more time before making their first move on the complex problems than they did on the simple ones (Steinberg et al. 2008a). These findings are consistent with casual observations of teenagers in the real world, which also suggest that they are less likely than are adults to think ahead before acting.

Taken together, these findings from self-report and behavioral studies of psychosocial development indicate that individuals become more resistant to peer influence and oriented to the future, and less drawn to immediate rewards and impulsive, as they mature from adolescence to adulthood. Although the science of

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adolescent brain development is still in its infancy, finding indicate that much of this maturation continues well beyond the age by which individuals evince adult levels of performance on tests of cognitive capacity. As I discuss in the next section, the continued maturation of cognitive competence through age 16 and the continued maturation of psychosocial competence into young adulthood have important implications for how we view and respond to the criminal behavior of juveniles.

JUVENILE JUSTICE ISSUES INFORMED BY DEVELOPMENTAL SCIENCE

Criminal Culpability of Youth

The adult justice system presumes that defendants who are found guilty are responsible for their own actions, should be held accountable, and should be punished accordingly. Because of the relative immaturity of minors, however, it may not be justified to hold them as accountable as one might hold adults. If, for example, adolescents below a certain age cannot grasp the long-term consequences of their actions or cannot control their impulses, one cannot hold them fully accountable for their actions. In other words, we cannot claim that adolescents "ought to know better" if, in fact, the evidence indicates that they do not know better, or more accurately, cannot know better, because they lack the abilities needed to exercise mature judgment. It is important to note that culpability cannot really be researched directly. Because an individual's culpability is something that is judged by someone else, it is largely in the eye of the beholder. What can be studied, however, are the capabilities and characteristics of individuals that make them potentially blameworthy, such as their ability to behave intentionally or to know right from wrong.

I use the term "culpability" in this review as a shorthand for several interrelated phenomena, including responsibility, accountability, blameworthiness, and punishability. These notions are relevant to the adjudication of an individual's guilt or innocence, because an individual who is not responsible for his or her actions by definition cannot be guilty, and to the determination of a disposition (in juvenile court) or sentence (in criminal court), in that individuals who are found guilty but less than completely blameworthy, owing to any number of mitigating circumstances, merit proportionately less punishment than do guilty individuals who are fully blameworthy.

Penal proportionality: the principle in American criminal law linking the severity of punishment for a crime to the criminal's culpability

Mitigation: in criminal law, the lessening of criminal responsibility

The starting point in a discussion of criminal culpability is a principle known as penal proportionality. Simply put, penal proportionality holds that criminal punishment should be determined by two criteria: the harm a person causes and his blameworthiness in causing that harm. The law recognizes that different wrongful acts cause different levels of harm through a complex system of offense grading under which more serious crimes (rape, for example) are punished presumptively more severely than less serious crimes (shoplifting, for example). Beyond this, though, two people who engage in the same wrongful conduct may differ in their blameworthiness. A person may be less culpable than other criminals—or not culpable at all—because he inadvertently (rather than purposely) causes the harm, because he is subject to some endogenous deficiency or incapacity that impairs his decision making (such as mental illness), or because he acts in response to an extraordinary external pressure—a gun to the head is the classic example. Less-blameworthy offenders deserve less punishment, and some persons who cause criminal harm deserve no punishment at all (Scott & Steinberg 2008).

The concept of mitigation plays an important role in the law's calculation of blame and punishment, although it gets little attention in the debate about youth crime. Mitigation applies to persons engaging in harmful conduct who are blameworthy enough to meet the minimum threshold of criminal responsibility but who deserve less punishment than a typical offender would receive. Through mitigation, the criminal law calculates culpability and punishment along a continuum and is not limited to the options of full responsibility or complete

excuse. Indeed, criminal law incorporates calibrated measures of culpability. For example, the law of homicide operates through a grading scheme under which punishment for killing another person varies dramatically depending on the actor's blameworthiness. Thus, the actor who kills intentionally is deemed less culpable if he does so without premeditation because his choice reveals less consideration of the harmful consequences of his act, and the actor who negligently causes another's death is guilty of a less serious crime than one who intends to kill. A person who kills in response to provocation or under extreme emotional disturbance may be guilty only of manslaughter and not of murder. Under standard homicide doctrine, mitigating circumstances and mental states are translated into lower-grade offenses that warrant less punishment.

What makes the conduct of one person less blameworthy than that of another person who causes the same harm? Generally, a person who causes criminal harm is a fully responsible moral agent (and deserves full punishment) if, in choosing to engage in the wrongful conduct, he has the capacity to make a rational decision and a "fair opportunity" to choose not to engage in the harmful conduct. Under this view, the actor whose thinking is substantially impaired or whose freedom is significantly constrained is less culpable than is the typical offender and deserves less punishment—how much less depends on the extent of the impairment or coercion. Under American criminal law, two very different kinds of persons can show that their criminal conduct was less culpable than that of the offender who deserves full punishment—those who are very different from ordinary persons due to impairments that contributed to their criminal choices and those who are ordinary persons whose offenses are responses to extraordinary circumstances or are otherwise aberrant conduct (Scott & Steinberg 2008).

Although it seems paradoxical, adolescents, in a real sense, belong to both groups. In the first group are individuals with endogenous traits or conditions that undermine their decision-making capacity, impairing their ability to understand the nature and consequences of their wrongful acts or to control their conduct. In modern times, this category has been reserved mostly for offenders who suffer from mental illness, mental disability, and other neurological impairments. The criminal law defenses of insanity, diminished capacity, extreme emotional disturbance, and involuntary act recognize that psychological and biological incapacities can undermine decision making in ways that reduce or negate the culpability of criminal choices.

Individuals in the second group are ordinary persons whose criminal conduct is less culpable because it is a response to extraordinary external circumstances: These cases arise when the actor faces a difficult choice, and his response of engaging in the criminal conduct is reasonable under the circumstances, as measured by the likely response of an ordinary law-abiding person in that situation. Thus, under standard self-defense doctrine, a person who kills a threatening assailant is excused from liability if a reasonable person in his place would have felt that his life was in danger. Similarly, the defenses of duress, necessity, and provocation are available to actors who can explain their criminal conduct in terms of unusual external pressures that constrained their ability to choose.

In the preceding section, I described aspects of psychological development in adolescence that are relevant to youthful choices to get involved in criminal activity and that may distinguish young offenders from their adult counterparts. Although youths in mid-adolescence have cognitive capacities for reasoning and understanding that approximate those of adults, even at age 18 adolescents are immature in their psychosocial and emotional development, and this likely affects their decisions about involvement in crime in ways that distinguish them from adults. Teenagers are more susceptible to peer influence than are adults and tend to focus more on rewards and less on risks in making choices. They also tend to focus on short-term rather than long-term consequences and are less capable of anticipating future consequences, and they are more impulsive and volatile in their emotional responses. When we consider these

developmental factors within the conventional criminal law framework for assessing blameworthiness, the unsurprising conclusion is that adolescent offenders are less culpable than are adults. The mitigating conditions generally recognized in the criminal law—diminished capacity and coercive circumstances—are relevant to criminal acts of adolescents and often characterize the actions of juvenile offenders. This does not excuse adolescents from criminal responsibility, but it renders them less blameworthy and less deserving of adult punishment.

Although in general lawmakers have paid minimal attention to the mitigating character of adolescents' diminished decision-making capacities, some legislatures and courts have recognized that immature judgment reduces culpability. Most notably, in its consideration of the constitutionality of the juvenile death penalty, the Supreme Court has focused on this rationale for mitigation. In *Roper v. Simmons*, the 2005 case that abolished the juvenile death penalty, the Court adopted the developmental argument for mitigation that follows from the research reviewed above. Justice Kennedy, writing for the majority, described three features of adolescence that distinguish young offenders from their adult counterparts in ways that mitigate culpability—features that are familiar to the reader at this point. The first is the diminished decision-making capacity of youths, which may contribute to a criminal choice that is "not as morally reprehensible as that of adults" because of its developmental nature. The Court pointed to the tendency of adolescents to engage in risky behavior and noted that immaturity and an "underdeveloped sense of responsibility" often result in "impetuous and ill-considered decisions" by youths. Second, the Court pointed to the increased vulnerability of youths to external coercion, including peer pressure. Finally, the Court emphasized that the unformed nature of adolescent identity made it "less supportable to conclude that even a heinous crime was evidence of irretrievably depraved character." Adolescents are less blameworthy than are adults, the Court suggested, because the traits that contribute to criminal conduct are transient, and because most adolescents will outgrow their tendency to get involved in crime as they mature. Although the Court did not elaborate, we have seen that each of these attributes of adolescence corresponds to a conventional source of mitigation in criminal law (*Roper v. Simmons* 2005).

Roper v. Simmons: the U.S. Supreme Court case that abolished the juvenile death penalty

Does this argument apply to the conduct of immature adults? Although most impulsive young risk takers mature into adults with different values, some adult criminals are impulsive, sensation-seeking risk takers who discount future consequences and focus on the here and now. Are these adolescent-like adults also less culpable than other adult offenders and deserving of reduced punishment? I think not. Unlike the typical adolescent, the predispositions, values, and preferences that motivate the adult offenders are not developmental but characterological, and they are unlikely to change merely with the passage of time. Adolescent traits that contribute to criminal conduct are normative of adolescence, but they are not typical in adulthood. In an adult, these traits are often part of the personal identity of an individual who does not respect the values of the criminal law and who deserves punishment when he or she violates its prohibitions (Scott & Steinberg 2008).

Competence of Adolescents to Stand Trial

Before discussing adolescents' competence to stand trial, it is worth underscoring the distinction between competence and culpability—two very different constructs that are often confused, even by those with expertise in criminal law. Competence to stand trial refers to the ability of an individual to function effectively as a defendant in a criminal or delinquency proceeding. In contrast, determinations of culpability focus on the defendant's blameworthiness in engaging in the criminal conduct and on whether and to what extent he will be held responsible. Although many of the same incapacities that excuse or mitigate criminal responsibility may also render a defendant incompetent, the two issues are analytically distinct and

Dusky v. United States: the U.S. Supreme Court case that established criteria for competence to stand trial

In re Gault: the U.S. Supreme Court case that determined that juveniles adjudicated in juvenile court were entitled to many of the same procedural protections as adults adjudicated in criminal court

Developmental incompetence: a lack of competence to stand trial due to normal cognitive or psychosocial immaturity, as opposed to mental illness or disability

separate legal inquiries, and they focus on the defendant's mental state at two different points in time (the time of the crime and the time of the court proceeding).

The reason that competence is required of defendants in criminal proceedings is simple: When the state asserts its power against an individual with the goal of taking away his liberty, the accused must be capable of participating in a meaningful way in the proceeding against him. If a defendant is so mentally ill or disabled that he cannot participate adequately, then the trial lacks fundamental fairness that is required as a part of due process under the Fourteenth Amendment to the U.S. Constitution (Scott & Grisso 2005).

In 1960, the Supreme Court announced a legal standard for trial competence in *Dusky v. United States* that has since been adopted uniformly by American courts. According to *Dusky*, when the issue of a defendant's competence is raised in a criminal trial, the court's determination should focus on "whether the defendant has sufficient present ability to consult with his lawyer with a reasonable degree of rational understanding—and whether he has a rational, as well as factual, understanding of the proceedings against him." Thus, there are two parts to the competence requirement: The defendant must be able to consult with her attorney about planning and making decisions in her defense, and she must understand the charges, the meaning, and purpose of the proceedings and the consequences of conviction (Scott & Grisso 2005).

The requirement that criminal defendants be competent to stand trial had no place in delinquency proceedings in the traditional juvenile court. In a system in which the government's announced purpose was to rehabilitate and not to punish errant youths, the procedural protections accorded adult defendants—including the requirement of adjudicative competence—were thought to be unnecessary. This all changed with *In re Gault*, which led to an extensive restructuring of delinquency proceedings to conform to the requirements of constitutional due process. Today, it is generally accepted that requirements of due process and fundamental fairness are satisfied only if youths facing charges in juvenile court are competent to stand trial.

Until the 1990s, the issue of juveniles' trial competence involved a straightforward incorporation into delinquency proceedings of a procedural protection that was relevant to a relatively small number of mentally impaired adult defendants, where it was assumed to apply similarly to a small number of mentally incapacitated youths. The regulatory reforms that began in the late 1980s changed the situation by increasing the punishment stakes facing many young offenders and by eroding the boundary between the adult and juvenile systems. The importance of this issue was not recognized immediately, however. As legislatures across the country began to enact laws that dramatically altered the landscape of juvenile crime policy, the procedural issue of whether developmentally immature youngsters charged with crimes might be less able to participate in criminal proceedings than are adult defendants—what is referred to in this article as developmental incompetence—was not central to the policy debates.

Given that developmental incompetence largely escaped the attention of courts and policy makers until recently, it is worth asking directly whether the constitutional prohibition against criminal adjudication of incompetent defendants must be applied to this form of incapacity. The answer is surely "yes." The competence requirement is functional at its core, speaking to questions about the impact of cognitive deficiencies on trial participation. Functionally it makes no difference if the defendant cannot understand the proceeding she faces or assist her attorney, whether due to mental illness or to immaturity (Scott & Grisso 2005). In either case, the fairness of the proceeding is undermined. In short, the same concerns that support the prohibition against trying criminal defendants who are incompetent due to mental impairment apply with equal force when immature youths are subject to criminal proceedings. In the context of the recent changes in juvenile

justice policy, it has become important to have a better understanding of how the capacities of children and adolescents to participate in criminal proceedings compare with those of adults. In pursuit of this end, I first examine the specific abilities that are required for adjudicative competence under the legal standard. I then turn to the research directly comparing the abilities of juveniles and adults.

Three broad types of abilities are implicated under the *Dusky* standard for competence to stand trial: (*a*) a factual understanding of the proceedings, (*b*) a rational understanding of the proceedings, and (*c*) the ability to assist counsel (Scott & Grisso 2005). Courts applying the standard are directed to weigh each factor, but otherwise they exercise substantial discretion in deciding how much competence is enough. Examining each component of competence under the *Dusky* standard and considering how the capacities of juvenile defendants are likely to compare with those of adults is instructive.

Factual understanding focuses on the defendant's knowledge and awareness of the charges and his understanding of available pleas, possible penalties, the general steps in the adjudication process, the roles of various participants in the pretrial and trial process, and his rights as a defendant. Intellectual immaturity in juveniles may undermine factual understanding, especially given that youths generally have less experience and more limited ability to grasp concepts such as rights. Juveniles also may be more likely than are adults to have extensive deficits in their basic knowledge of the trial process, such that more than brief instruction is needed to attain competence.

The rational understanding requirement of *Dusky* has been interpreted to mean that defendants must comprehend the implications, relevance, or significance of what they understand factually regarding the trial process. Deficits in rational understanding typically involve distorted or erroneous beliefs that nullify factual understanding. For example, an immature defendant may know that he has a right to remain silent, yet believe that the judge can take this "right" away at any time by demanding a response to questions. (When asked what he thought the "right to remain silent" meant, my 12-year-old son said, "It means that you don't have to say anything until the police ask you a question.") Intellectual, emotional, and psychosocial immaturity may undermine the ability of some adolescents to grasp accurately the meaning and significance of matters that they seem to understand factually.

Finally, the requirement that the defendant in a criminal proceeding must have the capacity to assist counsel encompasses three types of abilities. The first is the ability to receive and communicate information adequately to allow counsel to prepare a defense. This ability may be compromised by impairments in attention, memory, and concentration, deficits that might undermine the defendant's ability to respond to instructions or to provide important information to his attorney, such as a coherent account of the events surrounding the offense. As I noted above, these capacities continue to improve through age 16, according to studies of cognitive development. Second, the ability to assist counsel requires a rational perspective regarding the attorney and her role, free of notions or attitudes that could impair the collaborative relationship. For example, some young defendants develop a belief that all adults involved in the proceeding are allied against him, perhaps after seeing defense attorneys and prosecutors chatting together outside the courtroom. Third, defendants must have the capacity to make decisions about pleading and the waiver or assertion of other constitutional rights. These decisions involve not only adequate factual and rational understanding, but also the ability to consider alternatives and make a choice in a decision-making process. Immature youths may lack capacities to process information and exercise reason adequately in making trial decisions, especially when the options are complex and their consequences far reaching.

As juveniles' competence to stand trial began to emerge as an important issue in the mid-1990s, the need for a comprehensive study comparing the abilities of adolescents

and adults in this realm became apparent. Before this time, a few small studies had looked at particular capacities in juveniles that were important at different stages in the justice process. However, no comprehensive research had compared the specific capacities of juveniles and adults that are directly implicated in assessments of adjudicative competence. In response to that need, the MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice sponsored a large-scale study of individuals between the ages of 11 and 24—half of whom were in the custody of the justice system and half of whom had never been detained—designed to examine empirically the relationship between developmental immaturity and the abilities of young defendants to participate in their trials (Grisso et al. 2003). The study also probed age differences in psychosocial influences on decision making in the criminal process.

Based on participants' responses to a structured interview that had been used in previous studies of competence to stand trial among mentally ill adults, and for which norms had been established to define clinically significant "impairment," the researchers found that competence-related abilities improve significantly between the ages of 11 and 16. On average, youths aged 11 to 13 demonstrated significantly poorer understanding of trial matters, as well as poorer reasoning and recognition of the relevance of information for a legal defense, than did 14- and 15-year-olds, who in turn performed significantly more poorly than individuals aged 16 and older. There were no differences between the 16- and 17-year-olds and the young adults. The study produced similar results when adolescents and adults were categorized according to their scores above and below the cut-off scores indicating impairment. Nearly one-third of 11- to 13-year-olds and about one-fifth of 14- and 15-year-olds, but only 12% of individuals 16 and older, evidenced impairment at a level comparable to mentally ill adults who had been found incompetent to stand trial with respect to either their ability to reason with facts or understand the trial process. Individual performance did not differ significantly by gender, ethnicity, or, in the detained groups, as a function of the extent of individuals' prior justice system experience. This last finding is important because it indicates that there are components of immaturity independent of a lack of relevant experience that may contribute to elevated rates of incompetence among juveniles.

A different structured interview was used to probe how psychosocial influences affect decision making by assessing participants' choices in three hypothetical legal situations involving a police interrogation, consultation with a defense attorney, and the evaluation of a proffered plea agreement. Significant age differences were found in responses to police interrogation and to the plea agreement. First, youths, including 16- to 17-year-olds, were much more likely to recommend waiving constitutional rights during an interrogation than were adults, with 55% of 11- to 13-year-olds, 40% of 14- to 15-year-olds, and 30% of 16- to 17-year-olds choosing to "talk and admit" involvement in an alleged offense (rather than "remaining silent"), but only 15% of the young adults making this choice. There were also significant age differences in response to the plea agreement. This vignette was styled so as not to clearly favor accepting or rejecting the state's offer, which probably accounted for the fact that young adults were evenly divided in their responses. In contrast, 75% of the 11- to 13-year-olds, 65% of the 14- to 15-year-olds, and 60% of the 16- to 17-year-olds recommended accepting the plea offer. Together, these results suggest a much stronger tendency for adolescents than for young adults to make choices in compliance with the perceived desires of authority figures (Grisso et al. 2003).

Analysis of participants' responses to the vignettes also indicated differences between the youngest age group and older subjects in risk perception and future orientation. Participants were asked to explain their choices, including their perceptions about positive and negative consequences of various options; questions probed the subjects' assessment of the

seriousness of risks (the perceived negative consequences) and the likelihood of risks materializing. Analyses indicated age differences for all of these dimensions of "risk perception," with the 11- to 13-year-olds less able to see risks than 16- to 17-year-olds and young adults. Similarly, in comparison with older adolescents, fewer 11- to 13-year-olds mentioned the long-range consequences of their decisions, which suggests that future orientation differences exist that are consistent with those described above.

The study's findings are consistent with those of earlier studies that examined various dimensions of youths' functioning in the justice system. For example, an important study of youths' and adults' capacities to understand Miranda rights in the early 1980s found that, compared with adults in the criminal justice system, 14-year-olds in juvenile detention were less able to understand the meaning and importance of *Miranda* warnings (Grisso 1981). Other studies using smaller samples also have found age differences across the adolescent years with regard to knowledge of legal terms and the legal process in delinquency and criminal proceedings (e.g., Cooper 1997). Finally, a series of studies found significant age differences across the adolescent years in "strategic thinking" about pleas; older adolescents were more likely than younger subjects to make choices that reflected calculations of probabilities and costs based on information provided (e.g., Peterson-Badali & Abramovitch 1993).

In light of what is known about psychological maturation in early and mid-adolescence, these findings are not surprising. Indeed, given the abilities required of defendants in criminal proceedings, it would be puzzling if youths and adults performed similarly on competence-related measures. This research provides powerful and tangible evidence that some youths facing criminal charges may function less capably as criminal defendants than do their adult counterparts. This does not mean, of course, that all youths should be automatically deemed incompetent to stand trial any more than would a psychiatric diagnosis or low IQ score. It does mean, however, that the risk of incompetence is substantially elevated in early and mid-adolescence; it also means that policy makers and practitioners must address developmental incompetence as it affects the treatment of juveniles in court (Scott & Grisso 2005).

It is important to emphasize that the pattern of age differences in studies of legal decision making more closely resembles that seen in studies of cognitive development (where few age differences are apparent after 16) than in studies of psychosocial development (where age differences are observed in late adolescence and sometimes in young adulthood). This suggests that determinations of where to draw a legal boundary between adolescence and adulthood must be domain specific. In matters in which cognitive abilities predominate, and where psychosocial factors are of minimal importance (that is, in situations where the influence of adolescents' impulsivity, susceptibility to peer pressure, reward sensitivity, and relatively weaker future orientation is mitigated), adolescents older than 15 should probably be treated like adults. In situations in which psychosocial factors are substantially more important, drawing the boundary at an older age is more appropriate. This is why my colleagues and I have argued that it is perfectly reasonable to have a lower boundary for adolescents' autonomous access to abortion (a situation in which mandatory waiting periods limit the impact of impulsivity and shortsightedness and where consultation with adults likely counters immaturity of judgment) than for judgments of criminal responsibility (because adolescents' crimes are often impulsive and influenced by peers) (Steinberg et al. 2008b).

Impact of Punitive Sanctions on Adolescent Development and Behavior

As noted above, the increasingly punitive orientation of the justice system toward juvenile offenders has resulted in an increase in the number of juveniles tried and sanctioned as adults and in the use of harsher sanctions in responding to the delinquent behavior of juveniles who have been retained in the juvenile justice

Life-course-persistent offenders: antisocial individuals whose offending begins before adolescence and persists into adulthood

Age-crime curve: in criminology, the relation between age and crime, showing that the prevalence of criminal activity increases between preadolescence and late adolescence, peaks around age 17, and declines thereafter

system. Research on the impact of adult prosecution and punishment and on the use of punitive sanctions more generally suggests, however, that these policies and practices may actually increase recidivism and jeopardize the development and mental health of juveniles (Fagan 2008). Consequently, there is a growing consensus among social scientists that policies and practices, such as setting the minimum age of criminal court jurisdiction below 18 (as about one-third of all states currently do), transferring juveniles to the adult system for a wide range of crimes, including nonviolent crimes, relying on incarceration as a primary means of crime control, and exposing juvenile offenders to punitive programs such as boot camps, likely do more harm than good, cost taxpayers much more than they need spend on crime prevention, and ultimately pose a threat to public safety (Greenwood 2006).

In order to understand why this is the case, it is important to begin with a distinction between adolescence-limited and life-course-persistent offenders (Moffitt 1993). Dozens of longitudinal studies have shown that the vast majority of adolescents who commit antisocial acts desist from such activity as they mature into adulthood and that only a small percentage—between five and ten percent, according to most studies—become chronic offenders. Thus, nearly all juvenile offenders are adolescent limited. This observation is borne out in inspection of what criminologists refer to as the age-crime curve, which shows that the incidence of criminal activity increases between preadolescence and late adolescence, peaks at about age 17 (slightly younger for nonviolent crimes and slightly older for violent ones), and declines thereafter. These findings, at both the individual and aggregate level, have emerged from many studies that have been conducted in different historical epochs and around the world (Piquero et al. 2003).

In view of the fact that most juvenile offenders mature out of crime (and that most will desist whether or not they are caught, arrested, prosecuted, or sanctioned), one must therefore ask how to best hold delinquent youth responsible for their actions and deter future crime (both their own and that of others) without adversely affecting their mental health, psychological development, and successful transition into adult roles. If the sanctions to which juvenile offenders are exposed create psychological disturbance, stunt the development of cognitive growth and psychosocial maturity, and interfere with the completion of schooling and entrance into the labor force, these policies are likely to exacerbate rather than ameliorate many of the very factors that lead juveniles to commit crimes in the first place (mental illness, difficulties in school or work, and, as reviewed above, psychological immaturity).

It is clear that sanctioning adolescents as adults is counterproductive. One group of researchers examining this question compared a group of 2700 Florida youths transferred to criminal court, mostly based on prosecutors' discretionary authority under Florida's direct-file statute, with a matched group of youths retained in the juvenile system (Bishop & Frazier 2000). In another study, the researchers compared 15- and 16-year-olds charged with robbery and burglary in several counties in metropolitan New York and in demographically similar counties in New Jersey. The legal settings differed in that New York juveniles age 15 and older who are charged with robbery and burglary are automatically dealt with in the adult system under that state's legislative waiver statute, whereas in New Jersey, transfer is rarely used, and the juvenile court retains jurisdiction over almost all youths charged with these crimes (Fagan 1996).

The New York-New Jersey study found that youths convicted of robbery in criminal court were rearrested and incarcerated at a higher rate than those who were dealt with in the juvenile system, but that rates were comparable for burglary, a less serious crime. The study also examined the number of days until rearrest and found a similar pattern; the youths sentenced for robbery in criminal court reoffended sooner than did their juvenile court counterparts. Recidivism was not affected by sentence length; longer sentences were not more

effective at reducing recidivism than were shorter sentences. Results of the Florida study also support the conclusion that juvenile sanctions may reduce recidivism more effectively than criminal punishment. This study measured only rearrest rates and found lower rates for youths who were retained in juvenile court than for youths who were transferred. The follow-up period in this study was relatively brief—less than two years. During this period, transferred youth were more likely to be rearrested, committed more offenses per year, and reoffended sooner than did juveniles in the juvenile system. As in the New York-New Jersey study, longer sentences did not have a deterrent effect.

Within the juvenile system, of course, there is wide variation in the types and severity of sanctions to which offenders are exposed. Some youths are incarcerated in prison-like training schools, whereas others receive loosely supervised community probation—neither of which is effective at changing antisocial behavior. An important question therefore is, what can the juvenile system offer young offenders that will be effective at reducing recidivism? A detailed discussion of the enormous literature evaluating the effects of various sanctions and interventions is beyond the scope of this review, and this literature has been summarized many times (Greenwood 2006, Lipsey 1999). Here I highlight a few main points.

Until the 1990s, most researchers who study juvenile delinquency programs might well have answered that the system had little to offer in the way of effective therapeutic interventions; the dominant view held by social scientists in the 1970s and 1980s was that "nothing works" to reduce recidivism with young offenders. Today the picture is considerably brighter, in large part due to a substantial body of research produced over the past 15 years showing that many juvenile programs, in both community and institutional settings, have a substantial crime-reduction effect; for the most promising programs, that effect is in the range of 20% to 30%. An increased focus on research-based programs and on careful outcome evaluation allows policy makers to assess accurately the impact on recidivism rates of particular programs to determine whether the economic costs are justified. In a real sense, these developments have revived rehabilitation as a realistic goal of juvenile justice interventions.

In general, successful programs are those that attend to the lessons of developmental psychology, seeking to provide young offenders with supportive social contexts and to assist them in acquiring the skills necessary to change problem behavior and to attain psychosocial maturity. In his comprehensive meta-analysis of 400 juvenile programs, Lipsey (1995) found that among the most effective programs in both community and institutional settings were those that focused on improving social development skills in the areas of interpersonal relations, self-control, academic performance, and job skills. Some effective programs focus directly on developing skills to avoid antisocial behavior, often through cognitive behavioral therapy. Other interventions that have been shown to have a positive effect on crime reduction focus on strengthening family support, including Multisystemic Therapy, Functional Family Therapy, and Multidimensional Treatment Foster Care, all of which are both effective and cost effective (Greenwood 2006). It is also clear from these reviews that punitive sanctions administered within the juvenile system have iatrogenic effects similar to those seen in studies of juveniles tried as adults. Punishment-oriented approaches, such as "Scared Straight" or military-style boot camps, do not deter future crime and may even inadvertently promote reoffending. Nor do these programs appear to deter other adolescents from offending (Greenwood 2006).

The dearth of evidence supporting the effectiveness of tough sanctions in deterring youthful criminal activity becomes less puzzling when we consider the response of young offenders to harsh punishment in light of developmental knowledge about adolescence discussed earlier. Teenagers on the street deciding whether to hold up a convenience store may simply be less capable than adults, due to their

psychosocial immaturity, of considering the sanctions they will face. Thus, the developmental influences on decision making that mitigate culpability also may make adolescents less responsive to the threat of criminal sanctions (Scott & Steinberg 2008).

In addition, adolescence is a formative period of development. In mid and late adolescence, individuals normally make substantial progress in acquiring and coordinating skills that are essential to filling the conventional roles of adulthood. First, they begin to develop basic educational and vocational skills to enable them to function in the workplace as productive members of society. Second, they also acquire the social skills necessary to establish stable intimate relationships and to cooperate in groups. Finally, they must begin to learn to behave responsibly without external supervision and to set meaningful personal goals for themselves. For most individuals, the process of completing these developmental tasks extends into early adulthood, but making substantial progress during the formative stage of adolescence is important. This process of development toward psychosocial maturity is one of reciprocal interaction between the individual and her social context. Several environmental conditions are particularly important, such as the presence of an authoritative parent or guardian, association with prosocial peers, and participation in educational, extracurricular, or employment activities that facilitate the development of autonomous decision making and critical thinking. For the youth in the justice system, the correctional setting becomes the environment for social development and may affect whether he acquires the skills necessary to function successfully in conventional adult roles (Steinberg et al. 2004).

Normative teenagers who get involved in crime do so, in part, because their choices are driven by developmental influences typical of adolescence. In theory, they should desist from criminal behavior and mature into reasonably responsible adults as they attain psychosocial maturity—and most do, especially as they enter into adult work and family responsibilities. Whether youths successfully make the transition to adulthood, however, depends in part on whether their social context provides opportunity structures for the completion of the developmental tasks described above. The correctional environment may influence the trajectories of normative adolescents in the justice system in important ways. Factors such as the availability (or lack) of good educational, skill building, and rehabilitative programs; the attitudes and roles of adult supervisors; and the identity and behavior of other offenders shape the social context of youths in both the adult and the juvenile systems. These factors may affect the inclination of young offenders to desist or persist in their criminal activities and may facilitate or impede their development into adults who can function adequately in society—in the workplace, in marriage or other intimate unions, and as citizens.

SUMMARY AND CONCLUDING COMMENTS

The overarching question I pose in this article is whether research on adolescent development indicates that adolescents and adults differ in ways that warrant their differential treatment when they violate the law. More specifically, I ask how this research informs debate about three fundamental questions that continue to challenge the justice system: (*a*) Should adolescents be held to adult standards of criminal culpability and, accordingly, exposed to the same punishment as adults; (*b*) Do adolescents possess the necessary capabilities to function as competent defendants in an adversarial court proceeding; and (*c*) How are juvenile offenders affected by the sorts of punitive sanctions that became increasingly popular during the past several decades?

It is now incontrovertible that psychological development continues throughout adolescence and into young adulthood in ways that are relevant to all three questions. Although basic cognitive competence matures by the time individuals reach age 16, many of the social and emotional capacities that influence adolescents'

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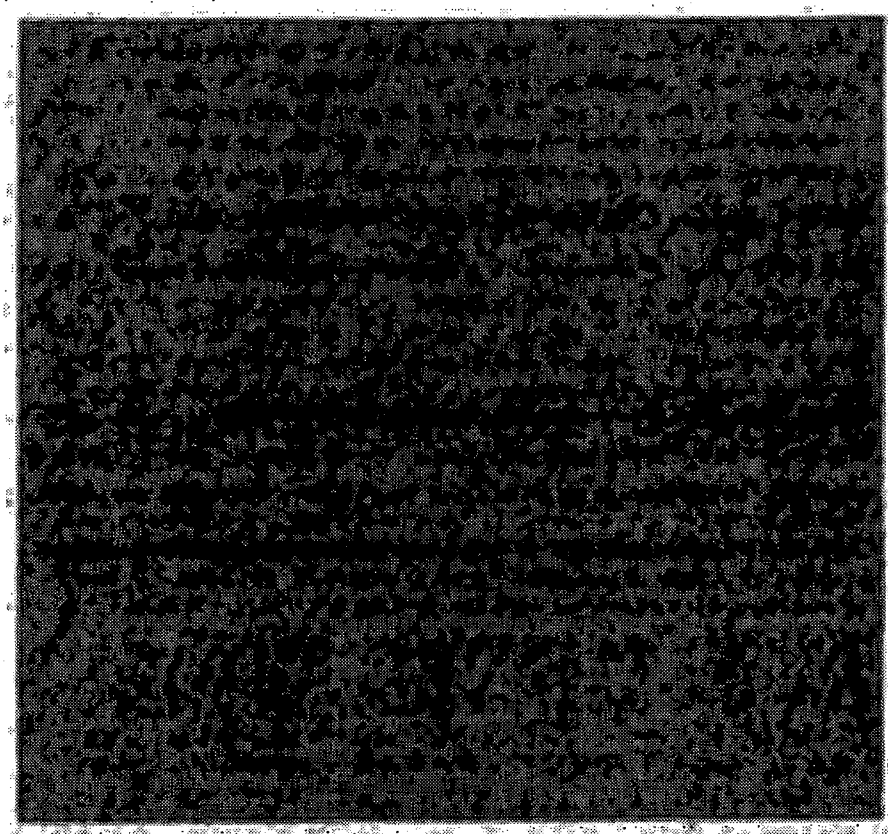
judgment and decision making, especially outside the psychologist's laboratory, continue to mature into late adolescence and beyond. Compared to individuals in their mid to late twenties, adolescents even as old as 18 are more impulsive, less oriented to the future, and more susceptible to the influence of their peers. In addition, because adolescence is also period during which individuals are still acquiring the psychological capacities they will need to successfully transition into adult work and family roles, it is important that the sanctions to which juvenile offenders are exposed not adversely affect their development. Recent research on the neural underpinnings of these developments does not change the portrait of adolescent immaturity painted by behavioral research, but it does add detail and support to the argument that makes the story more compelling. It is one thing to say that adolescents don't control their impulses, stand up to peer pressure, or think through the consequences of their actions as well as adults; it is quite another to say that don't because they can't.

Because American criminal law clearly provides that diminished judgment mitigates criminal responsibility, it is reasonable to argue that adolescents are inherently less blameworthy than their elders in ways should affect decisions about criminal punishment; as a class, adolescents are inherently less blameworthy than adults. The picture that emerges from an analysis of the capacities necessary for competence to stand trial is not the same, however. Here the relevant research indicates that some adolescents (generally, those 16 and older) have adult-like capabilities but that others (generally those 15 and younger) may not. Research on the impact of punitive sanctions on adolescent development and behavior, although not explicitly developmental in nature, indicates that trying adolescents as adults or exposing them to especially harsh sanctions does little to deter offending and may indeed have iatrogenic effects.

Although justice system policy and practice cannot, and should not, be dictated solely by studies of adolescent development, the ways in which we respond to juvenile offending should at the very least be informed by the lessons of developmental science. Taken together, the lessons of developmental science offer strong support for the maintenance of a separate juvenile justice system in which adolescents are judged, tried, and sanctioned in developmentally appropriate ways. Using developmental science to inform juvenile justice policy is not a panacea that will solve the problem of youth crime. Adolescents will always get in trouble, sometimes very serious trouble, and some will continue to offend, despite the state's best efforts to respond to their crimes in ways that will deter future offending. At the same time, the future prospects of some youths will be harmed by a system that holds them to adult levels of accountability for their crimes under our transfer rules. No one policy regime will yield good outcomes for all young offenders, but looking to developmental research to guide our decision making provides a solid framework for policies and practices that will enhance public safety in the long run by promoting healthy adolescent development.



DISCLOSURE STATEMENT

The author is not aware of any biases that might be perceived as affecting the objectivity of this review.

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Are Adolescents Less Mature Than Adults?

Minors' Access to Abortion, the Juvenile Death Penalty, and the Alleged APA "Flip-Flop"

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The American Psychological Association's (APA's) stance on the psychological maturity of adolescents has been criticized as inconsistent. In its Supreme Court amicus brief in Roper v. Simmons (2005), which abolished the juvenile death penalty, APA described adolescents as developmentally immature. In its amicus brief in Hodgson v. Minnesota (1990), however, which upheld adolescents' right to seek an abortion without parental involvement, APA argued that adolescents are as mature as adults. The authors present evidence that adolescents demonstrate adult levels of cognitive capability earlier than they evince emotional and social maturity. On the basis of this research, the authors argue that it is entirely reasonable to assert that adolescents possess the necessary skills to make an informed choice about terminating a pregnancy but are nevertheless less mature than adults in ways that mitigate criminal responsibility. The notion that a single line can be drawn between adolescence and adulthood for different purposes under the law is at odds with developmental science. Drawing age boundaries on the basis of developmental research cannot be done sensibly without a careful and nuanced consideration of the particular demands placed on the individual for "adult-like" maturity in different domains of functioning.

Keywords: adolescents, abortion, juvenile death penalty, Supreme Court, APA

In its landmark 2005 decision abolishing the juvenile death penalty (*Roper v. Simmons*, 2005), the U.S. Supreme Court held that the inherent immaturity of adolescents relative to adults mitigated teenagers' criminal responsibility to the extent that it barred the imposition of capital punishment for crimes committed under the age of 18, regardless of their heinousness. Prior to this decision, in the United States, individuals could be executed for capital crimes committed at the age of 16 or older. By a 5-to-4 vote, the Court ruled that this age boundary should be set at 18, rather than 16.

Developmental science was front and center in the Court's ruling, which drew extensively on an amicus curiae brief submitted by the American Psychological Association (APA, 2004) and was informed by a recent summary of relevant research on psychological development during adolescence that was published in this journal (Steinberg & Scott, 2003). Writing for the majority, Justice Anthony Kennedy drew attention to three specific aspects of adolescents' immaturity that diminished their criminal culpability: their underdeveloped sense of responsibility (and difficulty controlling their impulses), their heightened vulnerability to peer pressure, and the unformed nature of their characters. As Justice Kennedy wrote,

> First, as any parent knows and as the scientific and sociological studies respondent and his *amici* cite tend to confirm, "[a] lack of maturity and an underdeveloped sense of responsibility 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." . . . The second area of difference is that juveniles are more vulnerable or susceptible to negative influences and outside pressures, including peer pressure. . . . 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. . . . These differences render suspect any conclusion that a juvenile falls among the worst offenders. (*Roper v. Simmons*, 2005, pp. 15–16)

The position taken by APA in its brief—that adolescents are inherently less blameworthy than adults as a consequence of their developmental immaturity—was noteworthy not only because it proved so influential to the Court's decision but because it appeared, on its face, to contradict a stance taken by APA in a previous U.S. Su-

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preme Court case, *Hodgson v. Minnesota* (1990). In that case, which concerned a minor's right to obtain an abortion without parental notification, APA had argued that because adolescents had decision-making skills comparable to those of adults, there was no reason to require teenagers to notify their parents before terminating a pregnancy (APA, 1987, 1989). Thus, in *Roper*, APA argued that science showed that adolescents were not as mature as adults, whereas in *Hodgson*, it argued that the science showed that they were.

The apparent contradiction in these views did not go unnoticed. Justice Kennedy explicitly asked at oral argument in *Roper* if the APA had "flip-flopped" between 1989 (when its final amicus brief was filed in the abortion case) and 2004 (when its brief was filed in the juvenile death penalty case). The flip-flop issue also was raised by those who disagreed with the Court's decision to abolish the juvenile death penalty. Indeed, in his dissenting opinion in *Roper v. Simmons* (2005), Justice Antonin Scalia drew unambiguous attention to this issue:

> [T]he American Psychological Association (APA), which claims in this case that scientific evidence shows persons under 18 lack the ability to take moral responsibility for their decisions, has previously taken precisely the opposite position before this very Court. In its brief in *Hodgson v. Minnesota*, 497 U. S. 417 (1990), the APA found a "rich body of research" showing that juveniles are mature enough to decide whether to obtain an abortion without parental involvement. . . . The APA brief, citing psychology treatises and studies too numerous to list here, asserted: "[B]y middle adolescence (age 14–15) young people develop abilities similar to adults in reasoning about moral dilemmas, understanding social rules and laws, [and] reasoning about interpersonal relationships and interpersonal problems." (Justice Scalia, dissenting, pp. 11–12)

The petitioner in *Roper*, the State of Missouri, made a similar point in its brief:

> Ultimately, Simmons wants the Court to declare that [drawing the age boundary for purposes of death penalty eligibility at 16] is now "without penological justification" not based on research that uniformly reaches that conclusion, but based on inconsistent research, viewed through the lense [sic] of a stereotype that the American Psychological Association decried in *Hodgson*: "[T]he assumption that adolescents as a group are less able than adults to understand, reason and make decisions about intellectual and social dilemmas is not supported by contemporary psychological theory and research." (Roper, 2004, p. 11)

Concerns about reconciling the scientific arguments offered in the two cases were also raised by abortion rights advocates, but in a different context. Indeed, after Laurence Steinberg met with the Executive Committee of the Society for Research on Adolescence, asking for the organization's endorsement of the APA stance in *Roper*, the committee decided not to sign on to the APA brief, fearing that the argument that adolescents were not as mature as adults (and thus ineligible for capital punishment) would come back to haunt those who had worked so hard to secure the abortion rights of young women. As it turns out, these worries were not unfounded. Within two years of the *Roper* decision, the U.S. Supreme Court heard *Ayotte v. Planned Parenthood of Northern New England* (2006), which, like *Hodgson*, concerned minors' access to abortion without parental involvement. Opponents of adolescents' autonomous abortion rights had taken the Court's characterization of adolescent immaturity in the juvenile death penalty case and used it to argue in favor of parental involvement requirements. Citing the *Roper* decision, they argued,

> Parental involvement is critical to ensure not only that the adolescent's choice is informed, but that it is freely made and not the result of coercion or duress. . . . These concerns are heightened for adolescents who, as this Court has recently observed, are more susceptible than adults to "outside pressure" and other "negative influences," and more likely than adults to make decisions that are "impetuous and ill-considered." *Roper v. Simmons*, 125 S.Ct. 1183, 1195 (2005). (*Ayotte v. Planned Parenthood of Northern New England*, 2006, p. 15)

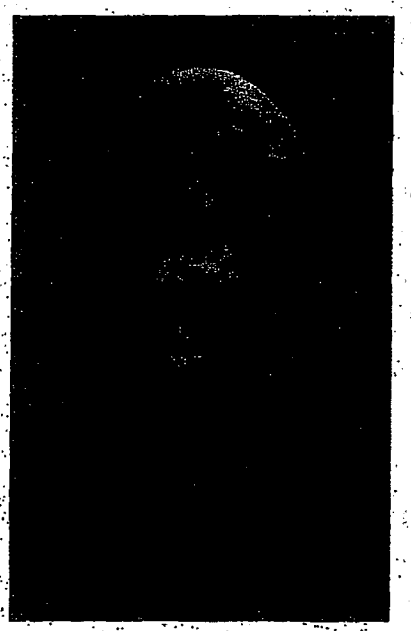
It is easy to see why many criticized the APA for its apparently contradictory positions. On the face of it, the APA position in the juvenile death penalty case was in direct opposition to the stance it took in *Hodgson*. In its amicus brief arguing for adolescents' abortion rights, for example, APA stated,

> [B]*y age 14 most adolescents have developed adult-like intellectual and social capacities* [italics added] including specific abilities outlined in the law as necessary for understanding treatment alternatives, considering risks and benefits, and giving legally competent consent. (APA, 1989, p. 20)

However, in its amicus brief arguing against the juvenile death penalty, APA stated,

> *Given that 16- and 17-year-olds as a group are less mature developmentally than adults* [italics added], imposing capital punishment on such adolescents does not serve the judicially recognized purposes of the sanction. (APA, 2004, p. 13)

APA responded to accusations that developmental psychologists were trying to have their scientific cake and



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eat it too—spinning the science for the sake of youth advocacy—by pointing out that the type of decision under consideration in *Roper* was not the same as that at issue in *Hodgson*:

> We [APA] took note of the Hodgson brief in the approval process for APA's brief in [Roper] but concluded that the two cases were distinguishable in several respects. [Roper] and Hodgson, while both dealing with adolescent decision-making, involved very different legal issues and different types of decisions. Therefore the research, which was different in each of the two cases, addressed distinct aspects of adolescent behavior and attributes. (Gilfoyle, 2005, p. 1)

There is no question that the legal issues in *Hodgson* and *Roper* differed. The abortion rights case was a 14th Amendment case involving the amendment's due process clause. The central question considered in *Hodgson* was whether the state had a compelling interest in mandating that an adolescent seeking an abortion be required to first notify both her parents. Several legal issues were relevant, including whether the notification requirement placed an undue burden on adolescents (especially those whose parents were divorced or estranged) and whether providing for a judicial hearing as an alternative to parental notification (known as a "judicial bypass") was acceptable, but the most relevant for the present discussion concerned the competence of adolescents to make informed and sound health care decisions on their own. If it could be concluded that adolescents were sufficiently competent to make an informed decision about whether to terminate a pregnancy, the state's interest in requiring parental notification would be rendered less compelling. Ultimately, the Court ruled that requiring parental notification *was* constitutional so long as a bypass provision was part of the law.

The juvenile death penalty case was an 8th Amendment case involving the amendment's cruel and unusual punishments clause. A central issue in *Roper* was whether adolescents were mature enough to be held to adult levels of criminal blameworthiness and, in particular, to a level of blameworthiness that potentially warranted capital punishment; if they were not, the juvenile death penalty was excessively cruel. Under a bedrock principle of American criminal law known as "penal proportionality," the punishment a guilty party receives should be in proportion to his or her culpability for the criminal act, and certain factors are accepted as mitigating the actor's culpability. These mitigating factors include diminished decision-making capability (e.g., decision making that is impulsive or shortsighted), exposure to coercion, and evidence of the offender's otherwise good character (Steinberg & Scott, 2003). As noted earlier, the Court ruled that the inherent immaturity of adolescents, with respect to the impetuousness of their decision making, their susceptibility to coercion, and their unformed characters, made them categorically less blameworthy than the average criminal and therefore not eligible for a punishment that was reserved for only the most culpable offenders.

Whether APA in fact "flip-flopped" or, worse yet, tried to have it both ways, as its critics have contended, is an exceedingly important question, both with respect to the decisions about where to draw legal boundaries between adolescents and adults for various purposes and with respect to APA's scientific credibility more generally. As some of us have written elsewhere, "scientists' authority to enter the policy arena rests largely on the credibility of their research findings" (Grisso & Steinberg, 2005, p. 620). If APA's statements about the state of scientific knowledge are seen as advocacy masquerading as research, the integrity of the Association's scientific mission is threatened. After all, in both *Hodgson* and *Roper*, APA took a position that could be fairly characterized as, at the very least, friendly to youth advocates. It is crucial, therefore, to examine the issue empirically. That is the focus of the present article.

For the past several years, as members of the MacArthur Foundation Research Network on Adolescent Development and Juvenile Justice, we have been studying age differences in many of the cognitive and psychosocial capacities that have been at issue in the Supreme Court cases discussed above. We have been studying basic intellectual abilities, such as working memory and verbal fluency, but also aspects of psychosocial development, including impulse control (Steinberg et al., 2008), future orientation (Steinberg et al., 2009), reward sensitivity (Cauffman et al., in press), sensation seeking (Steinberg et al., 2008), and susceptibility to peer influence (Steinberg & Monahan, 2007). To our knowledge, ours is the first study to include both cognitive and psychosocial measures administered to the same sample, to include an ethnically and socioeconomically diverse group of individuals, and to span the period from preadolescence through young adulthood.

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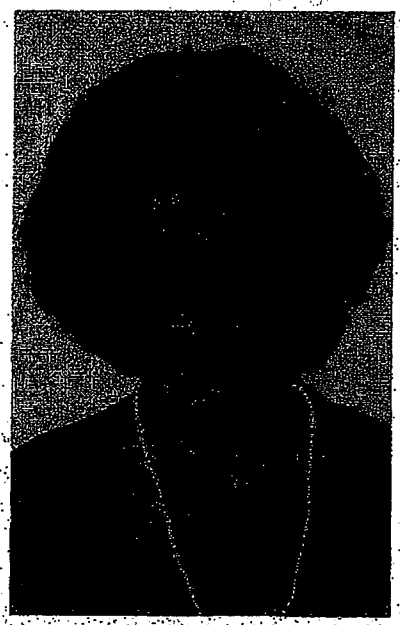
On the basis of this work, some of which we summarize in the pages that follow, we believe that APA's seemingly contradictory positions in *Hodgson* and *Roper* are in fact quite compatible with research on age differences in cognitive and psychosocial capacities. More specifically, our findings, as well as those of other researchers, suggest that whereas adolescents and adults perform comparably on cognitive tests measuring the sorts of cognitive abilities that were referred to in the *Hodgson* brief—abilities that permit logical reasoning about moral, social, and interpersonal matters—adolescents and adults are not of equal maturity with respect to the psychosocial capacities listed by Justice Kennedy in the majority opinion in *Roper*—capacities such as impulse control and resistance to peer influence. Not only were the legal issues different in the two cases, but so are the circumstances surrounding abortion decisions and criminal behavior, and therefore, the relevant dimensions along which adolescents and adults should be compared differ as well. Unlike adolescents' decisions to commit crimes, which are usually rash and made in the presence of peers, adolescents' decisions about terminating a pregnancy can be made in an unhurried fashion and in consultation with adults.

We recognize that not all abortion decisions are deliberative, rational, and autonomous and that not all criminal decisions are impulsive, emotional, and influenced by others. After all, any decision about whether to abort a pregnancy or carry it to term has an emotional component, involves both immediate and long-term consequences, and may be influenced by the opinions of family and friends. By the same token, adolescents' crimes are occasionally strategic, planned in advance, and executed alone. In general, though, when contemplating an abortion, an adolescent has time to deliberate before making a final choice and has an opportunity to consult with an adult expert, whereas the circumstances leading up to the typical adolescent criminal offense—robbing a convenience store, for instance—are characterized by heightened emotional arousal, time pressure, and peer influence.

For example, studies indicate that about half of all pregnant adolescents contemplating an abortion whose parents are unaware of the situation consult with a nonparental adult other than medical staff (e.g., a teacher, school counselor, clergyperson, older relative, or adult friend of the family); this figure is the same among younger (under age 16) and older adolescents (Henshaw & Kost, 1992). Moreover, 35 states require all women seeking an abortion to receive some type of counseling from the abortion provider before the procedure is performed, usually including information about the specific procedure as well as the health risks of abortion and pregnancy (Guttmacher Institute, 2009). Twenty-four states mandate a waiting period of at least 24 hours between the counseling and the medical procedure (Guttmacher Institute, 2009). Thus, it does not appear as if a high proportion of pregnant teenagers decide to terminate a pregnancy under circumstances that are rushed or in the absence of adult advice. In contrast, studies indicate that adolescents' crimes are more often than not impulsive and unplanned (Farrington, 2003) and typically committed with peers (Reiss & Farrington, 1991). Thus, while some of the capabilities relevant to both decision-making contexts no doubt overlap, the circumstances that define "mature" behavior in each are clearly different. Resisting peer influence, thinking before making a decision, and considering the future consequences of one's actions are clearly more important in criminal decision making than abortion decision making, in part because society structures the latter context to promote consultation with adults and avoid hasty decision making.

The importance of maintaining a distinction between cognitive and psychosocial maturity in discussions of the legal status of adolescents is supported by other research that has examined age differences in each of these domains. Studies that have examined logical reasoning abilities in structured situations and basic information-processing skills, for instance, have found no appreciable differences between adolescents age 16 and older and adults; any gains that take place in these domains during adolescence occur very early in the adolescent decade, and improvements after this age are very small (Hale, 1990; Kail, 1997; Keating, 2004; Overton, 1990). The results of the MacArthur Foundation Research Network's earlier study of age differences in competence to stand trial, which depends on individuals' ability to understand facts about a court proceeding and to reason with those facts in a rational fashion, also were consistent with these findings. We found significant differences between the competence-related abilities of adults and those of adolescents who were 15 and younger, but no differences between the abilities of adults and those of adolescents who were 16 and older (Grisso et al., 2003). This general pattern, indicating that adolescents attain adult levels of competence to stand trial somewhere around age 15, has been reported in similar studies of



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decision making across a wide variety of domains (e.g., Grisso, 1980; Jacobs-Quadrel, Fischhoff, & Davis, 1993) and in many studies of age differences in individuals' competence to provide informed consent (Belter & Grisso, 1984; Grisso & Vierling, 1978; Gustafson & McNamara, 1987; Weithorn & Campbell, 1982).

In contrast, the literature on age differences in psychosocial characteristics such as impulsivity, sensation seeking, future orientation, and susceptibility to peer pressure shows continued development well beyond middle adolescence and even into young adulthood (Scott, Reppucci, & Woolard, 1995; Steinberg & Cauffman, 1996), although few studies have gone much beyond adolescence (but see Cauffman & Steinberg, 2000, for an exception). Consistent with this literature, and in contrast to the pattern of age differences seen in the information-processing, logical reasoning, and informed consent literatures, studies of age differences in the sorts of risky behavior likely to be influenced by the psychosocial factors listed above—such as reckless driving, binge drinking, crime, and spontaneous unprotected sex—indicate that risky behavior is significantly more common during late adolescence and early adulthood than after (Steinberg, 2007). In other words, although adolescents may demonstrate adult-like levels of maturity in some respects by the time they reach 15 or 16, in other respects they show continued immaturity well beyond this point in development.

The MacArthur Juvenile Capacity Study

Participants

The MacArthur Juvenile Capacity Study was designed to examine age differences in a variety of cognitive and psychosocial capacities that are relevant to debates about the relative maturity of adolescents and adults, especially as they affect judgments of criminal blameworthiness. There were five data collection sites in the study: Los Angeles; Irvine, CA; Denver; Philadelphia; and Washington, DC. Data for the present study come from 935 individuals ranging in age from 10 to 30 years (M = 17.84 years). Participants were recruited via newspaper advertisements and flyers posted at community organizations, Boys & Girls Clubs, churches, community colleges, and local places of business in neighborhoods targeted to have an average household education level of "some college" according to 2000 U.S. Census data. Because we were interested in characterizing the capacities of "average" adolescents and adults, we did not target individuals on the basis of their involvement with the legal system but sought instead to survey an ethnically and socioeconomically diverse sample of individuals in the age range of interest.

Individuals who were interested in the study were asked to call the research office listed on the flyer. Members of the research team described the nature of the study to prospective participants over the telephone and invited those interested to participate. Given this recruitment strategy, it is not possible to know how many potential participants saw the advertisements, what proportion responded, and whether those who responded were different from those who did not, although the education level of the sample is comparable to that of the people in the neighborhoods from which it was drawn.

Data collection took place either at one of the participating university's offices or at a convenient location in the community. Before beginning, participants were provided verbal and written explanations of the study, their confidentiality was assured, and their written consent or assent was obtained. For participants who were under the age of 18, informed consent was obtained from either a parent or a guardian.

Procedure

Prior to data collection, all site project directors and research assistants met at one location for several days of training. The project coordinators and research assistants conducted on-site practice protocol administrations prior to enrolling participants. Participants took part in a two- to two-and-one-half-hour interview that included three sets of measures: (a) a series of computerized tasks designed to assess a range of executive functions (not discussed in this report); (b) a series of questionnaires designed to measure a variety of psychosocial capacities relevant to discussions of how adolescents should be treated by the legal system; and (c) tests of basic intellectual functioning. The tasks and questionnaires were administered on a laptop computer in individual interviews. Research assistants were present to monitor the participant's progress, reading aloud the instructions as each new task was presented and providing assistance as needed. To keep participants engaged in the computer tasks, we told the participants that they would receive $35 for participating in the study and that they could obtain up to a total of $50 (or, for participants who

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were under 14, an additional prize) depending on their performance. In actuality, we paid all participants ages 14–30 the full $50, and all participants ages 10–13 received $35 plus a prize (approximately $15 in value). This strategy was used to increase the motivation to perform well on the tasks but also to ensure that no participants were penalized for their performance. All procedures were approved by the institutional review board of the university associated with the data collection site.

Measures

Of interest in the present report are the demographic measures and IQ (which were used to ensure that the various age groups had comparable social and intellectual backgrounds), the measures of psychosocial capacities, and the tests of basic intellectual functioning.

Demographic variables. Participants provided information about their age, gender, ethnicity, and highest level of education within their household. For youths 17 years of age and younger, household education was based on parents' level of education, as research has indicated that parental education may be the most stable component of a family's social class (Steinberg, Mounts, Lamborn, & Dornbusch, 1991). For participants 18 years of age and older, their own educational attainment was used to index this construct. In order to have cells with sufficiently large and comparably sized subsamples for purposes of data analysis, we created age groups as follows: 10–11, 12–13, 14–15, 16–17, 18–21, 22–25, and 26–30 years. The age groups did not differ with respect to gender or ethnicity, but did differ, albeit modestly, with respect to household education. Accordingly, all subsequent analyses controlled for this variable. Demographic characteristics of the sample are presented in Table 1.

IQ. The Wechsler Abbreviated Scale of Intelligence (WASI) Full-Scale IQ Two-Subtest (FSIQ-2) (Psychological Corporation, 1999) was used to produce an estimate of general intellectual ability based on two (Vocabulary and Matrix Reasoning) of the four subtests. The WASI can be administered in approximately 15 minutes and is correlated with the Wechsler Intelligence Scale for Children ($r = .81$) and the Wechsler Adult Intelligence Scale ($r = .87$). It has been normed for individuals between the ages of 6 to 89 years. Because there were small but significant differences between the age groups in mean IQ, this variable was controlled for in all subsequent analyses.

Psychosocial maturity. The battery of instruments contained self-report measures of five capacities frequently mentioned in discussions about age differences in maturity and their relevance to legal policy. Table 2 lists these measures and provides sample items from each.

Three widely used and well-validated Likert-scale-type instruments were used to assess *risk perception* (the extent to which one perceives a potentially dangerous or harmful activity as risky), *sensation seeking* (the extent to which one actively seeks experiences that provide thrills), and *impulsivity* (the extent to which one acts without thinking or has difficulty controlling impulses). Risk perception was assessed using a modified version of a widely used measure developed by Benthin, Slovic, and Severson (1993). The respondent is presented with eight potentially dangerous activities (e.g., riding in a car with a drunk driver, having unprotected sex) and asked to indicate how risky the activity is ($\alpha = .82$).[1] Sensation seeking was assessed using a subset of six items ($\alpha = .70$) from the Sensation Seeking Scale (Zuckerman, Eysenck, & Eysenck, 1978).[2] Impulsivity was assessed using all 18 items ($\alpha = .73$) from three six-item subscales of the Barratt Impulsiveness Scale (Patton, Stanford, & Barratt, 1995): Motor Impulsivity, Inability to Delay Gratification, and Lack of Perseverance. All three self-report measures have been shown to be significantly correlated with behavioral indices of their associated constructs. In our sample, scores on the impulsivity self-report measure were significantly negatively related to the amount of time participants waited before making their first move on a Tower of London task, and scores on the sensation-seeking questionnaire were significantly correlated with sensation-seeking behavior in a video driving game (Steinberg et al., 2008). In addition, individuals who were less likely to perceive potentially risky behaviors as risky were more likely to report engaging in high-risk behavior.

[1] The original Benthin et al. (1993) measure also contains an item concerning alcohol use. Our analyses indicated that including this item in the scale's construction adversely differentiated the reliability of the scale among the younger and older participants, most likely because the use of alcohol is risky for minors but not necessarily for adults. As a consequence, we dropped that item from our scale computation.

[2] Many of the items on the full Zuckerman et al. (1978) scale appear to measure impulsivity, not sensation seeking (e.g., "I often do things on impulse.") Because we have a separate measure of impulsivity in our battery, we used only the Zuckerman et al. items that clearly indexed thrill or novelty seeking (see Table 2).

Table 1
Demographic Characteristics of the Sample (N = 935)

Characteristic	Percentage
Age (in years)	
10–11	12.5
12–13	14.7
14–15	13.8
16–17	15.2
18–21	15.9
22–25	14.6
26–30	13.2
Gender	
Male	49.2
Female	50.8
Ethnicity	
African American	29.2
Asian American	15.1
Hispanic	21.2
White	24.0
Other/biracial	9.9
Household education	
High school	11.9
High school graduate	22.8
Some college	34.1
College graduate	21.4
Postcollege	9.7

Two additional psychosocial capacities, *resistance to peer influence* and *future orientation*, were assessed using new self-report measures developed for this program of work. Each used a response format introduced by Harter (1982) in which respondents are presented with two opposing statements that are both phrased in a socially acceptable fashion, asked to indicate which best describes them, and then asked whether the descriptor is "very true" or "sort of true." (This format is presumed to reduce social desirability bias.) Resistance to peer influence (Steinberg & Monahan, 2007) was assessed using a 10-item scale ($\alpha = .76$) designed to measure the extent to which individuals change their behavior or opinions in order to follow the crowd. We have no data on the validity of this measure in the current sample, but we do in analyses of data from a large study of serious juvenile offenders. There we found that the presence of antisocial peers in an individual's network is more highly correlated with the individual's own criminal behavior among those who report a low ability to resist peer influence on this measure than among those who have equally antisocial peers but score high in self-reported resistance to peer influence (Monahan, Steinberg, & Cauffman, 2007). Studies of the neural underpinnings of resistance to peer influence using this measure have found neurobiological differences between same-age individuals who vary in their resistance to peer influence in ways consistent with the notion that higher scores on this instrument reflect better coordination of affect and thinking (Grosbras et al., 2007; Paus et al., 2008), a key component of psychosocial maturity in our conceptualization of the construct. Future orientation was assessed using a 15-item scale ($\alpha = .80$) that measures the anticipation of future consequences, planning ahead, and thinking about the future. The validity of this measure is supported by our finding that individuals who score high on this scale are more likely to choose a larger delayed reward over an immediate smaller one in a delay discounting task (Steinberg et al., 2009).

A composite measure of *psychosocial maturity* was formed by reverse-scoring the measures of impulsivity and

Table 2
Indices of Psychosocial Maturity

Construct	Measure	Sample Item
Risk perception	Benthin et al., 1993	"If you did this activity (e.g., had unprotected sex), how much are you at risk for something bad happening?"
Sensation seeking	Zuckerman et al., 1978	"I sometimes like to do things that are a little frightening."
Impulsivity	Patton et al., 1995	"I do things without thinking."
Resistance to peer influence	Steinberg & Monahan, 2007	"Some people think it's better to be an individual even if people will be angry at you for going against the crowd. BUT Other people think it's better to go along with the crowd than to make people angry at you."
Future orientation	Steinberg et al., 2009	"Some people take life one day at a time without worrying about the future. BUT Other people are always thinking about what tomorrow will bring."

sensation seeking so that higher scores indicated greater maturity (i.e., more impulse control and less thrill seeking), standardizing all five measures, and averaging the standardized scores. Thus, individuals who score relatively lower on the composite characterize themselves as less likely to perceive dangerous situations as risky, more impulsive, more thrill seeking, more oriented to the immediate, and more susceptible to peer influence. This is very similar to the portrait of adolescents described by Justice Kennedy in his majority opinion in the juvenile death penalty case. A confirmatory factor analysis indicated that the composite model fit the data well (comparative fit index = .95, root mean square error of approximation = .075). The five indicators are modestly, but significantly, intercorrelated (*r*s range from .14 to .38; average $r = .26$).

Cognitive capacity. The test battery included several widely used tests of basic cognitive skills, including a test of resistance to interference in working memory (Thompson-Schill et al., 2002), a digit-span memory test, and a test of verbal fluency. The resistance to interference in working memory test was one in which participants saw four probe letters on the screen and then a target. They were then asked whether the target was among the four probes. On test trials, two of the four letters presented had appeared in the previous trial, providing interference with recall on the present trial. An overall accuracy score was computed by averaging the number of correct responses across all test trials. The digit-span memory test was similar to that in the Wechsler scales. Participants heard a series of 13 sequences of digits (beginning with two digits and increasing to eight) that they were asked to recall forwards and 13 sequences that they were asked to recall backwards. A memory score was computed by averaging the total number of forward trials and backward trials recalled correctly. Finally, the measure of verbal fluency asked participants to generate, in one minute, as many words as possible that either began with a specific letter (three trials) or were members of a category (e.g., fruits; three trials). A verbal fluency score was computed by averaging the number of words generated for each of the six lists.

Because the composite consisted of only three items, it was not possible to derive a reliable estimate of internal consistency. However, after examining the intercorrelations among the tests, we found them to be significant (fluency and working memory, $r = .29$; working memory and digit span, $r = .39$; digit span and verbal fluency, $r = .40$). Accordingly, scores on each of the measures were standardized, and the standard scores were averaged to create an index of *general cognitive capacity*. Not surprisingly, our composite measure of general cognitive capacity is significantly correlated with IQ ($r = .46$, $p < .001$). Unlike IQ scores, however, which are adjusted for chronological age, the measure of cognitive capacity is not. More important, because we controlled for IQ in all analyses, any observed age differences in general cognitive capacity are not due to age differences in intelligence.

In its original amicus brief in *Hodgson*, the APA (1987) made reference to the "cognitive capacity" (p. 6) of adolescents and cited sources that referred to both information-processing abilities (Keating, 1980) and logical reasoning (Inhelder & Piaget, 1958) in support of its argument that adolescents are as cognitively competent as adults. We acknowledge that our index, which tilts heavily toward measuring how many pieces of information an individual can process or produce, does not measure logical or moral reasoning and as such is an incomplete measure of cognitive capacity as conceptualized in the APA *Hodgson* brief. Our measure assesses cognitive ability in a highly structured manner and as such does not tap aspects of executive function that may be important in novel situations. It is also important to note that our measure of general cognitive capacity does not include tests of higher order executive functioning, such as comparing short- versus long-term consequences, coordinating affect and cognition, or balancing risk and reward. Many such executive functions have both cognitive and psychosocial aspects to them, however, and given that our interest was in maintaining a distinction between general cognitive and psychosocial capacities so as to better examine their distinct developmental timetables, it was important not to conflate the two. The measures of psychosocial maturity and cognitive capacity are very modestly correlated once age is controlled, $r(922) = .15$, $p < .001$. Although our operationalization of general cognitive capacity is not identical to that used by APA in its argument, it is very clear that the authors of the *Hodgson* brief (APA, 1987) were referring to cognitive abilities and not psychosocial maturity and that the authors of the *Roper* brief (APA, 2004) were referring to psychosocial maturity and not cognitive capacity.

Results

Two analyses of covariance were conducted in order to examine age patterns in psychosocial maturity and general cognitive capacity; as noted earlier, both analyses controlled for IQ and household education.

The results of the two analyses are shown in Figures 1 and 2. Each figure presents the age group means for the standardized composites, with a value of 1.0 added to each

Figure 1
Psychosocial Maturity (Standardized Composite Scores) as a Function of Age (in Years)

Figure 2
General Cognitive Capacity (Standardized Composite Scores) as a Function of Age (in Years)

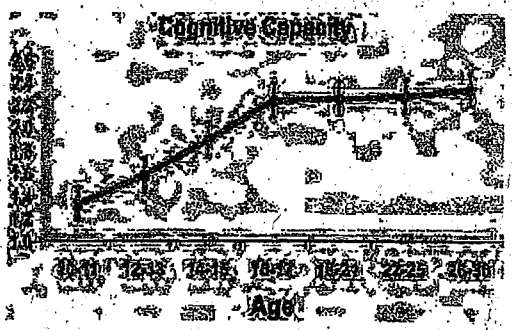
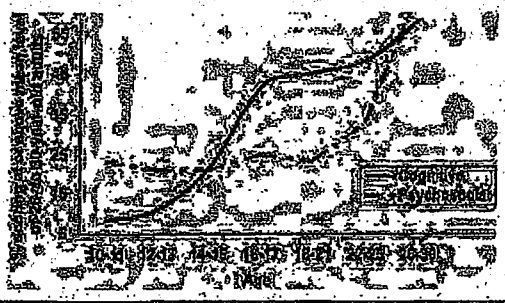


Figure 3
Proportion of Individuals in Each Age Group Scoring at or Above the Mean for 26- to 30-Year-Olds on Indices of Cognitive Capacity and Psychosocial Maturity



group's mean for ease of presentation (i.e., to make all values positive numbers). The analysis of age differences in psychosocial maturity indicates a significant age effect, $F(6, 900) = 12.577$, $p < .001$. As Figure 1 indicates, age differences in psychosocial maturity, as assessed in this study, did not emerge until mid-adolescence but were present throughout late adolescence and early adulthood. Indeed, pairwise comparisons, using a Bonferroni correction, revealed no significant differences in psychosocial maturity among the first four age groups (10–11, 12–13, 14–15, and 16–17 years) but significant differences between the 16–17-year-olds and those 22 and older, and between the 18–21-year-olds and those 26 and older. In neither case was there a significant interaction between age and gender, indicating that the patterns were the same among males and females.

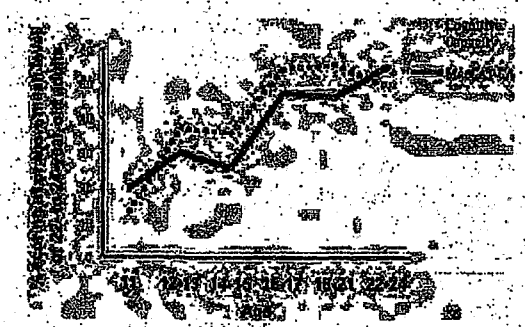
The analysis of age differences in cognitive capacity shows a very different pattern. As with psychosocial maturity, there is a highly significant age effect, $F(6, 901) = 58.246$, $p < .001$. However, as Figure 2 indicates, age differences in cognitive capacity were evident during the first part of adolescence but not after age 16—just the opposite from the pattern seen with respect to psychosocial maturity. Pairwise comparisons using a Bonferroni correction indicated significant differences in general cognitive capacity between each of the first four age groups but no age differences after age 16.

Figure 3 presents these data in a somewhat different way. Here we show the proportion of individuals in each age group who scored at or above the mean level of the 26- to 30-year-olds in our sample on the psychosocial and cognitive composites, graphed in the same figure. As the figure indicates, general cognitive capacity reaches adult levels long before the process of psychosocial maturation is complete.

Although our measure of cognitive capacity included several of the information-processing skills noted in the APA (1987) *Hodgson* brief but did not include indices of the sort of reasoning to which APA referred, it is important to ask whether the pattern of age differences we found on this measure resembles that observed using measures of more sophisticated cognitive abilities of the sort believed to influence abortion decision making. As we noted earlier, in addition to the present study, the MacArthur Network also conducted a study of age differences in capacities related to competence to stand trial (Grisso et al., 2003). The main instrument used to assess these capacities was the MacArthur Competence Assessment Tool—Criminal Adjudication (MacCAT–CA), a standardized interview that measures respondents' understanding of and reasoning about their legal situation (Poythress et al., 1999). Although the abilities necessary for competence to stand trial are not identical to those necessary for competent decision making about abortion, they are conceptually similar in that both involve being able to understand and reason with facts and appreciate the nature of one's situation.

Figure 4 presents data from the present study alongside data from the Grisso et al. (2003) study in a way

Figure 4
Proportion of Individuals in Each Age Group Scoring at or Above the Mean for 22- to 24-Year-Olds on Index of Cognitive Capacity and on a Measure of Abilities Relevant to Competence to Stand Trial



Note. MacCAT–CA = MacArthur Competence Assessment Tool—Criminal Adjudication, Understanding and Reasoning subscales. MacCAT–CA data are from Grisso et al (2003).

comparable to that used in Figure 3, that is, in terms of the proportion of individuals of different ages who performed at or above the mean level of the adults in the sample. The Grisso et al. study included participants ages 11 to 24, drawn equally from the community and the justice system. In order to make the appropriate comparison of these data to those of the present study, we excluded the justice system subsample from the analyses (the average IQ of that subsample was 85, substantially lower than that of the present study), categorized individuals into chronological age groups that paralleled those used in the present study (11, 12–13, 14–15, 16–17, 18–21, and 22–24 years), and used the oldest group as the adult reference category. Similarly, we reanalyzed the cognitive capacity data from the present study after dropping the 10-year-olds, excluding individuals who were older than 24, and using 22- to 24-year-olds as the adult reference category.

As Figure 4 illustrates, the pattern of age differences in abilities relevant to competence to stand trial is virtually identical to the pattern seen with respect to general cognitive capacity as assessed in the present study. On both indices, scores increased between ages 11 and 16 and then leveled off, with no improvement after this age. This gives us greater confidence that the absence of age differences in cognitive capacity after age 16 observed in our study is not merely a function of the fact that our index included only measures of basic information-processing abilities. Rather, our reanalysis of the Grisso et al. (2003) data supports the argument that adolescents reach adult levels of cognitive maturity several years before they reach adult levels of psychosocial maturity.

Discussion

Developmental psychologists with expertise in adolescence are frequently called on to provide guidance about the appropriate treatment of young people under the law and about the proper placement of legal age boundaries between those who should be treated as adults and those who should not. The results of the present study suggest that it is not prudent to make sweeping statements about the relative maturity of adolescents and adults, because the answer to the question of whether adolescents are as mature as adults depends on the aspects of maturity under consideration. By age 16, adolescents' general cognitive abilities are essentially indistinguishable from those of adults, but adolescents' psychosocial functioning, even at the age of 18, is significantly less mature than that of individuals in their mid-20s. In this regard, it is neither inconsistent nor disingenuous for scientists to argue that studies of psychological development indicate that the boundary between adolescence and adulthood should be drawn at a particular chronological age for one policy purpose and at a different one for another.

Whether and how these findings should inform decisions about adolescents' treatment under the law depends on the specific legal issue under consideration. To varying degrees, such decisions rely on value judgments (e.g., about what aspects of maturity are relevant to a particular decision or about what is mature "enough" to warrant autonomy and/or culpability), which science alone cannot dictate. Nevertheless, the legal treatment of adolescents should at the very least be informed by the most accurate and timely scientific evidence on the nature and course of psychological development. On the basis of the present study, as well as previous research, it seems reasonable to distinguish between two very different decision-making contexts in this regard: those that allow for unhurried, logical reflection and those that do not. This distinction is also in keeping with our emerging understanding of adolescent brain maturation, which suggests that brain systems responsible for logical reasoning and basic information processing mature earlier than those that undergird more advanced executive functions and the coordination of affect and cognition necessary for psychosocial maturity (Steinberg, 2008).

When it comes to decisions that permit more deliberative, reasoned decision making, where emotional and social influences on judgment are minimized or can be mitigated, and where there are consultants who can provide objective information about the costs and benefits of alternative courses of action, adolescents are likely to be just as capable of mature decision making as adults, at least by the time they are 16. Three domains of decision making that would seem to fit into this category are medical decision making (where health care practitioners can provide information and encourage adolescents to think through their decisions before acting), legal decision making (where legal practitioners, such as defense attorneys, can play a comparable role), and decisions about participating in research studies (where research investigators, guided by institutional review boards, can function similarly). Although adults in these positions cannot and should not make the decision for the adolescent, they surely can take steps to create a context in which adolescents' decision-making competence will be maximized. The position taken by APA in *Hodgson v. Minnesota* (1990), in favor of granting adolescents' access to abortion without the necessity of parental involvement, therefore seems to us to be consistent with the available scientific evidence, so long as youngsters under the age of 16 have the opportunity to consult with other, informed adults (e.g., health care practitioners, counselors).

In contrast, in situations that elicit impulsivity, that are typically characterized by high levels of emotional arousal or social coercion, or that do not encourage or permit consultation with an expert who is more knowledgeable or experienced, adolescents' decision making, at least until they have turned 18, is likely to be less mature than adults'. This set of circumstances likely characterizes the commission of most crimes perpetrated by adolescents (which are usually committed in groups and are seldom premeditated; Farrington, 2003; Zimring, 1998) and may also be typical of other situations where adolescents are emotionally aroused, in groups, absent adult supervision, and facing choices with apparent immediate rewards and few obvious or immediate costs—the very conditions that are likely to undermine adolescents' decision-making competence (Steinberg, 2007). These conditions often prevail in situa-

tions involving the purchase of alcohol and tobacco, driving, and other potentially health-compromising behaviors, such as having unprotected sex. In these cases, adolescents' relative immaturity should be acknowledged either by imposing greater restraints on their behavior than are imposed on adults (e.g., prohibiting the purchase of alcohol, restricting driving to certain hours of the day or certain conditions) or by providing added protections (e.g., prohibiting capital punishment, making condoms easily accessible). Thus, APA's argument that adolescents should not be subject to capital punishment owing to their impulsivity and susceptibility to peer pressure is consistent with the results of our own research and with other scientific studies of psychosocial development that show continued maturation of these capacities well into young adulthood (Steinberg & Scott, 2003).

In our view, then, the seemingly conflicting positions taken by APA in *Roper v. Simmons* (2005) and *Hodgson v. Minnesota* (1990) are not contradictory. Rather, they simply emphasize different aspects of maturity, in accordance with the differing nature of the decision-making scenarios involved in each case. The skills and abilities necessary to make an informed decision about a medical procedure are likely in place several years before the capacities necessary to regulate one's behavior under conditions of emotional arousal or coercive pressure from peers.

Science alone cannot dictate public policy, although it can, and should, inform it. Our data can neither "prove" nor "disprove" the appropriateness of requiring parental involvement before a teenager can obtain an abortion, but they do inform the debate. Nor do our data "prove" or "disprove" whether it is appropriate to apply the death penalty to individuals who are inherently more impulsive than adults and whose characters are not yet fully formed—although, again, they are informative. But our findings do demonstrate how the positions taken by APA in *Hodgson v. Minnesota* (1990) and in *Roper v. Simmons* (2005) are compatible with each other and consistent with the rapidly growing body of scientific evidence indicating that intellectual maturity is reached several years before psychosocial maturity.

Developmental science can and should contribute to debates about the drawing of legal age boundaries, but research evidence cannot be applied to this sort of policy analysis without a careful and nuanced consideration of the particular demands placed on the individual for "adult-like" maturity in different domains of functioning. Jurists, politicians, advocates, and journalists seeking a uniform answer to questions about where we should draw the line between adolescence and adulthood for different purposes under the law need to consider the asynchronous nature of psychological maturation, especially during periods of dramatic and rapid change across multiple domains of functioning.

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Behavioral/Cognitive

Longitudinal Changes in Adolescent Risk-Taking: A Comprehensive Study of Neural Responses to Rewards, Pubertal Development, and Risk-Taking Behavior

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Prior studies have highlighted adolescence as a period of increased risk-taking, which is postulated to result from an overactive reward system in the brain. Longitudinal studies are pivotal for testing these brain-behavior relations because individual slopes are more sensitive for detecting change. The aim of the current study was twofold: (1) to test patterns of age-related change (i.e., linear, quadratic, and cubic) in activity in the nucleus accumbens, a key reward region in the brain, in relation to change in puberty (self-report and testosterone levels), laboratory risk-taking and self-reported risk-taking tendency; and (2) to test whether individual differences in pubertal development and risk-taking behavior were contributors to longitudinal change in nucleus accumbens activity. We included 299 human participants at the first time point and 254 participants at the second time point, ranging between ages 8–27 years, time points were separated by a 2-year interval. Neural responses to rewards, pubertal development (self-report and testosterone levels), laboratory risk-taking (balloon analog risk task; BART), and self-reported risk-taking tendency (Behavior Inhibition System/Behavior Activation System questionnaire) were collected at both time points. The longitudinal analyses confirmed the quadratic age pattern for nucleus accumbens activity to rewards (peaking in adolescence), and the same quadratic pattern was found for laboratory risk-taking (BART). Nucleus accumbens activity change was further related to change in testosterone and self-reported reward-sensitivity (BAS Drive). Thus, this longitudinal analysis provides new insight in risk-taking and reward sensitivity in adolescence: (1) confirming an adolescent peak in nucleus accumbens activity, and (2) underlining a critical role for pubertal hormones and individual differences in risk-taking tendency.

Key words: adolescence; puberty; reward processing; risk-taking

Introduction

Adolescence is a natural time for explorative learning, risk-taking, and sensation seeking (Dahl, 2004; Steinberg, 2008). Cross-sectional studies have demonstrated that the nucleus accumbens (NAcc), an important region in the brain's reward circuitry (Delgado, 2007), shows peak activity in adolescence relative to childhood and adulthood when receiving rewards (Galvan et al., 2006; Braams et al., 2014), and this neural response correlates with self-report real-life risk-taking behavior (Galvan et al., 2007). These studies led to the hypothesis that NAcc activity may be an important contributor to adolescent risk-taking. However, the heightened NAcc response is not consistently found across studies (Bjork et al., 2004, 2010) and behavioral risk-taking measures do not always show the expected adolescent peak in risk-taking behavior (Defoe et al., 2015). In addition, few studies examined the relation between NAcc activity and risk-taking behavior directly (but see Galvan et al., 2007). Thus, despite the promising initial assumption that NAcc may be a biomarker for adolescent risk-taking, the relation between NAcc activity and risk-taking remains poorly understood.

One potential factor explaining the relation between NAcc activity and risk-taking behavior is the possible driving force of pubertal development, specifically testosterone levels (Nelson et al., 2005; Peper et al., 2013a; van Duijvenvoorde et al., 2014). A prior longitudinal study showed that changes in NAcc reactivity were related to changes in testosterone levels at the onset of puberty (Spielberg et al., 2014). A second factor, which may explain inconsistent results in prior studies, concerns individual differences in risk-taking tendency (Urošević et al., 2012; van Duijvenvoorde et al., 2014). Longitudinal studies are pivotal for testing these questions, because when there is high variability between individuals, individual slopes are more informative for detecting change. Moreover, longitudinal analyses give information about how individual differences in neural activity covary with risk-taking behavior over time (Crone and Elzinga, 2015).

The current study used a longitudinal design to test the relations between NAcc activity to rewards, pubertal development, and risk-taking behavior. All participants performed a gambling

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Table 1. Analyzed data, after exclusion, for each measure on each time point

	Time point 1		Time point 2	
	N (*n* males)	Age, mean (SD)	*N* (*n* males)	Age, mean (SD)
PDS	236 (117)	13.18 (3.65)	205 (98)	14.23 (3.54)
Testosterone	285 (138)	13.97 (3.66)	273 (13)	15.83 (3.54)
BART	294 (143)	13.97 (3.81)	250 (119)	16.07 (3.54)
BIS/BAS	277 (131)	14.01 (3.65)	286 (135)	15.81 (3.54)
fMRI	249 (102)	14.74 (3.65)	238 (116)	16.77 (3.54)

task in which they could win or lose money (Braams et al., 2014). In addition, participants completed the balloon analog risk task (BART), a well validated measure corresponding with real-life risk-taking behaviors, such as substance use (Lejuez et al., 2003) and the Behavior Inhibition System/Behavior Activation System (BIS/BAS) questionnaire to assess self-reported risk-taking tendency (Carver and White, 1994). Finally, all participants completed the Pubertal Development Scale (PDS; Petersen et al., 1988) and testosterone levels were collected from saliva (Peper et al., 2013a). For each variable, we tested, using nonlinear mixed models, linear [continuous rise (or fall) over development], quadratic (adolescent-specific U or inverted U shape), or cubic (adolescent-emergent) developmental patterns (Ordaz et al., 2013; Somerville et al., 2013). Second, we tested whether changes in puberty and risk-taking behavior contributed to the presumed peak in NAcc activity in adolescence (Spielberg et al., 2014).

Materials and Methods

Participants

The current study was part of a large longitudinal study, referred to as Braintime, conducted at Leiden University, the Netherlands. On the first time point (T1) data were collected from 299 participants ($Mean_{age}$ = 14.15 years; SD_{age} = 3.56; $Range_{age}$ = 8.01–25.95 years; 143 males). Approximately 2 years later ($Mean_{time\text{-}difference}$ = 1.99 years; $SD_{time\text{-}difference}$ = 0.10; $Range_{time\text{-}difference}$ = 1.66–2.47 years) all participants were invited for data collection for the second time point (T2). Thirteen participants indicated that they could not or did not want to participate again. Therefore, data were collected from 286 participants ($Mean_{age}$ = 15.80 years; SD_{age} = 3.54; $Range_{age}$ = 9.92–26.62 years; 135 males).

Of the 286 participants who took part at T2, 32 participants could not participate in the MRI session due to braces. For the group that was excluded from MRI participation, questionnaire measures and hormone samples were still collected. Sample sizes and reasons for exclusion for each measure (i.e., fMRI, PDS, testosterone, BART, and BIS/BAS questionnaire) are mentioned in the text and available data after exclusion for each measure on each time point are summarized in Table 1. All participants were right-handed, reported normal or corrected-to-normal vision, and an absence of neurological or psychiatric impairments. Results from the first measurements were previously published by Peper et al. (2013a), Braams et al. (2014), and Peters et al. (2014).

Estimated intelligence scores were obtained using two subscales of the Wechsler Adult Intelligence Scale (WAIS) for participants aged 17 and older or the Wechsler Intelligence Scale for Children (WISC) for participants aged 16 and younger. At T1 the subtests similarities and block design of the WISC/WAIS were administered, at T2 the subtests picture completion and vocabulary were administered. There was no correlation between estimated IQ scores and age on both time points (T1: n = 294, r = −0.041, p = 0.49; T2: n = 256, r = 0.045, p = 0.48). All participants provided written informed consent for the study (parental consent and participant assent for children and adolescents) at both time points. All procedures were approved by local institutional review boards. Participants received an endowment for participation in a larger study. Adult participants received 60 euro on each time point, participants aged 12–17 years received 30 euro and participants younger than 12 years received 20 euro on each time point. In addition to this endowment participants could win 4, 5, or 6 euros in the fMRI task (see fMRI task).

Procedure

Participants were prepared for the testing session in a quiet room. They were familiarized with the MRI scanner with a mock scanner and by listening to recordings of the scanner sounds. Next, participants received instructions for the fMRI task (Braams et al., 2014 provides a detailed report of instructions) and performed six practice trials of this task. After the scanning session, participants were seated alone behind a computer in a quiet room where they filled out the PDS and performed the BART. Participants filled out the BIS/BAS questionnaire and collected saliva for testosterone assessment at home before the testing session.

Experimental design and behavioral measures

fMRI task. Participants played a heads or tails gambling game in which they could win or lose money (Braams et al., 2014a,b). On each trial participants guessed whether the computer would pick heads or tails and they won when the computer selected the chosen side of the coin. Each trial started with a trial onset screen (4000 ms) during which the participant indicated their choice to play for heads or tails. On the trial onset screen the participants also saw how much they could win or lose on that trial, explained in more detail below. The trial onset screen was followed by a fixation screen (1000 ms) and a feedback screen, which showed whether participants won or lost on that trial (1500 ms). Trials ended with a variable jitter (1000–13,200 ms; Fig. 1). Trial sequence and timing was optimized using OptSeq. Probabilities for winning were 50%. Three different distributions of coins were included; trials on which two coins could be won and five lost, trials on which three coins could be won or three lost and finally trials on which five coins could be won or two could be lost. These different distributions of coins were included to keep participants engaged in the task, but were not analyzed separately (Braams et al., 2014a,b). Participants were informed about the different distributions of coins and were familiarized with them during the practice task. Participants were explained that the coins won during the experiment translated to real money at the end of the experiment. Participants received 4, 5, or 6 euro's at the end of the task. Unbeknownst to the participants, the total earnings on the task did not relate to the amount won during the task but were chosen at random.

Participants played 30 trials in the gambling game for themselves, 30 trials for their best friend, and 30 trials for another person. The goal of the current study was to specifically assess neural responses to rewards for self, therefore for the current study only trials on which the participants played for themselves were included (Braams et al., 2014a,b provides a description of the data of the first time point for the full task).

Pubertal development

PDS. Pubertal development was assessed with the PDS (Petersen et al., 1988). The PDS is a self-report questionnaire, which contains questions about secondary sexual characteristics. In total, the PDS is comprised of five questions assessing growth spurt, body hair, changes in the skin, and for boys a question about change in voice and facial hair and for girls a question about breast development and menarche. Participants indicated on a four-point scale whether a physical characteristic: (1) had not yet started to develop, (2) was showing the first signs of development, (3) was showing clear development, or (4) had already finished developing. An average score was calculated and used for analyses (Collado-Rodriguez et al., 2014). Participants aged 17 and younger filled out the PDS. The PDS was administered to 265 participants on T1 and 217 on T2. Data from 29 participants on T1 and 12 participants on T2 were not usable for analyses due to computer problems. The final sample for the PDS in analyses was 236 on T1 and 205 at T2 (Table 1).

Testosterone. Testosterone levels were assessed in morning saliva samples. Samples were collected by passive drool, directly after waking up, and before eating or brushing teeth. Females who had not yet reached menarche and males collected saliva on the day of fMRI testing. To control for menstrual fluctuations, postmenarcheal females and females who used contraceptives with a stopping period collected saliva on the seventh day of their menstrual cycle. At the seventh day of the menstrual cycle hormone levels are less influenced by fluctuations in the cycle (Mihm et al., 2011; Peper and Dahl, 2013). Females who used contraceptives without a stopping period, such as hormonal intrauterine devices, were excluded from testosterone assessment.

Testosterone levels for all saliva samples were assayed at the Department of Clinical Chemistry of the VU University Medical Centre. The lower limit of detection was 4 pmol/L. Salivary testosterone was determined by isotope dilution—online solid phase extraction liquid chromatography—tandem mass spectrometry (Peper et al., 2013a). Intra-assay coefficients of variation were 11% and 4% at 10 and 140 pmol/L, respectively, and interassay coefficients of variation were 8% and 5% at 31 and 195 pmol/L, respectively (de Water et al., 2013). Testosterone levels were not normally distributed; therefore, a log-transformed measure for testosterone levels was used in all analyses. Testosterone samples were collected from 292 participants on T1 and 274 participants on T2. Testosterone levels from 25 participants on T1 and three participants on T2 fell below the detection limit of 4 pmol/L. These participants were excluded from further analyses. Seven participants on T1 and one participant on T2 did not collect sufficient amount of saliva for detection. The final number of participants for whom testosterone data were available was 285 on T1 and 273 at T2 (Table 1).

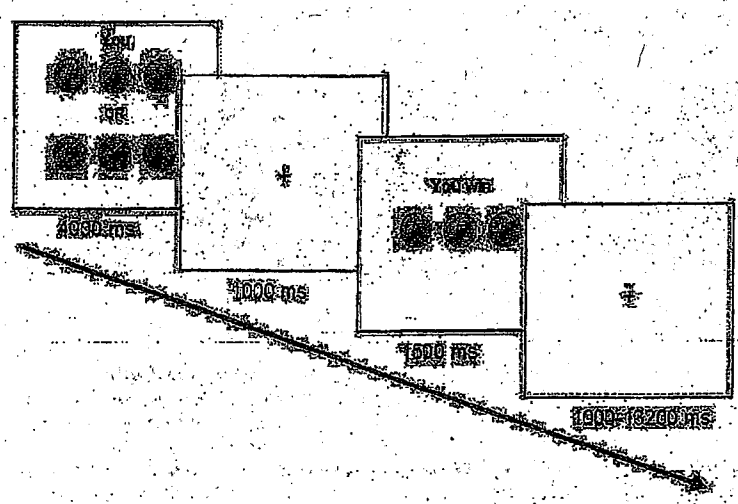

Figure 1. Example of a trial. On trial onset, participants were presented with a screen for 4000 ms indicating how many coins could be won or lost. During this time, participants chose to play heads or tails by pressing the corresponding button. After a 1000 ms delay, trial outcome was presented for 1500 ms. Participants won when the computer randomly selected the same side of the coin as chosen by the participant (Braams et al., 2013).

BART. To assess laboratory risk-taking behavior, we used the BART task (Lejuez et al., 2003; Peper et al., 2013a). Participants were seated in front of a computer screen, which displayed a small balloon, a pump, an indication of total amount earned, and an indication of how much was earned on the last balloon, as well as a cash-out button. Balloons could be inflated by mouse clicks and for each click participants earned €0.05, which was stored in a temporary money bank that was not shown on the screen. At any moment, participants could decide to stop inflating the balloon and collect the money earned on that trial by clicking the cash-out button. The money was then transferred to the permanent bank and the amount earned was displayed on the screen. If participants overinflated the balloon, the balloon popped and all money earned during that trial was lost.

The total task consisted of 30 trials with 10 orange, 10 yellow, and 10 blue balloons. Each color had a different average explosion point of 4, 16, or 64 pumps respectively. Participants were instructed to gain as much money as possible by pumping up balloons. They were explained that they could pump up balloons as far as they liked and they could stop at any time. They were also explained that each balloon would pop at some point and that this explosion could occur anywhere between the first pump and the moment when the balloon filled the full screen. Participants were not informed about the different probabilities of exploding. The total number of explosions was used as the dependent variable in analyses for the BART (Peper et al., 2013a).

The BART was administered during the laboratory visit. Therefore, only participants who participated in the MRI session performed the BART. In total 294 participants at T1 and 250 at T2 completed the BART. No participants were excluded from analyses (Table 1).

BIS/BAS questionnaire. To measure self-reported risk-taking tendency participants completed the BIS/BAS questionnaire (Carver and White, 1994), which refers to the BIS and the BAS. The BIS/BAS questionnaire consists of 24 items and is comprised of four scales, one that measures punishment sensitivity (BIS) and three that measure individuals' risk-taking tendency (BAS Drive, BAS Fun Seeking, and BAS Reward Responsiveness). BAS Drive measures persistence in the pursuit of goals, BAS Fun Seeking measures a desire for rewards and the willingness to approach potential rewards, and BAS Reward Responsiveness measures responses to rewards or anticipation of rewards. Participants were asked to indicate on a four-point scale (1: strongly agree to 4: strongly disagree) how well a statement described them. Higher scores indicated greater punishment or risk-taking tendency. The final sample for BIS/BAS analyses was 277 on T1 and 286 at T2 (Table 1).

MRI data acquisition

Scanning was performed on a 3 tesla Philips scanner, with a standard whole-head coil. The functional scans were acquired using a T2*-weighted echo-planar imaging [TR = 2.2 s, TE = 30 ms, sequential acquisition, 38 slices of 2.75 mm, field-of-view (FOV) 220 mm, 80 × 80 matrix, in-plane resolution 2.75 mm]. The first two volumes were discarded to allow for equilibration of T1 saturation effects. After the functional runs, a high-resolution 3D T1-weighted anatomical image was collected (TR = 9.751 ms, TE = 4.59 ms, flip angle = 8°, 140 slices, 0.875 mm × 0.875 mm × 1.2 mm, and FOV = 224.000 × 168.000 × 177.333). Visual stimuli were displayed on a screen in the magnet bore. A mirror attached to the head coil allowed participants to view the screen. Foam inserts inside the coil were used to limit head movement. MRI data acquisition was similar at the two time points (Braams et al., 2014b).

fMRI preprocessing and statistical analyses

At T1 299 participants were included in the MRI session and at T2 254 participants. For fMRI analyses, 36 participants on T1 and 10 participants on T2 were excluded for moving >1 voxel. An additional 14 participants on T1, and six participants on T2, were excluded for not finishing the task, technical problems and/or artifacts during data collection. The final sample for fMRI analyses was therefore 249 participants on T1 and 238 participants on T2 (Table 1).

All data were analyzed with SPM8 (Wellcome Department of Cognitive Neurology, London). Images were corrected for slice timing acquisition and differences in rigid body motion. Structural and functional volumes were spatially normalized to T1 templates. Translational movement parameters never exceeded 1 voxel (<3 mm) in any direction for any participant or scan. The normalization algorithm used a 12-parameter affine transform together with a nonlinear transformation involving cosine basis functions and resampled the volumes to 3 mm^3 voxels. Templates were based on the MNI305 stereotaxic space. Functional volumes were spatially smoothed with a 6 mm FWHM isotropic Gaussian kernel. Statistical analyses were performed on individual subjects data using the general linear model in SPM8. The fMRI time series were modeled as a series of zero duration events convolved with the hemodynamic response function (HRF). On trial onset, events were modeled separately for playing for self, friend, and other. On feedback onset winning and losing for self, friend, and antagonist were modeled. This resulted in three conditions at trial onset (self, friend, other) and six conditions at feedback onset (self win, self lose, friend win, friend lose, other win, other lose). Trials on which the participants failed to respond were modeled separately as covariate of no interest and were excluded from further analyses. The modeled events were used as regressors in a

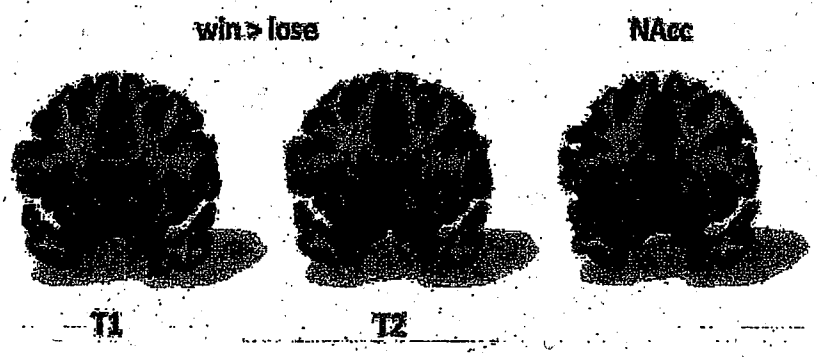

Figure 2. Win > lose when playing for self for T1 and T2 and the anatomical region of the nucleus accumbens used for analyses. All activation is familywise error corrected at voxel level. A threshold of 10 voxels was used as a cutoff for display purposes only. All slices MNI $Y = 12$.

Table 2. Whole-brain table for neural activation for the contrast win > lose when playing for self on the first and second time points

Region	R/L	MNI x	MNI y	MNI z	T (1488)	Voxels
Time point 1						
Caudate nucleus	L	−12	14	−5	12.64	831
	R	12	14	−5	12.64	831
Caudate nucleus	R	21	−16	25	5.82	43
Putamen	L	−24	−13	28	5.62	48
Anterior cingulate cortex	L	0	50	−2	7.72	171
Superior frontal gyrus	L	−18	17	58	6.52	127
	R	24	14	55	5.32	11
Middle cingulate cortex	R	3	−34	37	6.49	350
Paracentral lobule	L	−3	−28	58	5.67	36
Angular gyrus	R	48	−67	40	5.38	24
Angular gyrus	L	−48	−67	43	5.34	35
Inferior occipital gyrus	R	42	−79	−14	5.85	48
					T (1422)	
Time point 2						
Caudate nucleus	R	15	14	−5	13.07	680
	L	−12	14	−5	13.07	680
Superior frontal gyrus	L	−21	35	49	7.05	235
	R	21	32	52	5.43	29
	R	15	32	52	5.32	12
Superior medial gyrus	L	−3	56	4	7.39	380
Middle frontal gyrus	L	−39	53	1	5.31	45
Paracentral lobule	L	−3	−25	58	5.60	176
Postcentral gyrus	L	−27	−34	58	5.51	32
Precuneus	L	−6	−58	10	6.24	125
Angular gyrus	L	−48	−64	49	5.73	66
Cuneus	R	3	−82	25	5.07	20
Cerebellum	R	33	−85	−23	5.00	17

Reported clusters are familywise error corrected at the voxel level. Only clusters of ≥10 voxels are reported.

Table 3. ICC for all variables between time points 1 and 2

Measure	ICC
PDS	0.762
Testosterone	0.842
BART	0.557
BIS	0.644
BAS Drive	0.577
BAS Fun seeking	0.430
BAS Reward Responsiveness	0.502
NAcc L	0.327
NAcc R	0.219

general linear model, along with a basic set of cosine functions that high-pass filtered the data and a covariate for session effects. The least-squares parameter estimates of height of the best-fitting canonical HRF for each condition were used in pairwise contrasts. The resulting contrast images, computed on a subject-by-subject basis, were submitted to random-effects group analyses. The contrast of interest was win > lose when playing for self, specified at the moment of feedback onset.

ROI analysis

We used the MarsBaR toolbox (Brett et al., 2002; http://marsbar.sourceforge.net/) for SPM8 to perform region-of-interest (ROI) analyses to extract patterns of activation in an a priori defined NAcc cluster. Average β values, also known as parameter estimates, were used for ROI analyses. We used an anatomical mask of the left and right NAcc extracted from the Harvard–Oxford subcortical atlas, thresholded at 40%. In total, the mask for the left NAcc consists of 28 voxels and the mask for the right NAcc of 26 voxels. We specifically focused on the NAcc, since previous studies have highlighted this part of the ventral striatum as a key region in reward-based processing (Delgado, 2007; Braams et al., 2014b). Whole-brain analyses for the contrast win > lose yielded results in the bilateral ventral striatum, including the NAcc, on both time points (Fig. 2; Table 2).

Mixed-model building procedure

Analyses were performed using a mixed models approach in R (R Core Team, 2014) and package *nlme* (Pinheiro et al., 2013). Mixed models (also known as hierarchical linear modeling, multilevel modeling, or random-effects modeling) allow for data hierarchies as observed in longitudinal datasets. Time points within a longitudinal dataset are nested within participants and a mixed-models approach recognizes this type of data dependency. Mixed models were used to determine general patterns, i.e., grand mean trajectories, of age-related change (linear, quadratic, or cubic) and within these general patterns, assess individual variation in intercepts (i.e., starting points) and slopes (i.e., pattern of change over time). These goals concur with: (1) the inclusion of fixed effects that account for a grand-mean trajectory thereby capturing the mean developmental pathway of the full sample, and (2) random effects that can test for individual variation in intercepts and slopes.

The first aim was to describe normative development of NAcc activity, self-reported puberty, testosterone levels, BART (laboratory risk-taking behavior) and BIS/BAS (self-reported risk-taking tendency) in relation to age. These normative developmental changes were investigated by testing which pattern of age-related change (linear, quadratic, or cubic) best explained the relationship between age and each of the measures (NAcc activity, PDS, testosterone, BART, and BIS/BAS). For all analyses we examined whether sex explained additional variance, based on prior studies which suggested that boys may be more sensitive to risk-taking than girls (Peper et al., 2013a).

To test developmental effects, all mixed-models followed a formal model-fitting procedure. That is, we started with a null model that included a fixed and a random intercept, to allow for individual differences in starting points and account for the repeated nature of the data. The null model with random intercept was compared against three additional models that tested the grand mean trajectory of age. These models were created by adding three polynomial terms (linear, quadratic, and cubic; mean-centered) for age to the null model. Linear effects of age indicate a monotonic change over age, quadratic effects of age indicate an adolescent-specific effect, in which adolescent responses differ from those of children and adults, and finally cubic effects of age indicate an adolescent emergent pattern in which responses are stable in childhood, then rise in adolescence and then stabilize in adulthood (Somerville et al., 2013). Akaike Information Criterion (AIC; Akaike, 1974) values as well as Bayesian Information Criterion (BIC; Schwarz, 1978) values were compared between the null model and each of the models with a polynomial term for age to test whether a null model, linear, quadratic or cubic model best explained the relationship between the dependent mea-

sure and age. AIC and BIC are standardized model-fit metrics that allows for comparison of models. Preferred models have lower AIC and BIC values. To formally compare whether models with lower AIC and BIC values were significantly better, we compared models differing one degree of freedom (i.e., null and linear, linear and quadratic, and quadratic and cubic) using a log likelihood ratio test. Note that the final model was only selected if the fixed age-term was also significant.

The next step in the model-building procedure was to determine whether there were significant individual differences in the effects of age by adding a random-slope of age to each of the best-fitting models. A random-slope of age allows the inclusion of different β-coefficients for each subject. A significant random-slope term would indicate significant individual differences for the effect of age. The significance of the random terms was determined via AIC and BIC evaluation for improvement in model fit, as well as a log likelihood ratio test. Level of significant used for the log likelihood ratio test was $p < 0.05$. Only if a random slope significantly improved model fit as indicated by a log likelihood ratio test, the random slope was included in the last step. For none of the models, except for one model described below, a random slope improved model fit indicating that the effect of age did not differ between participants. Only for the model describing the relationship between age and total explosions on the BART a random slope improved model fit. Therefore, a description of the random slope is included for this model and not for the other models.

In the last step, we added a fixed main effect of sex and an interaction between sex and age to the best-fitting model (i.e., with or without random slope of age). Sex was entered as a dummy variable with females coded as the reference group. Improvement of model fit was assessed with AIC and BIC values. Log likelihood ratio tests for the interaction with sex are not included because models with an interaction effect with sex differ more than one degree of freedom with models without an interaction with sex.

All models were fit with full information maximum likelihood estimates. A fitted mixed-model with only a mean-centered, linear term of age (referred to as Age Linear) reads in formal notation:

Level 1:

$$Y_{ti} = \pi_{0i} + \pi_{1i} * (\text{Age Linear})_{ti} + e_{ti}.$$

Level 2:

$$\pi_{0i} = \gamma_{00} + r_{0i},$$

$$\pi_{1i} = \gamma_{10} + r_{1i}.$$

In which Y_{ti} represents, for instance, testosterone level at the t'th time point for the i'th individual. Substitution of the second level model into the first level model gives the integrated model that was fitted to the data. As age is mean-centered, the fixed intercept γ_{00} represents grand mean testosterone level at the mean age of the sample. γ_{10} Represents the grand mean slope (main effect) of age (linear). The random intercept (r_{0i}) captures between-participant variance in the intercept (e.g., individual differences in the mean testosterone level at the mean age of the sample), and individual differences in the slope(r_{1i}, i.e., the change in testosterone-level over age). Finally, the variance of e_{ti} denotes within-participant variance. We fitted separate models for each measure of interest (NAcc activity, PDS, testosterone, BART, BIS/BAS) and describe the best fitting model for each measure in the results section. The code used to fit a linear model in R reads as follows:

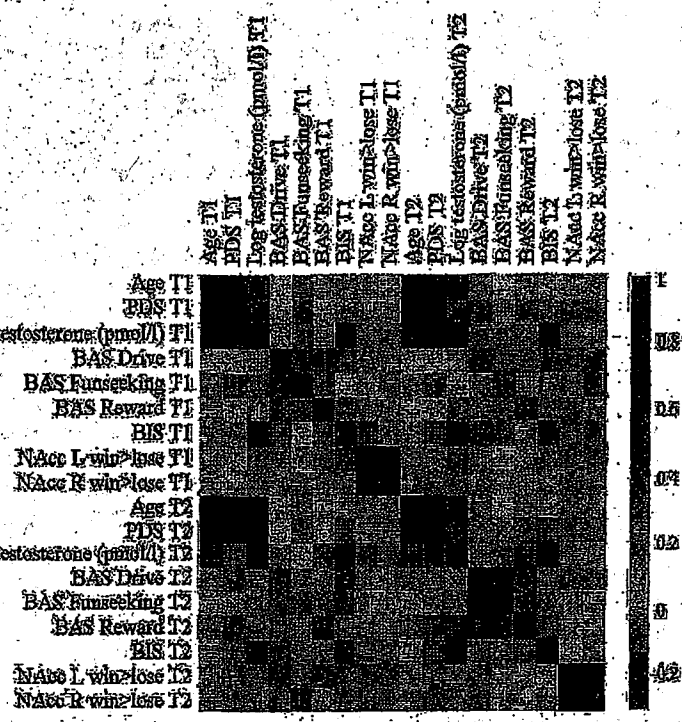

Figure 3. Correlation matrix of all variables on time points 1 and 2.

Table 4. AIC and BIC values for null, linear, quadratic, and cubic models to describe the relationship with age and each of the measures reported in the table

	Model							
	Null		Linear		Quadratic		Cubic	
Measure	AIC	BIC	AIC	BIC	AIC	BIC	AIC	BIC
PDS	1033	1046	682	699	684	705	**661**	**686**
Testosterone	869	882	709	726	658	679	**651**	**676**
BART	2960	2973	2942	2959	**2930**	**2952**	2930	2956
BIS	**2987**	**3000**	2987	3004	2987	3009	2988	3014
BAS Drive	**2426**	**2439**	2427	2443	2428	2450	2428	2454
BAS Fun Seeking	**2288**	**2301**	2290	2307	2290	2312	2290	2316
BAS Reward	**2278**	**2291**	2279	2296	2280	2301	2280	2306
NAcc L	2249	2261	2250	2267	**2239**	**2260**	2241	2266
NAcc R	2279	2292	2281	2298	**2271**	**2292**	2273	2298

Preferred models are indicated in boldface type.

```
library(nlme),
model name < _lme(name dependent variable ~ poly(Age,1),
data = dataname, random = ~ 1|Subject, method
= "ML," na.action = na.exclude).
```

To fit a quadratic model the poly term is replaced by "poly(Age, 2)" and for a cubic term the poly term is replaced by "poly(Age, 3)." Including a random slope for age would be achieved by replacing "random = ~1|Subject" by "random = ~Age|Subject." Main and interaction effects are included by adding +Sex for a main effect of Sex or ×Sex for an interaction effect, after the poly term.

The second aim was to test how puberty (PDS and testosterone) and risk-taking tendency (BART and BIS/BAS) explained variance in the presumed quadratic relation between NAcc activity and age. That is, we aimed to test a combined model of all measures, i.e., age, PDS, testosterone, BART score, and BIS/BAS, to account for NAcc neural activation. Our model-fitting procedure involved several steps. The first model was the best fitting age model (linear, quadratic, or cubic term of age) for

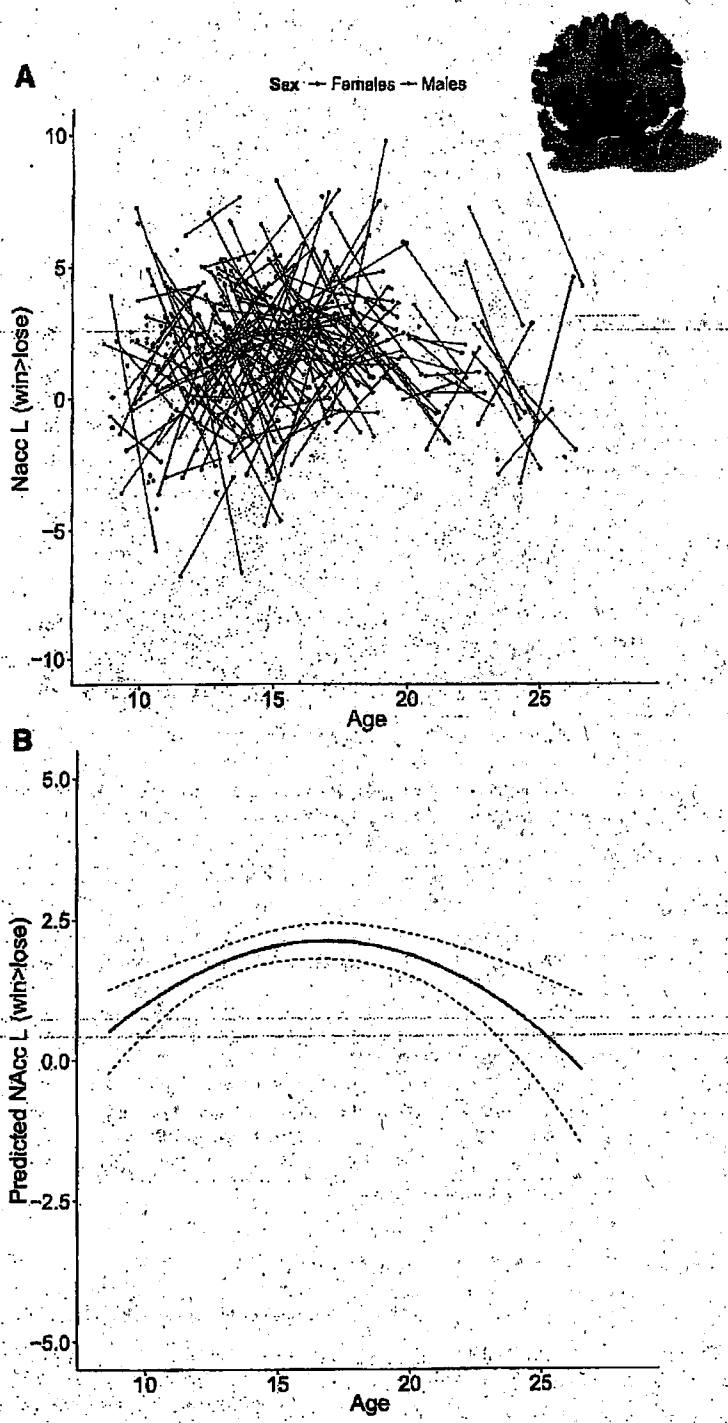

Figure 4. *A*, Longitudinal graphic representation of age at both time points and contrast values for win > lose for the left nucleus accumbens on both time points. Individual subjects are represented by individual lines. Subjects measured only once are represented by points. Right nucleus accumbens, not represented in a figure, shows similar effects. *B*, Predicted values for contrast values for win > lose for the left nucleus accumbens based on the optimal fitting model. Right nucleus accumbens, not represented in a figure, shows similar effects. Dotted lines represent 95% confidence interval.

NAcc response determined in previous analysis. To test whether other measurements explained additional variance above age, we then added a linear, quadratic, and cubic term for each of the other measurements (PDS, testosterone, BART, BIS/BAS) separately. Improvement of model fit was assessed by evaluation of AIC values. If model fit improved, we tested which term (linear, quadratic, or cubic) explained most variance and higher terms were excluded. That is to say, if the linear term was significant, then the quadratic and cubic terms were omitted from the model. We then tested whether adding an additional measurement explained more variance until all measurements were added in a stepwise manner. This resulted in a model in which each included term explained unique variance in NAcc responses to rewards. We then tested whether significant differences in change over time existed for these measures by adding random slope terms for each measure. Again, model fit was assessed by evaluation of AIC and BIC values, and log likelihood ratio tests. Finally, the effect of sex was assessed by adding a fixed main effect of sex and an interaction term of sex. Evaluation of AIC and BIC values determined improved model fit. This model fitting procedure resulted in a most optimal model for explaining NAcc responses to rewards. Models were tested for neural responses to rewards in left, as well as right, NAcc.

Correlations within and between measures

Intraclass correlations (ICC) can be used to describe how strongly correlated units within the same group are, and in longitudinal samples to describe homogeneity of the data. To test whether homogeneity of the data were sufficient for mixed model procedures, ICC between the first and second time point were calculated for all measures (neural activity, PDS, testosterone, BART, and all subscales of the BIS/BAS). ICCs were modeled with a two-way mixed model with absolute agreement. ICC values were determined using IBM SPSS Statistics for Windows, v21. Average ICC values are reported in Table 3. All values are >0.10, which indicates sufficient nesting of observations within individuals, necessary for mixed model fitting procedures (Lee, 2000; Ordaz et al., 2013).

When measures are highly correlated this might result in erratic changes in coefficient estimates, therefore it is important to assess the relation between all the measures included in the current study. To assess correlations between measures (and between time points 1 and 2), Pearson's correlations were calculated. Correlations are reported in a colored correlation matrix in Figure 3. The correlation between age and PDS scores was high on both time points (T1: $r = 0.78$, $p < 0.001$; T2: $r = 0.75$, $p < 0.001$), as well as the correlation between left and right NAcc activity (T1: $r = 0.81$, $p < 0.001$; T2: $r = 0.72$, $p < 0.001$). Correlations between other measures were between $r = -0.28$ and $r = 0.57$.

Results

Developmental effects

We tested, for each measure separately, whether age showed a linear, quadratic, or cubic relationship with NAcc activity, pubertal development (PDS, testosterone), and risk-taking tendency (BART, BIS/BAS). AIC and BIC values were used to guide which models were selected to characterize the relationship between age and each of the measures (see Mixed-model building procedure). A formal model comparison was

done using a log likelihood ratio test. The AIC and BIC values for all null, linear, quadratic, and cubic models are listed in Table 4.

Relationship between NAcc activity and age

The relationship between NAcc activity (for both left and right NAcc) in response to rewards and age was best explained by a quadratic age-model. This model indicated that neural responses to rewards peak during adolescence (Fig. 4 shows raw data and predicted data from the model). Significant individual variability existed in the intercept, indicated by a random intercept. This shows that individuals vary significantly in the NAcc response. There was no main effect of sex or interaction between age (quadratic) and sex. See Table 5 for a full description of the model.

Relationship between PDS and age

The relationship between PDS score and age was best explained by a cubic age-model. This adolescent emergent effect indicates that PDS scores are stable in childhood, then rise steeply in adolescence, and then stabilize in adulthood (Fig. 5 shows the raw and predicted data from the model). For PDS, individual variability existed in the intercept. This indicates that individuals differ significantly in their PDS score.

Adding a main effect and interaction of sex to the model resulted in lower AIC and BIC values, indicating improved model fit. The main effect of sex was significant, showing that girls had significantly higher PDS scores compared with boys. There was a significant interaction between age (linear) and sex, which indicates that girls showed a steeper increase in PDS scores compared with boys. In addition, the interaction between age (quadratic) and sex was significant. This interaction indicates that the quadratic fit is significantly different for boys and girls. The interaction of sex and age (cubic) was not significant, indicating that the cubic effect of age did not differ significantly between males and females (Table 5 shows a full description of the model).

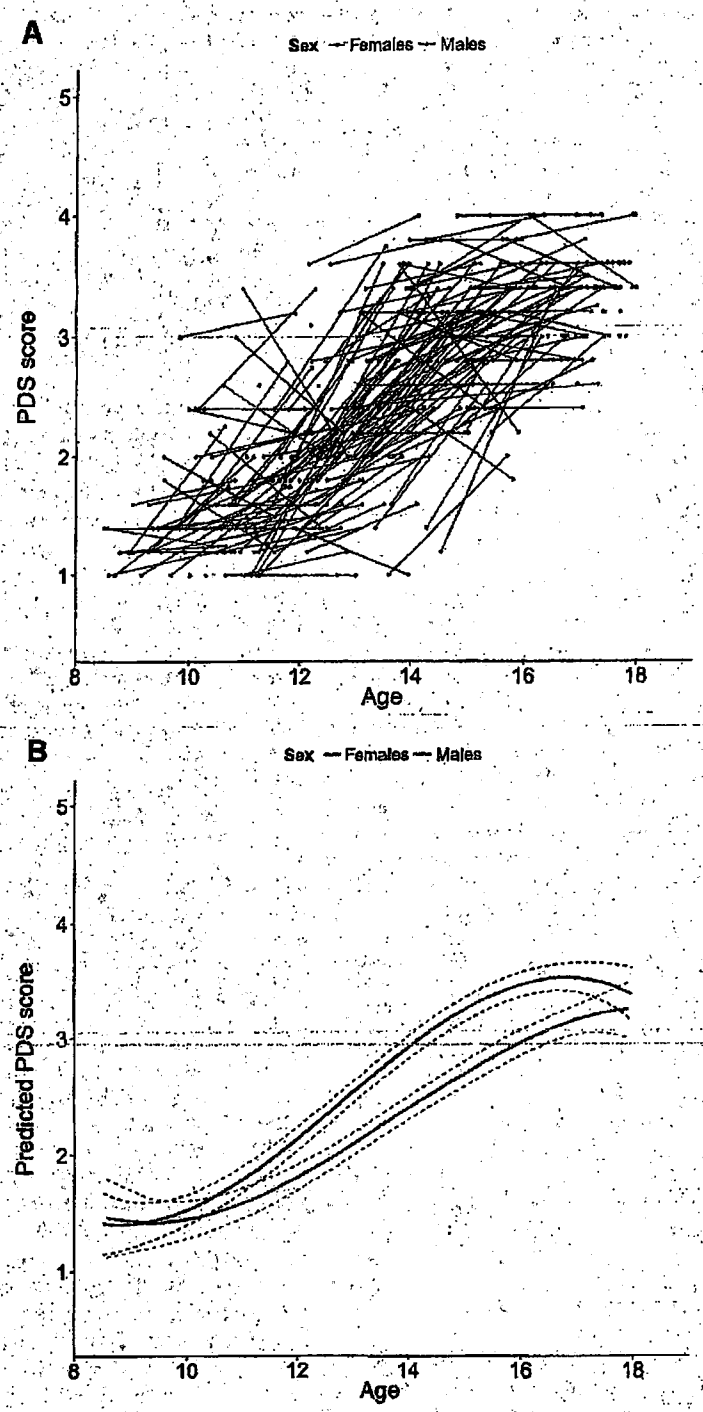

Figure 5. *A*, Longitudinal graphic representation of age at both time points and PDS scores on both time points. Individual subjects are represented by individual lines. Subjects measured only once are represented by points. *B*, Predicted values for PDS scores based on the optimal fitting model. Dotted lines represent 95% confidence interval.

Relationship between pubertal development (testosterone) and age

The relationship between testosterone and age was best explained by a cubic model. This adolescent emergent effect indicates that testosterone levels start low in childhood, then rise steeply in adolescence, and then stabilize in adulthood (Fig. 6 shows raw and predicted data from the model). For testosterone, individual variability existed in the intercept. This indicates that individuals differ significantly in their testosterone levels.

Adding a main effect and an interaction with sex significantly improved the model fit. Significance test showed a main effect of sex, in which boys had higher testosterone values compared with girls. The interaction between sex and age (cubic) was not significant, indicating that the cubic effect of age did not differ significantly between males and females.

Relationship between risk-taking behavior (BART) and age

The relationship between BART and age was best explained by a quadratic age-model. This model indicates a peak in number of explosions on the BART during adolescence (Fig. 7 shows

Table 5. Variances, beta's (β), p values, and 95% confidence intervals (CIs) for the best fitting models for age and NAcc activation (left and right), PDS, testosterone levels, BART, and all scales of the BIS/BAS questionnaire

	Variance	β	p	95% CI Lower	95% CI Upper
Nacc L					
Random effect					
Intercept	1.01			0.68	1.52
Fixed effects					
Intercept		1.73	0.00	1.49	1.96
Age^1		1.38	0.59	−3.67	6.43
Age^2		−9.44	0.00	−14.42	−4.45
Nacc R					
Random effect					
Intercept	0.83			0.50	1.41
Fixed effects					
Intercept		1.87	0.00	1.64	2.11
Age^1		0.64	0.81	−4.48	5.76
Age^2		−9.11	0.00	−14.18	−4.03
PDS					
Random effect					
Intercept	0.30			0.25	0.36
Fixed effects					
Intercept		2.69	0.00	2.62	2.77
Age^1		14.61	0.00	13.26	15.97
Age^2		−1.52	0.02	−2.75	−0.29
Age^3		−2.86	0.00	−3.98	−1.74
Sex		−0.37	0.00	−0.48	−0.27
Age^1 × sex		−2.10	0.04	−4.13	−0.08
Age^2 × sex		2.57	0.01	0.71	4.43
Age^3 × sex		1.07	0.23	−0.68	2.82
Testosterone					
Random effects					
Intercept	0.18			0.15	0.22
Fixed effects					
Intercept		1.27	0.00	1.23	1.31
Age^1		3.36	0.00	2.26	4.45
Age^2		−1.41	0.03	−2.65	−0.17
Age^3		1.58	0.00	0.51	2.65
Sex		0.74	0.00	0.68	0.81
Age^1 × sex		8.25	0.00	6.80	9.70
Age^2 × sex		−5.32	0.00	−6.85	−3.79
Age^3 × sex		−0.44	0.53	−1.81	0.93
BART					
Random effects					
Intercept	5.19			3.24	8.32
Age	0.33			0.20	0.54
Fixed effects					
Intercept		11.26	0.00	10.90	11.62
Age^1		17.57	0.00	8.44	26.69
Age^2		−16.11	0.00	−24.94	−7.27
BIS					
Random effect					
Intercept	2.51			2.18	2.88
Fixed effect					
Intercept		19.54	0.00	19.18	19.90
BAS Drive					
Random effect					
Intercept	1.39			1.18	1.62
Fixed effect					
Intercept		10.78	0.00	10.57	10.99
BAS Fun Seeking					
Random effect					
Intercept	0.97			0.79	1.19
Fixed effect					
Intercept		11.70	0.00	11.53	11.88
BAS Reward					
Random effect					
Intercept	1.08			0.90	1.30
Fixed effect					
Intercept		17.16	0.00	16.98	17.33

Linear age terms are represented by Age^1, quadratic age terms by Age^2, and cubic age terms by Age^3.

raw data and predicted data from the model). For total number of explosions, individual variability existed in the intercept and the random slope term. These findings indicate that individuals differ significantly in their number of explosions, and that variability existed in the change in number of explosions. Adding a main effect and interaction effect of sex did not significantly improve model fit (Table 5 shows a full description of the model).

Relationship between risk-taking behavior (BIS/BAS) and age

For all of the BIS/BAS scales the best model was the null model. This means that for none of the scales there was a significant effect of age (Table 5 shows a full description of the model).

Unique contributions

The analysis for unique contributions of testosterone, BART, and BIS/BAS to NAcc activity was performed twice; once for a model with age as the first predictor, and once for a model with PDS as the first predictor. The reason for performing these analyses twice is that age and PDS were highly correlated (T1: $r = 0.78, p < 0.001$; T2: $r = 0.75, p < 0.001$), therefore, adding them to the same model could result in erratic changes in coefficient estimates.

Relationship between NAcc responses, age, testosterone, BART, and BIS/BAS

The starting model was the model that best described the relationship between age and NAcc responses. This was for both left and right NAcc response a model with a quadratic age term, without a random slope term for age and no main or interaction effect of sex (left NAcc: AIC 1965, BIC 1985; right NAcc: AIC 2002, BIC 2023). We then added linear, quadratic, and cubic terms for testosterone, BART, and BIS/BAS. The model comparisons resulted in the following outcomes: (1) model fit did not improve by adding testosterone values (left NAcc: AIC 1967, BIC 1999; right NAcc: AIC 2008, BIC 2040). (2) Model fit did not improve when BART scores were added (left NAcc: AIC 1969, BIC 2002; right NAcc: AIC 2007, BIC 2040). (3) Model fit improved when adding BAS drive to the model (left NAcc: AIC 1964, BIC 1996; right NAcc: AIC 2000, BIC 2033). Only the linear term was significant and a model with only a linear term for BAS Drive was significantly better than the null model (left NAcc: AIC 1961, BIC 1985; right NAcc: AIC 1997, BIC 2022). (4) Stepwise inclusion of the other subscales, BAS Reward Responsiveness (left NAcc: AIC 1965, BIC 2001; right NAcc: AIC 2002, BIC 2039), BAS Fun Seeking (left NAcc: AIC 1967, BIC 2003; right NAcc: AIC 2003, BIC 2039), and BIS (left NAcc: AIC 1966, BIC 2002; right NAcc: AIC 2005, BIC 2036), did not result in improvement of model fit. (5) Finally, to test whether including sex improved the model fit, we added a main and interaction effect for sex. This resulted in a lower AIC value (left NAcc: AIC 1960, BIC 1993; right NAcc: AIC 2001, BIC 2034), but both the main and interaction effect of sex were not significant, therefore we excluded sex from the final model.

Together, the final model for both left and right NAcc comprised of a quadratic term for age and a linear term for BAS Drive. A description of the final model for both the left and right NAcc can be found in Table 6.

Relationship between NAcc responses, PDS, testosterone, BART, and BIS/BAS

A separate analysis was performed for left and right NAcc relations with PDS. Again, for this model we tested whether model fit improved when including a linear, quadratic, and cubic term for PDS, followed by testosterone, BART, and BIS/BAS. The model

fitting procedure for left NAcc resulted in the following outcomes: (1) adding PDS resulted in a significantly better model fit compared with the null model based on evaluation of AIC values (null model left NAcc: AIC 1979, BIC 1988; PDS model left NAcc: AIC 1473, BIC 1496). Only the linear term for PDS was significant. (2) Adding testosterone to the model improved model fit based on evaluation of AIC values and a log likelihood ratio test (left NAcc: AIC 1470, BIC 1496). The linear term for testosterone was significant. (3) Adding BART to the model did not improve model fit (left NAcc: AIC 1472, BIC 1501). (4) Including BAS Drive significantly improved model fit (left NAcc: AIC 1466, BIC 1496). Only the linear term for BAS Drive was significant. (5) A stepwise inclusion of the other BIS/BAS scales did not result in improvement of model fit (BIS left NAcc: AIC 1469, BIC 1502; BAS Fun Seeking left NAcc: AIC 1469, BIC 1503; BAS Reward Responsiveness left NAcc: AIC 1466, BIC 1500). (6) Finally, we assessed whether including a main and interaction effect of sex improved model fit. The main and interaction effects for sex were note significant for any of the measures (left NAcc: AIC 1470, BIC 1508).

Together, the final model for left NAcc comprised of a linear term for PDS, a linear term for testosterone and a linear term for BAS Drive. No random slope terms and no main effect or interaction effect for sex improved the model. For the right NAcc a model with only a linear term for BAS Drive without a random slope term or main, and interaction effect of sex was the most optimal model. A description of both models can be found in Table 6.

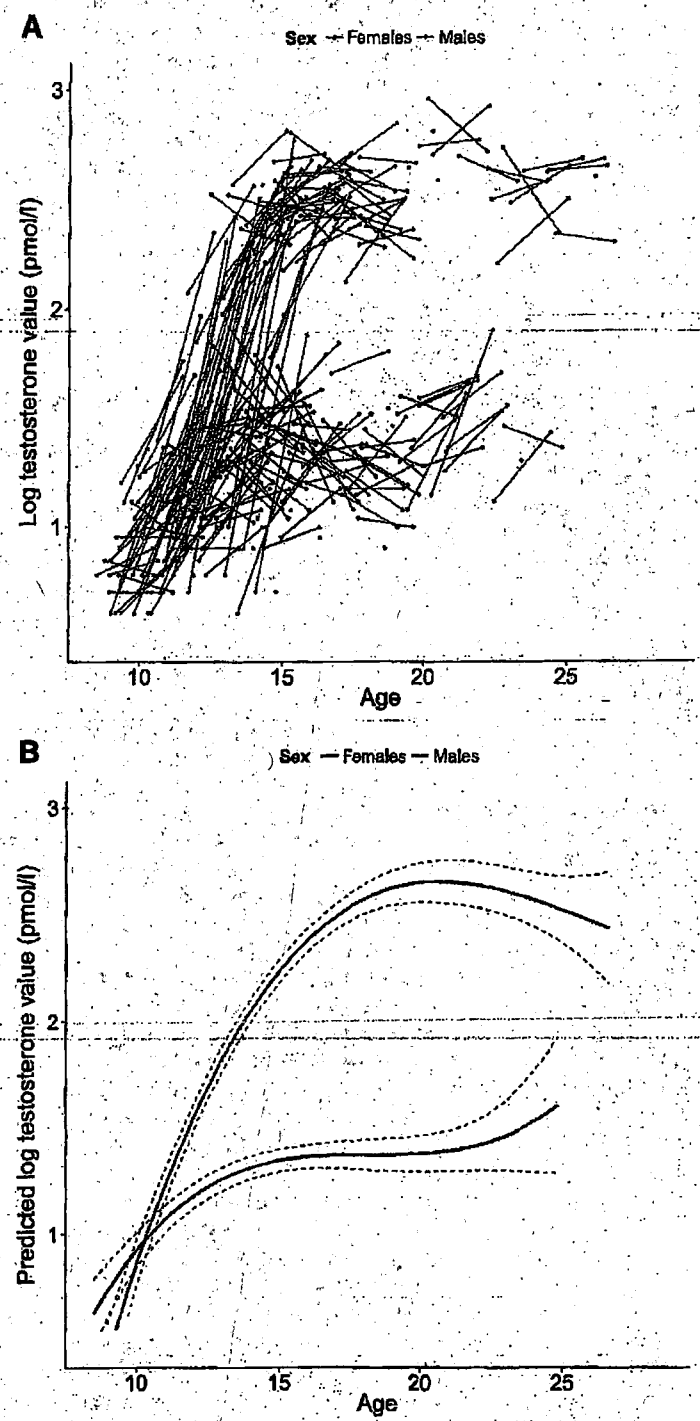

Figure 6. A, Longitudinal graphic representation of age at both time points and testosterone values on both time points. Individual subjects are represented by individual lines. Subjects measured only once are represented by points. B, Predicted values for testosterone values based on the optimal fitting model. Dotted lines represent 95% confidence interval.

Discussion

This study describes longitudinal changes in neural activity in NAcc in response to rewards across childhood, adolescence, and early adulthood. We investigated exploratory relations with pubertal changes, as measured with testosterone and self-report, and risk-taking behavior, as measured with the laboratory BART task and self-reported risk-taking tendency. The first goal of this longitudinal study was to examine age related changes in NAcc activity to rewards, pubertal development (PDS and testosterone levels), and risk-taking behavior (laboratory risk-taking and self-reported risk-taking tendency) in a large sample with continuous age range between 8 and 27 years. The second goal was to investigate the relationship between neural responses to rewards and age, pubertal development, and risk-taking behavior. The discussion is organized to follow these objectives.

Relationship between age and pubertal development, testosterone, risk-taking, and reward sensitivity

The results of the longitudinal analyses confirmed the previously reported peak in NAcc activity in response to rewards (Ernst et al., 2005; Galvan et al., 2006; Van Leijenhorst et al., 2010; Braams et al., 2014b). Given the longitudinal assessment, these changes cannot be attributed to cohort-effects and are consistent with a

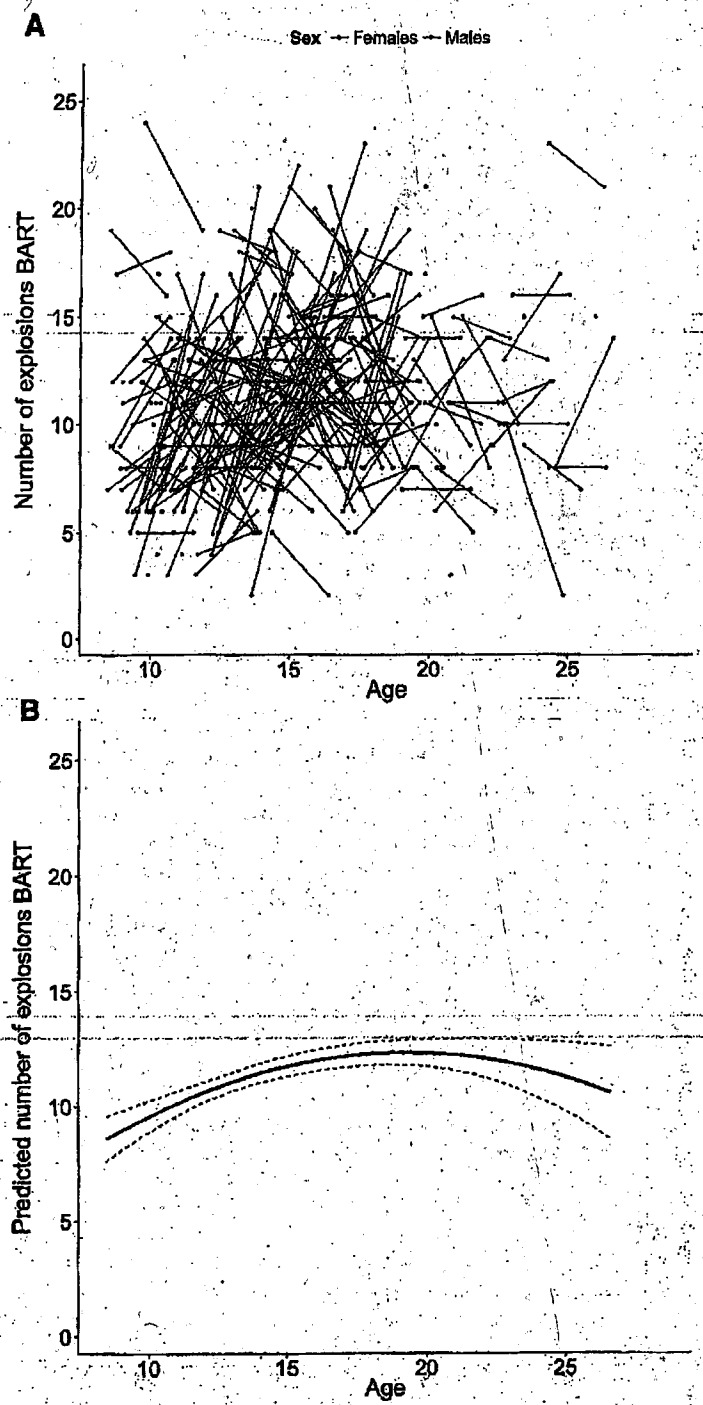

Figure 7. *A*, Longitudinal graphic representation of age at both time points and total number of explosions in the BART on both time points. Individual subjects are represented by individual lines. Subjects measured only once are represented by points. *B*, Predicted values for total numbers of explosions in the BART based on the optimal fitting model. Dotted lines represent 95% confidence interval.

prior longitudinal study showing structural quadratic change in NAcc volume (Urošević et al., 2012).

The same developmental change question was addressed for two complementary indices of pubertal development: self-reported puberty and testosterone levels. The results for self-reported pubertal changes concur with prior research on pubertal development showing that puberty starts earlier in girls than boys (Carskadon and Acebo, 1993; Sisk and Foster, 2004; Shirtcliff et al., 2009). That is, the data patterns show that girls and boys are comparable in pubertal development until approximately age 12, after which girls show faster pubertal development, as measured with the PDS compared with boys. At approximately age 17, PDS scores for girls and boys are again at the same level (Dorn and Biro, 2011). Testosterone levels followed a pattern with a sharp increase of testosterone levels for boys and a more modest increase for girls starting at approximately age 10. For girls testosterone levels stabilized approximately age 15, whereas for boys stability was observed approximately age 18, suggesting not only a steeper, but also a prolonged trajectory of testosterone change in boys than in girls. These results are consistent with a previous study in boys showing that testosterone levels are low until approximately age 10, and then start to rise (Khairullah et al., 2014).

Risk-taking behavior was assessed in two separate ways by using a well validated laboratory risk-taking task (Lejuez et al., 2002, 2003, 2007; the BART) and using a self-report risk-taking tendency questionnaire (BIS/BAS; Carver and White, 1994). Importantly, these two assessments followed different developmental trajectories. First, the laboratory risk-taking task used in this experiment, the BART, followed a quadratic pattern with a peak in mid-adolescence. This pattern resembles observations from two earlier studies examining risk-taking in the laboratory (Figner et al., 2009; Burnett et al., 2010), but also with trajectories of self-reported sensation-seeking (Steinberg et al., 2008; Shulman et al., 2015) and real-life risk-taking behavior (Eaton et al., 2012). In contrast, the self-assessment of risk-taking tendency did not change over age. This could be indicative of an individual difference measure that is not related to age. This is also in line with a longitudinal study assessing changes and stability in BIS/BAS in adolescents and young adults (Takahashi et al., 2007). A previous study investigating BIS/BAS development found a peak in risk-taking tendency across adolescence in a similar age range and with also two time points with a 2 year interval (Urošević et al., 2012). It is currently unclear what causes the differences in the current trajectory of risk-taking tendency and the results reported by Urošević et al. (2012). One possibility is that the current study used age as a continuous variable, whereas in the Urošević et al. (2012) study participants were divided into age groups. Future studies should investigate BIS/BAS development in more detail.

Table 6. Variances, beta's, *p* values, and 95% confidence intervals (CI) for best fitting models for NAcc responses (left and right separately), and age and PDS

	Variance	β	*p*	95% CI Lower	95% CI Upper
Age models					
Nacc L					
Random effect					
Intercept	0.94			0.60	1.46
Fixed effects					
Intercept		1.69	0.00	1.45	1.93
Age[1]		1.16	0.64	−3.77	6.10
Age[2]		−9.22	0.00	−14.11	−4.34
BAS Drive		5.83	0.02	0.97	10.70
Nacc R					
Random effect					
Intercept	1.01				
Fixed effects					
Intercept		1.89	0.00	1.63	2.14
Age[1]		−0.57	0.83	−5.75	4.62
Age[2]		−8.65	0.00	−13.77	−3.52
BAS Drive		6.72	0.01	1.63	11.82
PDS models					
Nacc L					
Random effect					
Intercept	0.75			0.31	1.81
Fixed effects					
Intercept		1.77	0.00	1.50	2.04
PDS[1]		2.77	0.29	−2.37	7.91
Testosterone		6.39	0.02	1.21	11.57
BAS Drive		5.04	0.04	0.22	9.86
Nacc R					
Random effect					
Intercept	1.01			0.72	1.60
Fixed effects					
Intercept		0.89	0.00	1.63	2.14
BAS Drive		7.43	0.01	2.29	12.58

Linear age terms are represented by Age[1] and quadratic age terms by Age[2].

The correlation between BART performance and BIS/BAS scores was low with Pearson correlation coefficients ranging between $r = -0.1$ and $r = 0.1$, confirming that these two components of behavior capture different aspect of individual differences in risk-taking behavior. Similar results have been reported for impulsivity and sensation-seeking which also followed separable developmental trajectories (Steinberg et al., 2008). Possibly self-reported risk-taking is more indicative of reflected risk-taking tendency, which does not show an age-related change, whereas laboratory risk-taking is more indicative of sensation-seeking (Steinberg et al., 2008) or "hot" decision-making (Figner et al., 2009), which peaks in mid-adolescence.

Unique contributions of age, pubertal development, and risk-taking behavior to NAcc change

The next question was whether the trajectories of pubertal development and risk-taking could account for the peak in NAcc activity to rewards in mid-adolescence. This was tested in two separate models, the first assessed the unique contribution of testosterone and risk-taking behavior above age on NAcc activity in response to rewards. The second tested the unique contribution of testosterone and risk-taking behavior above self-reported puberty on Nacc activity in response to rewards.

The first model found that individual differences in self-reported risk-taking tendency, specifically BAS drive, accounted for variation in NAcc activity over time, showing that those individuals who showed a sharper increase in BAS drive scores over time also showed a sharper increase in NAcc activity, in addition to age-related change. These findings are similar to several other studies that examined relations with BAS scales and neural responses to images of food (Beaver et al., 2006) or monetary rewards (Costumero et al., 2013; van Duijvenvoorde et al., 2014). Thus, it is likely that individual differences in self-reported risk-taking tendency fluctuate with neural activity in NAcc.

Based on prior developmental models reporting increases in motivational value of rewards in adolescence (Nelson et al., 2005; Ernst et al., 2006; Somerville et al., 2010), we specifically addressed the question whether changes in testosterone and puberty accounted for changes in NAcc activity. Given that age and puberty were highly correlated, it was statistically challenging to dissociate these patterns; therefore, we tested for the relation between NAcc activity and puberty in a separate model in which age was not included. These analyses indicated that self-reported puberty was linearly related to NAcc activity. That is, we observed that increases in puberty were related to higher NAcc response to rewards. In contrast to the quadratic effects of age, we did not observe a peak in NAcc activation in mid-puberty. Puberty was assessed in participants of 17 years and younger. The peak in NAcc activity was found in mid-puberty, approximately age 15–17. Therefore, a linear relationship between NAcc activity and puberty was expected in participants 17 and younger. Testosterone was linearly related to NAcc activity as well, showing that those individuals with higher testosterone levels over time also showed higher NAcc activity to rewards. These findings are comparable to earlier longitudinal results by Spielberg et al. (2014) who reported in a small age range (11–13 years) that testosterone change predicted NAcc change to observation of emotional faces, to a cross-sectional study that found positive correlations between testosterone levels and NAcc activity when playing a gambling task (Op de Macks et al., 2011), and a study showing a relationship between risk-taking behavior on the BART and testosterone levels (Peper et al., 2013a). In addition, testosterone administration has been found to lead to increases in ventral striatum activity in a monetary anticipation task, suggesting a causal role of testosterone in reward responsiveness (Hermans et al., 2010).

Together, the current findings show that in this adolescent sample, individual differences in pubertal development account for significant variation in the trajectory of NAcc activation. These findings fit well with the Social Information Processing Model of adolescent development (Nelson et al., 2005) which describes risk-taking in terms of an overactive affective node, due to changes in hormone levels.

One limitation of the current study is that we did not parametrically manipulate rewards and losses, and therefore we were not able to distinguish between trajectories of NAcc activity to wins and losses. In addition, in the current study we focused particularly on the contrast winning versus losing. In this way, we were unable to distinguish whether our results are driven by response to rewards or punishment. It is possible that the peak in NAcc activity is driven by a decreased response to losses rather than an increase in response to wins. The results should therefore be interpreted as a relative difference. Future studies should focus on including a neutral baseline to distinguish the different trajectories of NAcc activation to wins and losses. Furthermore, future studies should test differences in neural responses to expected value, outcome and reward prediction errors (van Duijvenvoorde et al., 2015).

Conclusion

This study confirmed the hypothesis of a longitudinal peak in NAcc activity to rewards in mid-adolescence, but additionally showed that change in NAcc activity is associated with individual difference measures including a drive for rewards. Pubertal development was linearly related to NAcc activity suggesting a driving factor of puberty in the increased response to rewards (Crone and Dahl, 2012). An important direction for future research is to investigate which factors lead to stabilization of the response to rewards in early adulthood, which could potentially be related to reductions in NAcc volume with age (Urošević et al., 2012; Mills et al., 2014), top down control of prefrontal cortex over the NAcc (Peper et al., 2013b), or environmental factors. Understanding the longitudinal patterns of brain responses to motivational events is key for future understanding of deviant developmental trajectories, such as substance abuse or crime (Steinberg, 2008; Spear, 2013).

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Emerging Adulthood

A Theory of Development From the Late Teens Through the Twenties

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Emerging adulthood is proposed as a new conception of development for the period from the late teens through the twenties, with a focus on ages 18–25. A theoretical background is presented. Then evidence is provided to support the idea that emerging adulthood is a distinct period demographically, subjectively, and in terms of identity explorations. How emerging adulthood differs from adolescence and young adulthood is explained. Finally, a cultural context for the idea of emerging adulthood is outlined, and it is specified that emerging adulthood exists only in cultures that allow young people a prolonged period of independent role exploration during the late teens and twenties.

When our mothers were our age, they were engaged. . . . They at least had some idea what they were going to do with their lives. . . . I, on the other hand, will have a dual degree in majors that are ambiguous at best and impractical at worst (English and political science), no ring on my finger and no idea who I am, much less what I want to do. . . . Under duress, I will admit that this is a pretty exciting time. Sometimes, when I look out across the wide expanse that is my future, I can see beyond the void. I realize that having nothing ahead to count on means I now have to count on myself; that having no direction means forging one of my own. (Kristen, age 22; Page, 1999, pp. 18, 20)

For most young people in industrialized countries, the years from the late teens through the twenties are years of profound change and importance. During this time, many young people obtain the level of education and training that will provide the foundation for their incomes and occupational achievements for the remainder of their adult work lives (Chisholm & Hurrelmann, 1995; William T. Grant Foundation Commission on Work, Family, and Citizenship, 1988). It is for many people a time of frequent change as various possibilities in love, work, and worldviews are explored (Erikson, 1968; Rindfuss, 1991). By the end of this period, the late twenties, most people have made life choices that have enduring ramifications. When adults later consider the most important events in their lives, they most often name events that took place during this period (Martin & Smyer, 1990).

Sweeping demographic shifts have taken place over the past half century that have made the late teens and early twenties not simply a brief period of transition into adult roles but a distinct period of the life course, characterized by change and exploration of possible life directions. As recently as 1970, the median age of marriage in the United States was about 21 for women and 23 for men; by 1996, it had risen to 25 for women and 27 for men (U.S. Bureau of the Census, 1997). Age of first childbirth followed a similar pattern. Also, since midcentury the proportion of young Americans obtaining higher education after high school has risen steeply from 14% in 1940 to over 60% by the mid-1990s (Arnett & Taber, 1994; Bianchi & Spain, 1996). Similar changes have taken place in other industrialized countries (Chisholm & Hurrelmann, 1995; Noble, Cover, & Yanagishita, 1996).

These changes over the past half century have altered the nature of development in the late teens and early twenties for young people in industrialized societies. Because marriage and parenthood are delayed until the midtwenties or late twenties for most people, it is no longer normative for the late teens and early twenties to be a time of entering and settling into long-term adult roles. On the contrary, these years are more typically a period of frequent change and exploration (Arnett, 1998; Rindfuss, 1991).

In this article, I propose a new theory of development from the late teens through the twenties, with a focus on ages 18–25. I argue that this period, *emerging adulthood*, is neither adolescence nor young adulthood but is theoretically and empirically distinct from them both. Emerging adulthood is distinguished by relative independence from social roles and from normative expectations. Having left the dependency of childhood and adolescence, and having not yet entered the enduring responsibilities that are normative in adulthood, emerging adults often explore a variety of possible life directions in love, work, and worldviews. Emerging adulthood is a time of life when many different directions remain possible, when little about the future has been decided for certain, when the scope of independent exploration of life's possibilities is greater for most people than it will be at any other period of the life course.

For most people, the late teens through the midtwenties are the most *volitional* years of life. However, cultural influences structure and sometimes limit the extent to

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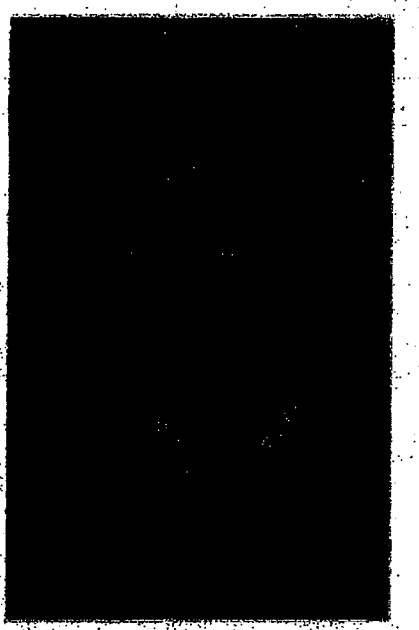


Jeffrey Jensen Arnett

which emerging adults are able to use their late teens and twenties in this way, and not all young people in this age period are able to use these years for independent exploration. Like adolescence, emerging adulthood is a period of the life course that is culturally constructed, not universal and immutable.

I lay out the theoretical background first and then present evidence to illustrate how emerging adulthood is a distinct period demographically, subjectively, and in terms of identity explorations. Next, I explain how emerging adulthood can be distinguished from adolescence and young adulthood. Finally, I discuss the economic and cultural conditions under which emerging adulthood is most likely to exist as a distinct period of the life course.

The Theoretical Background

There have been a number of important theoretical contributions to the understanding of development from the late teens through the twenties. One early contribution was made by Erik Erikson (1950, 1968). Erikson rarely discussed specific ages in his writings, and in his theory of human development across the life course he did not include a separate stage that could be considered analogous to emerging adulthood as proposed here. Rather, he wrote of development in adolescence and of development in young adulthood. However, he also commented on the *prolonged adolescence* typical of industrialized societies and on the *psychosocial moratorium* granted to young people in such societies "during which the young adult through free role experimentation may find a niche in some section of his society" (Erikson, 1968, p. 156). Thus, Erikson seems to have distinguished—without naming—a period that is in some ways adolescence and in some ways young adulthood yet not strictly either one, a period in which adult commitments and responsibilities are delayed while the role experimentation that began in adolescence continues and in fact intensifies.

Another theoretical contribution can be found in the work of Daniel Levinson (1978). Levinson interviewed men at midlife, but he had them describe their earlier years as well, and on the basis of their accounts he developed a theory that included development in the late teens and the twenties. He called ages 17–33 the *novice phase* of development and argued that the overriding task of this phase is to move into the adult world and build a stable life structure. During this process, according to Levinson, the young person experiences a considerable amount of change and instability while sorting through various possibilities in love and work in the course of establishing a life structure. Levinson acknowledged that his conception of the novice phase was similar to Erikson's ideas about the role experimentation that takes place during the psychosocial moratorium (Levinson, 1978, pp. 322–323).

Perhaps the best-known theory of development in the late teens and the twenties is Kenneth Keniston's theory of youth. Like Erikson and Levinson, Keniston (1971) conceptualized youth as a period of continued role experimentation between adolescence and young adulthood. However, Keniston wrote at a time when American society and some Western European societies were convulsed with highly visible youth movements protesting the involvement of the United States in the Vietnam War (among other things). His description of youth as a time of "tension between self and society" (Keniston, 1971, p. 8) and "refusal of socialization" (p. 9) reflects that historical moment rather than any enduring characteristics of the period.

More importantly, Keniston's (1971) application of the term *youth* to this period is problematic. *Youth* has a long history in the English language as a term for childhood generally and for what later became called adolescence (e.g., Ben-Amos, 1994), and it continues to be used popularly and by many social scientists for these purposes (as reflected in terms such as *youth organizations*). Keniston's choice of the ambiguous and confusing term *youth* may explain in part why the idea of the late teens and twenties as a separate period of life never became widely accepted by developmental scientists after his articulation of it. However, as I argue in the following sections, there is good empirical support for conceiving this period—proposed here as emerging adulthood—as a distinct period of life.

Emerging Adulthood Is Distinct Demographically

Although Erikson (1968), Levinson (1978), and Keniston (1971) all contributed to the theoretical groundwork for emerging adulthood, the nature of the period has changed considerably since the time of their writings more than 20 years ago. As noted at the outset of this article, demographic changes in the timing of marriage and parenthood in recent decades have made a period of emerging adulthood typical for young people in industrialized societies. Postponing these transitions until at least the late twenties

leaves the late teens and early twenties available for exploring various possible life directions.

An important demographic characteristic of emerging adulthood is that there is a great deal of demographic variability, reflecting the wide scope of individual volition during these years. Emerging adulthood is the only period of life in which nothing is normative demographically (Rindfuss, 1991; Wallace, 1995). During adolescence, up to age 18, a variety of key demographic areas show little variation. Over 95% of American adolescents aged 12–17 live at home with one or more parents, over 98% are unmarried, fewer than 10% have had a child, and over 95% are enrolled in school (U.S. Bureau of the Census, 1997). By age 30, new demographic norms have been established: About 75% of 30-year-olds have married, about 75% have become parents, and fewer than 10% are enrolled in school (U.S. Bureau of the Census, 1997).

In between these two periods, however, and especially from ages 18 to 25, a person's demographic status in these areas is very difficult to predict on the basis of age alone. The demographic diversity and unpredictability of emerging adulthood is a reflection of the experimental and exploratory quality of the period. Talcott Parsons (1942) called adolescence the *roleless role*, but this term applies much better to emerging adulthood. Emerging adults tend to have a wider scope of possible activities than persons in other age periods because they are less likely to be constrained by role requirements, and this makes their demographic status unpredictable.

One demographic area that especially reflects the exploratory quality of emerging adulthood is residential status. Most young Americans leave home by age 18 or 19 (Goldscheider & Goldscheider, 1994). In the years that follow, emerging adults' living situations are diverse. About one third of emerging adults go off to college after high school and spend the next several years in some combination of independent living and continued reliance on adults, for example, in a college dormitory or a fraternity or sorority house (Goldscheider & Goldscheider, 1994). For them, this is a period of semiautonomy (Goldscheider & Davanzo, 1986) as they take on some of the responsibilities of independent living but leave others to their parents, college authorities, or other adults. About 40% move out of their parental home not for college but for independent living and full-time work (Goldscheider & Goldscheider, 1994). About two thirds experience a period of cohabitation with a romantic partner (Michael, Gagnon, Laumann, & Kolata, 1995). Some remain at home while attending college or working or some combination of the two. Only about 10% of men and 30% of women remain at home until marriage (Goldscheider & Goldscheider, 1994).

Amidst this diversity, perhaps the unifying feature of the residential status of emerging adults is the instability of it. Emerging adults have the highest rates of residential change of any age group. Using data from several cohorts of the National Longitudinal Study, Rindfuss (1991) described how rates of residential mobility peak in the mid-twenties (see Figure 1). For about 40% of the current generation of emerging adults, residential changes include moving back into their parents' home and then out again at least once in the course of their late teens and twenties (Goldscheider & Goldscheider, 1994). Frequent residential changes during emerging adulthood reflect its exploratory quality, because these changes often take place at the end of one period of exploration or the beginning of another (e.g., the end of a period of cohabitation, entering or leaving college, or the beginning of a new job in a new place).

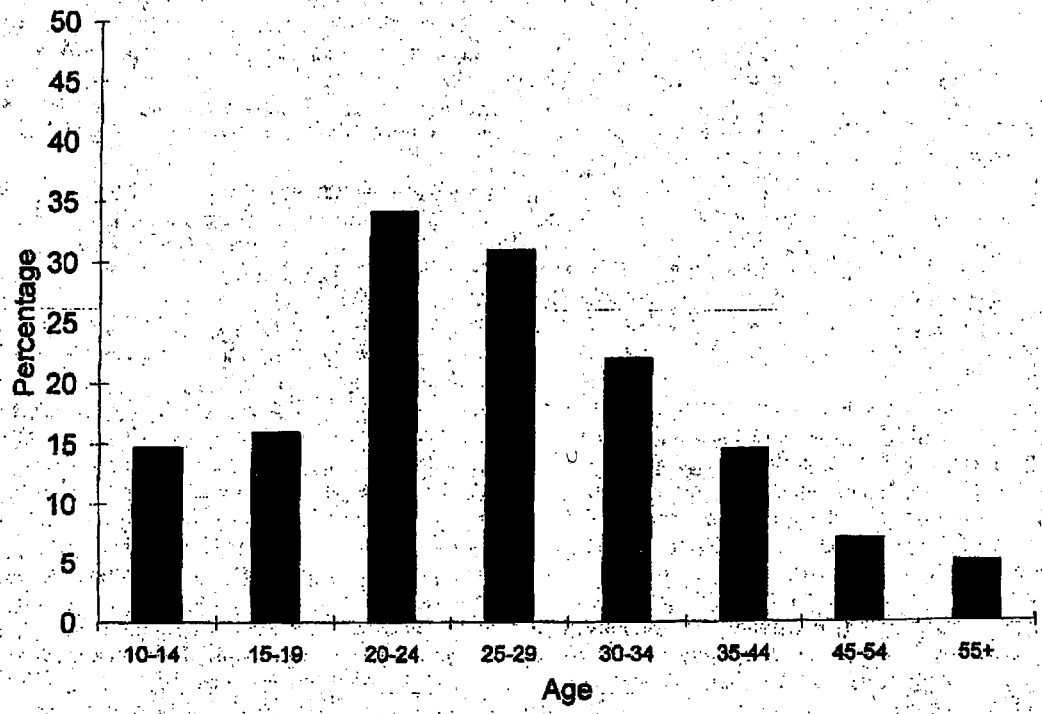
School attendance is another area in which there is substantial change and diversity among emerging adults. The proportion of American emerging adults who enter higher education in the year following high school is at its highest level ever, over 60% (Bianchi & Spain, 1996). However, this figure masks the expanding diversity in the years that follow. Only 32% of young people ages 25–29 have completed four years or more of college (U.S. Bureau of the Census, 1997). For emerging adults, college education is often pursued in a nonlinear way, frequently combined with work, and punctuated by periods of nonattendance. For those who do eventually graduate with a four-year degree, college is increasingly likely to be followed by graduate school. About one third of those who graduate with a bachelor's degree are enrolled in postgraduate education the following year (Mogelonsky, 1996). In European countries too, the length of education has become extended in recent decades (Chisholm & Hurrelmann, 1995).

Overall, then, the years of emerging adulthood are characterized by a high degree of demographic diversity and instability, reflecting the emphasis on change and exploration. It is only in the transition from emerging adulthood to young adulthood in the late twenties that the diversity narrows and the instability eases, as young people make more enduring choices in love and work. Rindfuss (1991) called the period from ages 18 to 30 "demographically dense" (p. 496) because of the many demographic transitions that take place during that time, especially in the late twenties.

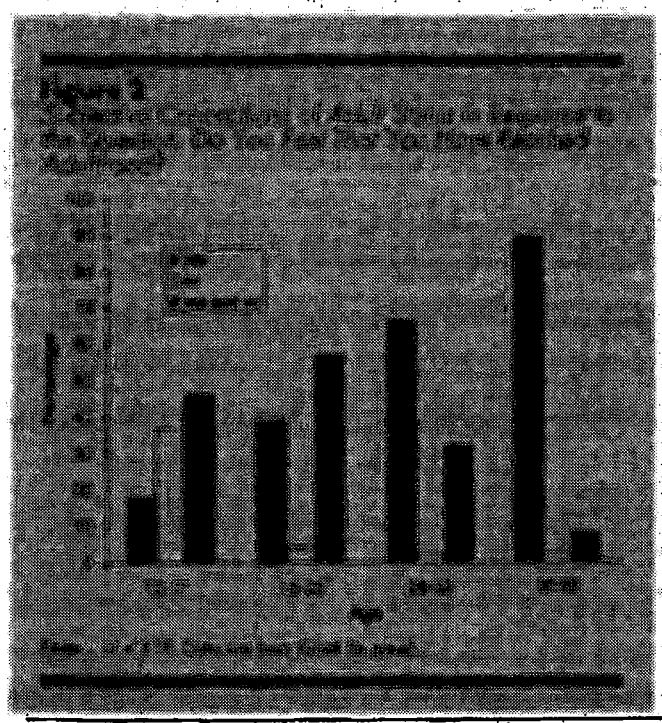
Emerging Adulthood Is Distinct Subjectively

Emerging adults do not see themselves as adolescents, but many of them also do not see themselves entirely as adults. Figure 2 shows that when they are asked whether they feel they have reached adulthood, the majority of Americans in their late teens and early twenties answer neither *no* nor *yes* but the ambiguous *in some respects yes, in some respects no* (Arnett, in press). This reflects a subjective sense on the part of most emerging adults that they have left adolescence but have not yet completely entered young adulthood (Arnett, 1994a, 1997, 1998). They have no name for the period they are in—because the society they live in has no name for it—so they regard themselves as being neither adolescents nor adults, in between the two but not really one or the other. As Figure 2 shows, only in their late twenties and early thirties do a clear majority of people indicate that they feel they have reached adulthood. However, age is only the roughest marker of the subjective transition from emerging adulthood to young adulthood. As

Figure 1
Residential Change by Age, 1998



Note. Data are from "Geographic Mobility: March 1997 to March 1998," by the U.S. Bureau of the Census, 2000, *Current Population Reports* (Series P-20, No. 520), Washington, DC: U.S. Government Printing Office.



ated in Figure 2, even in their late twenties and early s, nearly one third did not feel their transition to ood was complete.

ne might expect emerging adults' subjective sense of uity in attaining full adulthood to arise from the raphic diversity and instability described above. Per- it is difficult for young people to feel they have d adulthood before they have established a stable nce, finished school, settled into a career, and married least committed themselves to a long-term love nship). However, perhaps surprisingly, the research ce indicates strongly that these demographic transi- ave little to do with emerging adults' conceptions of means to reach adulthood. Consistently, in a variety dies with young people in their teens and twenties, raphic transitions such as finishing education, set- to a career, marriage, and parenthood rank at the in importance among possible criteria considered ary for the attainment of adulthood (Arnett, 1997, in press; Greene, Wheatley, & Aldava, 1992; Scheer, & Brown, 1994).

he characteristics that matter most to emerging in their subjective sense of attaining adulthood are mographic transitions but individualistic *qualities of*

character (Arnett, 1998). Specifically, the two top criteria for the transition to adulthood in a variety of studies have been *accepting responsibility for one's self* and *making independent decisions* (Arnett, 1997, 1998; Greene et al., 1992; Scheer et al., 1994). A third criterion, also individualistic but more tangible, *becoming financially independent*, also ranks consistently near the top.

The prominence of these criteria for the transition to adulthood reflects an emphasis in emerging adulthood on becoming a self-sufficient person (Arnett, 1998). During these years, the character qualities most important to becoming successfully self-sufficient—accepting responsibility for one's self and making independent decisions—are being developed. Financial independence is also crucial to self-sufficiency, so it is also important in emerging adults' conceptions of what is necessary to become an adult. Only after these character qualities have reached fruition and financial independence has been attained do emerging adults experience a subjective change in their developmental status, as they move out of emerging adulthood and into young adulthood. For most young people in American society, this occurs some time during the twenties and is usually accomplished by the late twenties (Arnett, in press).

Although emerging adults do not view demographic transitions as necessary for attaining adulthood, it should be noted that parenthood in particular is often sufficient for marking a subjective sense of adult status. Parenthood ranks low in young people's views of the essential criteria for adulthood for people in general, but those who have had a child tend to view becoming a parent as the most important marker of the transition to adulthood for themselves (Arnett, 1998). The explorations that occur in emerging adulthood become sharply restricted with parenthood, because it requires taking on the responsibilities of protecting and providing for a young child. With parenthood, the focus of concern shifts inexorably from responsibility for one's self to responsibility for others.

Emerging Adulthood Is Distinct for Identity Explorations

A key feature of emerging adulthood is that it is the period of life that offers the most opportunity for identity explorations in the areas of love, work, and worldviews. Of course, it is adolescence rather than emerging adulthood that has typically been associated with identity formation. Erikson (1950) designated identity versus role confusion as the central crisis of the adolescent stage of life, and in the decades since he articulated this idea the focus of research on identity has been on adolescence (Adams, 1999). However, as noted, Erikson (1950, 1968) clearly believed that industrialized societies allow a prolonged adolescence for extended identity explorations. If adolescence is the period from ages 10 to 18 and emerging adulthood is the period from (roughly) ages 18 to 25, most identity exploration takes place in emerging adulthood rather than adolescence. Although research on identity formation has focused mainly on adolescence, this research has shown that identity achievement has rarely been reached by the end of high school (Montemayor, Brown, & Adams, 1985; Waterman, 1982) and that identity development continues through the late teens and the twenties (Valde, 1996; Whitbourne & Tesch, 1985).

The focus on identity issues in emerging adulthood can be seen in the three main areas of identity exploration: love, work, and worldviews. Identity formation involves trying out various life possibilities and gradually moving toward making enduring decisions. In all three of these areas, this process begins in adolescence but takes place mainly in emerging adulthood. With regard to love, American adolescents typically begin dating around ages 12 to 14 (Padgham & Blyth, 1991). However, because any serious consideration of marriage is a decade or more away for most 12- to 14-year-olds, young people view the early years of dating as primarily recreational (Roscoe, Dian, & Brooks, 1987). For adolescents, dating provides companionship, the first experiences of romantic love, and sexual experimentation; however, their dating relationships typically last only a few weeks or months (Feiring, 1996), and few adolescents expect to remain with their "high school sweetheart" much beyond high school.

In emerging adulthood, explorations in love become more intimate and serious. Dating in adolescence often takes place in groups, as adolescents pursue shared recreation such as parties, dances, and hanging out (Padgham & Blyth, 1991). By emerging adulthood, dating is more likely to take place in couples, and the focus is less on recreation and more on exploring the potential for emotional and physical intimacy. Romantic relationships in emerging adulthood last longer than in adolescence, are more likely to include sexual intercourse, and may include cohabitation (Michael et al., 1995). Thus, in adolescence, explorations in love tend to be tentative and transient; the implicit question is, Who would I enjoy being with, here and now? In contrast, explorations in love in emerging adulthood tend to involve a deeper level of intimacy, and the implicit question is more identity focused: Given the kind of person I am, what kind of person do I wish to have as a partner through life?

With regard to work, a similar contrast exists between the transient and tentative explorations of adolescence and the more serious and focused explorations of emerging adulthood. In the United States, the majority of high school students are employed part-time (Barling & Kelloway, 1999). Although adolescents often report that their work experiences enhance their abilities in areas such as managing their time and money (Mortimer, Harley, & Aronson, 1999), for the most part their jobs do not provide them with knowledge or experience that will be related to their future occupations (Greenberger & Steinberg, 1986; Steinberg & Cauffman, 1995). Most adolescents are employed in service jobs—at restaurants, retail stores, and so forth—in which the cognitive challenges are minimal and the skills learned are few. Adolescents tend to view their jobs not as occupational preparation but as a way to obtain the money that will support an active leisure life—paying for compact discs, concerts, restaurant meals, clothes, cars, travel, and

so forth (Bachman & Schulenberg, 1993; Shanahan, Elder, Burchinal, & Conger, 1996; Steinberg & Cauffman, 1995).

In emerging adulthood, work experiences become more focused on preparation for adult work roles. Emerging adults begin to consider how their work experiences will lay the groundwork for the jobs they may have through adulthood. In exploring various work possibilities, they explore identity issues as well: What kind of work am I good at? What kind of work would I find satisfying for the long term? What are my chances of getting a job in the field that seems to suit me best?

Emerging adults' educational choices and experiences explore similar questions. In their educational paths, they try out various possibilities that would prepare them for different kinds of future work. College students often change majors more than once, especially in their first two years, as they try on possible occupational futures, discard them, and pursue others. With graduate school becoming an increasingly common choice after an undergraduate degree is obtained, emerging adults' educational explorations often continue through their early twenties and mid-twenties. Graduate school allows emerging adults to switch directions again from the path of occupational preparation they had chosen as undergraduates.

For both love and work, the goals of identity explorations in emerging adulthood are not limited to direct preparation for adult roles. On the contrary, the explorations of emerging adulthood are in part explorations for their own sake, part of obtaining a broad range of life experiences before taking on enduring—and limiting—adult responsibilities. The absence of enduring role commitments in emerging adulthood makes possible a degree of experimentation and exploration that is not likely to be possible during the thirties and beyond. For people who wish to have a variety of romantic and sexual experiences, emerging adulthood is the time for it, because parental surveillance has diminished and there is as yet little normative pressure to enter marriage. Similarly, emerging adulthood is the time for trying out unusual work and educational possibilities. For this reason, short-term volunteer jobs in programs such as Americorps and the Peace Corps are more popular with emerging adults than with persons in any other age period. Emerging adults may also travel to a different part of the country or the world on their own for a limited period, often in the context of a limited-term work or educational experience. This too can be part of their identity explorations, part of expanding their range of personal experiences prior to making the more enduring choices of adulthood.

With regard to worldviews, the work of William Perry (1970/1999) has shown that changes in worldviews are often a central part of cognitive development during emerging adulthood. According to Perry, emerging adults often enter college with a worldview they have learned in the course of childhood and adolescence. However, a college education leads to exposure to a variety of different worldviews, and in the course of this exposure college students often find themselves questioning the worldviews they brought in. Over the course of their college years, emerging adults examine and consider a variety of possible worldviews. By the end of their college years they have often committed themselves to a worldview different from the one they brought in, while remaining open to further modifications of it.

Most of the research on changes in worldviews during emerging adulthood has involved college students and graduate students, and there is evidence that higher education promotes explorations and reconsiderations of worldviews (Pascarella & Terenzini, 1991). However, it is notable that emerging adults who do not attend college are as likely as college students to indicate that deciding on their own beliefs and values is an essential criterion for attaining adult status (Arnett, 1997). Also, research on emerging adults' religious beliefs suggests that regardless of educational background, they consider it important during emerging adulthood to reexamine the beliefs they have learned in their families and to form a set of beliefs that is the product of their own independent reflections (Arnett & Jensen, 1999; Hoge, Johnson, & Luidens, 1993).

Although the identity explorations of emerging adulthood make it an especially full and intense time of life for many people, these explorations are not always experienced as enjoyable. Explorations in love sometimes result in disappointment, disillusionment, or rejection. Explorations in work sometimes result in a failure to achieve the occupation most desired or in an inability to find work that is satisfying and fulfilling. Explorations in worldviews sometimes lead to rejection of childhood beliefs without the construction of anything more compelling in their place (Arnett & Jensen, 1999). Also, to a large extent, emerging adults pursue their identity explorations on their own, without the daily companionship of either their family of origin or their family to be (Jonsson, 1994; Morch, 1995). Young Americans ages 19–29 spend more of their leisure time alone than any persons except the elderly and spend more of their time in productive activities (school and work) alone than any other age group under 40 (Larson, 1990). Many of them see the condition of the world as grim and are pessimistic about the future of their society (Arnett, 2000b). Nevertheless, for themselves personally, emerging adults are highly optimistic about ultimately achieving their goals. In one national poll of 18- to 24-year-olds in the United States (Hornblower, 1997), nearly all—96%—agreed with the statement, "I am very sure that someday I will get to where I want to be in life."

Other Notable Findings on Emerging Adulthood

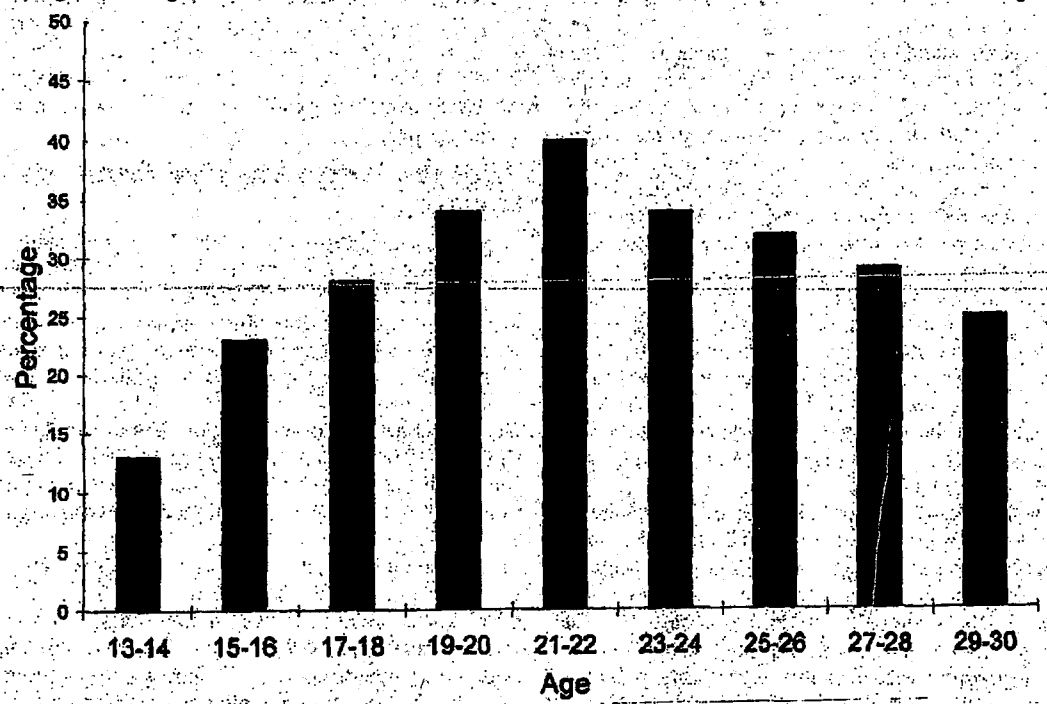
The three areas outlined above—demographics, subjective perceptions, and identity explorations—provide the most abundant information on the distinctiveness of emerging adulthood. However, evidence is available from other areas that suggests possible lines of inquiry for future research on emerging adulthood. One of these areas is risk behavior. Although there is a voluminous literature on adolescent risk behavior and relatively little research on risk behavior in emerging adulthood (Jessor, Donovan, & Costa, 1991), the prevalence of several types of risk behavior peaks not

during adolescence but during emerging adulthood (ages 18–25). These risk behaviors include unprotected sex, most types of substance use, and risky driving behaviors such as driving at high speeds or while intoxicated (Arnett, 1992; Bachman, Johnston, O'Malley, & Schulenberg, 1996). Figure 3 shows an example for binge drinking.

What is it about emerging adulthood that lends itself to such high rates of risk behavior? To some degree, emerging adults' risk behaviors can be understood as part of their identity explorations, that is, as one reflection of the desire to obtain a wide range of experiences before settling down into the roles and responsibilities of adult life. One of the motivations consistently found to be related to participation in a variety of types of risk behavior is sensation seeking, which is the desire for novel and intense experiences (Arnett, 1994b). Emerging adults can pursue novel and intense experiences more freely than adolescents because they are less likely to be monitored by parents and can pursue them more freely than adults because they are less constrained by roles. After marriage, adults are constrained from taking part in risk behavior by the responsibilities of the marriage role, and once they have a child, they are constrained by the responsibilities of the parenting role. In one example of this, Bachman et al. (1996) used longitudinal data to show how substance use rises to a peak in the early twenties during the role hiatus of emerging adulthood, declines steeply and sharply following marriage, and declines further following the entry to parenthood. The responsibilities of these roles lead to lower rates of risk behavior as emerging adulthood is succeeded by young adulthood.

Research on family relationships among emerging adults has also been conducted. For American emerging adults in their early twenties, physical proximity to parents has been found to be *inversely* related to the quality of relationships with them. Emerging adults with the most frequent contact with parents, especially emerging adults still living at home, tend to be the least close to their parents and to have the poorest psychological adjustment (Dubas & Petersen, 1996; O'Connor, Allen, Bell, & Hauser, 1996). In European studies, emerging adults who remain at home tend to be happier with their living situations than those who have left home; they continue to rely on their parents as a source of support and comfort, but they also tend to have a great deal of autonomy within their parents' households (Chisholm & Hurrelmann, 1995). Thus, for emerging adults in both the United States and Europe, *autonomy* and *relatedness* are complementary rather than opposing dimensions of their relationships with their parents (O'Connor et al., 1996).

Figure 3
Rates of Binge Drinking (Five or More Alcoholic Drinks in a Row) in the Past Two Weeks at Various Ages



Note. Data are from "Transitions in Drug Use During Late Adolescence and Young Adulthood," by J. G. Bachman, L. D. Johnston, P. O'Malley, and J. Schulenberg, in *Transitions Through Adolescence: Interpersonal Domains and Context* (p. 118), by J. A. Graber, J. Brooks-Gunn, and A. C. Petersen (Eds.), 1996, Mahwah, NJ: Erlbaum. Copyright 1996 by Erlbaum. Used with permission. Data also available at http://www.monitoringthefuture.org/data/99data/pr99t1c.pdf.

These findings provide a foundation for research into development during emerging adulthood. Of course, much more work remains to be done on virtually every aspect of development during this period. To what extent do emerging adults rely on friends for support and companionship, given that this is a period when most young people have left their families of origin but have not yet entered marriage? To what extent are the explorations of emerging adulthood different for men and women? Do emerging adults have especially high rates of media use, given that they spend so much time alone? These and many other questions about the period await investigation. Establishing emerging adulthood as a distinct developmental period may help to promote this research.

Why Emerging Adulthood Is Not Adolescence

It is widely known that the scientific study of adolescence began with the publication of G. Stanley Hall's two-volume magnum opus nearly a century ago (Hall, 1904). What is less widely known, however, is that in Hall's view adolescence extended from age 14 to age 24 (Hall, 1904, p. xix). In contrast, contemporary scholars generally consider adolescence to begin at age 10 or 11 and to end by age 18 or 19. The cover of every issue of the *Journal of Research on Adolescence*, the flagship journal of the Society for Research on Adolescence, proclaims that adolescence is defined as "the second decade of life." What happened between Hall's time and our own to move scholars' conceptions of adolescence earlier in the life course?

Two changes stand out as possible explanations. One is the decline that has taken place during the 20th century in the typical age of the initiation of puberty. At the beginning of the 20th century, the median age of menarche in Western countries was about 15 (Eveleth & Tanner, 1976). Because menarche takes place relatively late in the typical sequence of pubertal changes, this means that the initial changes of puberty would have begun at about ages 13–15 for most people, which is just where Hall designated the beginning of adolescence. However, the median age of menarche (and by implication other pubertal changes) declined steadily between 1900 and 1970 before leveling out, so that now the typical age of menarche in the United States is 12.5 (Brooks-Gunn & Paikoff, 1997). The initial changes of puberty usually begin about 2 years earlier, thus the designation of adolescence as beginning with the entry into the second decade of life.

As for the age when adolescence ends, the change in this age may have been inspired not by a biological change but by a social change: the growth of high school attendance that made high school a normative experience for adolescents in the United States. In 1900, only 10% of persons ages 14–17 were enrolled in high school. However, this proportion rose steeply and steadily over the course of the 20th century to reach 95% by 1985 (Arnett & Taber, 1994). This makes it easy to understand why Hall would not have chosen age 18 as the end of adolescence, because for most adolescents of his time no significant transition took place at that age. Education ended earlier, work began earlier, and leaving home took place later. Marriage and parenthood did not take place for most people until their early twenties or midtwenties (Arnett & Taber, 1994), which may have been why Hall designated age 24 as the end of adolescence. (Hall himself did not explain why he chose this age.)

In our time, it makes sense to define adolescence as ages 10–18. Young people in this age group have in common that they live with their parents, are experiencing the physical changes of puberty, are attending secondary school, and are part of a school-based peer culture. None of this remains normative after age 18, which is why it is not adequate simply to call the late teens and early twenties *late adolescence*. Age 18 also marks a variety of legal transitions, such as being allowed to vote and sign legal documents.

Although some scholars have suggested that the late teens and early twenties should be considered late adolescence (e.g., Elliott & Feldman, 1990), for the most part scholars on adolescence focus on ages 10–18 as the years of adolescent development. Studies published in the major journals on adolescence rarely include samples with ages higher than 18. For example, in 1997, 90% of the studies published in the *Journal of Research on Adolescence* and the *Journal of Youth & Adolescence* were on samples of high school age or younger. College students have been the focus of many research studies, but most often as "adults" in social psychology studies. Sociologists have studied the late teens and the twenties for patterns of demographic events viewed as part of the transition to adulthood (e.g., Hogan & Astone, 1986; Rindfuss, 1991). However, few studies have recognized the late teens through the twenties as a distinct developmental period.

Why the Forgotten Half Remains Forgotten

In 1987, a distinguished panel of scholars and public policy officials was assembled by the William T. Grant Foundation and asked to address the life situations of young people who do not attend college after high school, especially with respect to their economic prospects. They produced an influential and widely read report entitled *The Forgotten Half: Non-College-Bound Youth in America* (William T. Grant Foundation Commission on Work, Family, and Citizenship, 1988), which contained an analysis of the circumstances of the "forgotten half" and a set of policy suggestions for promoting a successful transition from high school to work.

Over a decade later, the forgotten half remains forgotten by scholars, in the sense that studies of young people who do not attend college in the years following high school remain rare. Why did the Grant commission's widely acclaimed report not inspire more enduring scholarly attention to young people not attending college in this age period? One reason is practical. Studies of college students are ubiquitous because college students are so easy to find—most scholars who teach at colleges or universities

have ready access to them. Studying young people who are not in college is more difficult because they are not readily accessible in any institutional setting. Other ways of obtaining research participants in this age period must be used, such as contacting community organizations or taking out newspaper ads, and these samples often have the liability of being nonrepresentative. The same conditions apply to research on college students after they leave college. Few studies exist of young people in their midtwenties to late twenties, in part because they are not available in any institutional setting. Notable exceptions to this rule include some excellent longitudinal studies (the National Longitudinal Studies, e.g., Rindfuss, 1991; the Monitoring the Future studies, e.g., Bachman et al., 1996; O'Connor et al., 1996; Offer & Offer, 1975).

However, the dearth of studies on young people in their late teens and twenties is not due only to the difficulty of finding samples in this age group. It also arises from the lack of a clear developmental conception of this age group. Scholars have no clearly articulated way of thinking about development from the late teens through the twenties, no paradigm for this age period, so they may not think about young people at these ages as a focus for developmental research. Emerging adulthood is offered as a new paradigm, a new way of thinking about development from the late teens through the twenties, especially ages 18–25, partly in the hope that a definite conception of this period will lead to an increase in scholarly attention to it.

Why Emerging Adulthood Is Not Young Adulthood

But (some might object) is there not already a paradigm for the years of the late teens and the twenties? Is that not what young adulthood is? The answer is *no*. There are a number of reasons why *young adulthood* is unsatisfactory as a designation for this developmental period.

One reason is that the use of *young adulthood* implies that adulthood has been reached at this point. As we have seen, most young people in this age period would disagree that they have reached adulthood. They see themselves as gradually making their way into adulthood, so *emerging adulthood* seems a better term for their subjective experience. More generally, the term *emerging* captures the dynamic, changeable, fluid quality of the period.

Also, if ages 18–25 are young adulthood, what would that make the thirties? Young adulthood is a term better applied to the thirties, which are still young but are definitely adult in a way that the years 18–25 are not. It makes little sense to lump the late teens, twenties, and thirties together and call the entire period *young adulthood*. The period from ages 18 to 25 could hardly be more distinct from the thirties. The majority of young people ages 18–25 do not believe they have reached full adulthood, whereas the majority of people in their thirties believe that they have (Arnett, in press). The majority of people ages 18–25 are still in the process of obtaining education and training for a long-term adult occupation, whereas the majority of people in their thirties have settled into a more stable occupational path. The majority of people ages 18–25 are unmarried, whereas the majority of people in their thirties are married. The majority of people ages 18–25 are childless, whereas the majority of people in their thirties have had at least one child. The list could go on. The point should be clear. Emerging adulthood and young adulthood should be distinguished as separate developmental periods.

It should be emphasized, however, that age is only a rough indicator of the transition from emerging adulthood to young adulthood. Eighteen is a good age marker for the end of adolescence and the beginning of emerging adulthood, because it is the age at which most young people finish secondary school, leave their parents' home, and reach the legal age of adult status in a variety of respects. However, the transition from emerging adulthood to young adulthood is much less definite with respect to age. There are 19-year-olds who have reached adulthood—demographically, subjectively, and in terms of identity formation—and 29-year-olds who have not. Nevertheless, for most people, the transition from emerging adulthood to young adulthood intensifies in the late twenties and is reached by age 30 in all of these respects.

Emerging adulthood differs both from adolescence and from young adulthood in that it is, to some extent, defined by its heterogeneity. As noted, in emerging adulthood, there is little that is normative. Emerging adulthood is very much a transitional period leading to adulthood, and different emerging adults reach adulthood at different points. Also, the possibility of devoting the late teens and early twenties to explorations of various kinds is not equally available to all young people, and in any case, people vary in the degree of exploration they choose to pursue.

The heterogeneity of emerging adulthood represents both a warning and an opportunity for those who wish to study this age period. The warning is to be cautious in making sweeping statements about emerging adults. Almost always, such statements need to be qualified by mentioning the heterogeneity of emerging adulthood. The opportunity is that this heterogeneity makes emerging adulthood an especially rich, complex, dynamic period of life to study.

Emerging Adulthood Across Cultures

Thus far, the focus of this article has been on emerging adulthood among young people in the West, especially in the United States. Is emerging adulthood a period of life that is restricted to certain cultures and certain times? The answer to this question appears to be *yes*. For example, Schlegel and Barry (1991), in their comprehensive integration of information on adolescence in 186 traditional non-Western cultures, concluded that adolescence as a life stage is virtually universal, but that a further period between adolescence and adulthood (*youth*, in the terminology they used) existed in only 20% of the cultures they studied. In the cultures in their sample, adulthood was typically signified by entry into marriage, and marriage usually took place at about ages 16 to 18 for girls and at about ages 18 to 20

for boys. This early timing of marriage allowed for a period of adolescence but not for a period of emerging adulthood.

Emerging adulthood, then, is not a universal period but a period that exists only in cultures that postpone the entry into adult roles and responsibilities until well past the late teens. Thus, emerging adulthood would be most likely to be found in countries that are highly industrialized or postindustrial. Such countries require a high level of education and training for entry into the information-based professions that are the most prestigious and lucrative, so many of their young people remain in school into their early twenties and midtwenties. Marriage and parenthood are typically postponed until well after schooling has ended, which allows for a period of exploration of various relationships before marriage and for exploration of various jobs before taking on the responsibility of supporting a child financially. Table 1 shows the median ages of marriage in a range of highly industrialized countries, contrasted with the median ages of marriage in selected developing countries.

Although median marriage ages are typically calculated on a countrywide basis, it should be noted that emerging adulthood is best understood as a characteristic of cultures rather than countries. Within some highly industrialized countries, members of minority cultures may have cultural practices that lead to a shortened period of emerging adulthood or no emerging adulthood at all. For example, in the United States, members of the Mormon church tend to have a shortened and highly structured emerging adulthood. Because of cultural beliefs prohibiting premarital sex and emphasizing the desirability of large families, considerable social pressure is placed on young Mormons to marry early and begin having children. Consequently, the median ages of marriage and first childbirth are much lower among Mormons than in the American population as a whole (Heaton, 1992), and young Mormons are likely to have a much briefer period of exploration before taking on adult roles.

Limitations in educational and occupational opportunities also influence the extent to which young people can experience their late teens and twenties as a volitional period. The young woman who has a child outside of marriage at age 16 and spends her late teens and early twenties alternating between welfare and low-paying jobs has little chance for exploration of possible life directions, nor does the young man who drops out of school and spends most of his late teens and early twenties unemployed and looking unsuccessfully for a job (Cote & Allahar, 1996). Because opportunities tend to be less widely available in minority cultures than in the majority culture in most industrialized countries, members of minority groups may be less likely to experience ages 18–25 as a period of independent exploration of possible life directions (Morch, 1995). However, social class may be more important than ethnicity, with young people in the middle class or above having more opportunities for the explorations of emerging adulthood than young people who are working class or below. Alternatively, it may be that explorations are not fewer in the working class but different, with more emphasis on work explorations and less emphasis on education. These are possibilities to be investigated.

In economically developing countries, there tends to be a distinct cultural split between urban and rural areas. Young people in urban areas of countries such as China and India are more likely to experience emerging adulthood, because they marry later, have children later, obtain more education, and have a greater range of occupational and recreational opportunities than young people in rural areas. In contrast, young people in rural areas of developing countries often receive minimal schooling, marry early, and have little choice of occupations except agricultural work. Thus in developing countries emerging adulthood is often experienced in urban areas but rarely in rural areas.

However, it should also be noted that emerging adulthood is likely to become more pervasive worldwide in the decades to come, with the increasing globalization of the world economy. Between 1980 and 1995, the proportion of young people in developing countries who attended secondary school rose sharply, and the median ages of marriage and first childbirth rose in these countries as well (Noble et al., 1996). As developing countries are becoming more integrated into a global economy, there is an increasing number of higher-paying jobs in these countries, jobs that require young people to obtain higher education. At the same time, as technology becomes increasingly available in these countries, particularly in agriculture, the labor of young people is becoming less and less necessary for family survival, making it possible for many of them to attend school instead.

These changes open up the possibility for the spread of emerging adulthood in developing countries. Economic development makes possible a period of the independent role exploration that is at the heart of emerging adulthood. As societies become more affluent, they are more likely to grant young people the opportunity for the extended moratorium of emerging adulthood, because they have no urgent need for young people's labor. Similarly, economic development is usually accompanied by increased life expectancy, and devoting years to the explorations of emerg-

Table 1
Median Marriage Age of Women in Selected Countries

Industrialized countries	Age	Developing countries	Age
United States	25.2	Egypt	21.9
Canada	26.0	Morocco	22.3
Germany	26.2	Ghana	21.1
France	26.1	Nigeria	18.7
Italy	25.8	India	20.0
Japan	26.9	Indonesia	21.1
Australia	26.0	Brazil	22.6

Note. Data are from *The World's Youth*, by J. Noble, J. Cover, and M. Yanagishita, 1996, Washington, DC: Population Reference Bureau. Copyright 1996 by the Population Reference Bureau. Reprinted with permission.

ing adulthood becomes more feasible and attractive when people can expect to live to be at least 70 or 80 rather than 40 or 50. Thus it seems possible that by the end of the 21st century emerging adulthood will be a normative period for young people worldwide, although it is likely to vary in length and content both within and between countries (Arnett, 2000a). The growth and variability of emerging adulthood in countries and cultures around the world would make an important and fascinating topic for a nascent scholarly field of emerging adulthood.

Conclusion

Emerging adulthood has become a distinct period of the life course for young people in industrialized societies. It is a period characterized by change and exploration for most people, as they examine the life possibilities open to them and gradually arrive at more enduring choices in love, work, and worldviews. Not all young people experience their late teens and twenties as years of change and exploration, even in industrialized societies. Some lack the opportunities to use those years as a volitional period; others may be inclined by personality or circumstances to limit their explorations or to seek a relatively early resolution to them. Nevertheless, as scholars we can characterize emerging adulthood as a period when change and exploration are common, even as we recognize the heterogeneity of the period and investigate this heterogeneity as one of emerging adulthood's distinguishing characteristics.

Emerging adulthood merits scholarly attention as a distinct period of the life course in industrialized societies. It is in many respects the age of possibilities, a period in which many different potential futures remain possible and personal freedom and exploration are higher for most people than at any other time. It is also a period of life that is likely to grow in importance in the coming century, as countries around the world reach a point in their economic development where they may allow the prolonged period of exploration and freedom from roles that constitutes emerging adulthood.

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Deciding in the dark: age differences in intuitive risk judgment.

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Abstract

Elevated levels of risky behavior in adolescence may signal developmental change in unconscious appraisal of risk. Yet, prior research examining adolescent risk judgment has used tasks that elicit conscious deliberation. The present study, in contrast, attempts to characterize age differences in (less conscious) intuitive impressions of risk. Participants (N = 282; ages 10-30) were presented with depictions of a range of risky and nonrisky activities. They were given 2.5 s to rate each activity on a continuous scale ranging from "bad idea" (low-risk favorability) to "good idea" (high-risk favorability). A curvilinear pattern was found, such that favorability ratings increased across adolescence and peaked around age 20. These results pose a challenge to developmental models that view early adolescence as the period of greatest predisposition toward risk taking; however, they are fairly consistent with age patterns for actual risk taking, at least with respect to crime, binge drinking, and unwanted pregnancy.

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Public Safety and Emerging Adults in Connecticut:

Providing Effective and Developmentally Appropriate Responses for Youth Under Age 21

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EXECUTIVE SUMMARY

Connecticut, a recognized leader in justice reform, is once again examining a new strategy to improve public safety: *Providing effective and developmentally appropriate responses for youth under age 21.*

In 2016, Governor Dannel Malloy proposed legislation that would gradually incorporate 18, 19 and 20-year-olds into the juvenile justice system over a three-year period. This proposal would affect approximately 10,000 individuals each year when the law is fully implemented. An estimated one-third of these emerging adults will be diverted and given the opportunity to resolve their cases in an effective but non-judicial manner. While the bill contains provisions to continue to prosecute and sentence youth ages 15 to 21 in the adult criminal justice system for the most serious offenses, it provides the opportunity of an individualized, rehabilitative system for the vast majority of the population in question.

To explore the potential effects of this proposal both for public safety and outcomes for emerging adults, the Harvard Kennedy School Program in Criminal Justice Policy and Management, (PCJ), in collaboration with the Tow Youth Justice Institute (TYJI) of the University of New Haven, embarked on an action research project to answer the following questions:

- How would this reform fit into Connecticut's substantial experience with justice reform, including the past "raise the age" initiative that successfully expanded juvenile jurisdiction from age 16 to 18?
- What lessons can be learned from other jurisdictions in the United States and abroad about more effective ways to address emerging adults in the justice system?
- What would be the broader impacts of these proposed reforms on Connecticut's justice system?
- What are the key issues that need to be addressed to ensure the successful implementation of these new reforms in Connecticut?

To answer these questions, PCJ conducted literature reviews in the fields of neurobiology, developmental psychology and life course criminology, as well as examined research on best and emerging practices nationally and internationally that target young, court-involved offenders. Over a four-month period, TYJI organized and PCJ facilitated a series of meetings in Connecticut to discuss the proposal and seek feedback about both the opportunities and the challenges presented by the proposal (see Appendix A). Participants of these meetings included members of the Juvenile Justice Policy and Oversight Committee (JJPOC) as well as government officials, advocates, academics and private citizens. Finally, PCJ requested and analyzed non-identified data from the state agencies as well as other publicly available data (e.g., arrest data from the Uniform Crime Report) to provide a better understanding of the potential impacts of the proposal's implementation on both the juvenile and criminal justice systems.

PCJ also examined this proposal in the context of the significant justice reform initiatives that Connecticut has accomplished in the last several decades. This includes the earlier "raise the age" initiative from age 16 to 18 (fully implemented in 2012), which resulted in positive impacts on both public safety and the state budget. Corresponding with these prior reforms, Connecticut has experienced a dramatic decline in crime and incarceration, particularly with respect to emerging adults: Arrests for 18, 19 and 20-year-olds dropped by 66% from 2008 to 2015, while emerging adults sentenced to prison declined by a notable 43% from 2005 to 2015. These substantial reductions provide Connecticut an exceptional foundation for implementing this new reform proposal.

Who are "emerging adults"?

Emerging adults, a term first coined in 2000 by psychologist and author Jeffrey Arnett at Clark University, has become increasingly adopted in the criminal justice arena. The term invokes a critical developmental period: the transition from a child who is dependent on parents or guardians for supervision and guidance (as well as emotional and financial support) into a fully mature, independent adult who engages as a productive and healthy member of society. Connecticut's proposal would impact a subset of this group – 18, 19 and 20-year-olds – which constitute approximately 4% of the overall population and 10% of arrests in the State.

In the United States, emerging adults have generally been treated in our criminal justice systems in the same manner as older, more mature adults. The results of this undifferentiated and generic approach have been demonstrably poor, be it in terms of public safety, individual well-being, or cost effectiveness. Emerging adults comprise a disproportionately high percentage of arrests: In the U.S., emerging adults (ages 18 – 24) make up 10% of the U.S. population but 30% of arrests; in Connecticut, emerging adults (ages 18 – 20) comprise 4% of the state's population but 10% of arrests. Emerging adults have the highest recidivism rates of any age group, again both nationally and in Connecticut. Yet this is also an age of opportunity – a time when arrest rates begin to decline and when the life trajectory of young people can be influenced for the better.

As parents know well, and research bears out, this period is marked by significant intellectual, emotional, and social transformations that can continue into the mid-20s. Emerging adults are more volatile in emotionally charged settings, more susceptible to peer and other outside influences, more impulsive and less future-oriented. These factors are all amplified for those who have experienced trauma. Most emerging adults will mature normally through this stage between childhood and adulthood, and reach the developmental bridges (e.g., steady work and marriage) that research shows will allow them to "age out" of criminality. By recognizing the developmental needs of emerging adults and applying more developmentally appropriate responses, Connecticut has introduced a cutting-edge strategy to improve public safety by creating a more developmentally appropriate response to law breaking by youth in this age group.

In highlighting the opportunities and challenges of including emerging adults in the Connecticut juvenile justice system, this report identifies some key issues and explores them in greater detail. These include: extending pre-arraignment diversion to 18, 19 and 20-year-olds; identifying and applying evidence-based services to emerging adults, particularly for mental health and substance abuse, educational and vocational services, housing stability, and family involvement; defining emerging adults within the Connecticut statutory framework and expressing the intent to include this population in the juvenile justice system without unintentionally creating conflicts with federal laws and rules (e.g., the Juvenile Justice and Delinquency Prevention Act and the Prison Rape Elimination Act); and monitoring and reducing racial/ethnic disparities of both youth under 18 as well as emerging adults in the juvenile justice system.

This report examines some of the fiscal implications of the proposal, a particularly critical consideration in light of the recent significant reduction in the state budget (including staff and service contracts in both the juvenile and criminal justice systems). To the degree possible, the re-allocation and re-investment of resources is explored and the cost-savings that will flow from the proposal are highlighted.

The report concludes with fifteen specific recommendations for the implementation of this proposal that can be summarized in the following four categories:

A. *Focus and cost-effectiveness:* These recommendations are designed to increase the likelihood of successful outcomes, lower costs to taxpayers, allow the system to focus on youth and emerging adults truly in need of intervention, and "right-size" the system so that it is better able to absorb the expanded population of emerging adults (Recommendations 1 - 3).

B. *Breadth of application:* Applying the benefits of the juvenile justice system as much as possible to 18, 19 and 20-year-olds, including the expertise of the professionals within the juvenile system (Recommendations 4 - 5) in a practical manner that minimizes unnecessary law changes (Recommendations 6 - 7).

C. *Investment in reforms:* Taking the opportunity of this watershed moment to increase investments in effective programming (e.g., educational services and vocational training) in the community and, when necessary, within residential treatment facilities (Recommendations 8 - 10), and to consider making some other important reforms to better serve both youth under 18 as well as emerging adults (Recommendations 11 - 13).

D. *Institutional acceptance of "emerging adults":* Intentionally fostering a culture shift and philosophically embracing emerging adults within the juvenile justice system, which will require additional training, monitoring, evaluation and leadership (Recommendations 14 - 15).

Connecticut could become the first state to implement a comprehensive legal framework to specifically address emerging adults in the juvenile justice system. However, it is not

the only state considering such reforms; both Illinois and Vermont held legislative hearings this past year with similar proposals. Moreover, specialized court sessions, probation and parole caseloads, and correctional housing units targeting emerging adults have been increasingly sprouting up and expanding across the country, a phenomenon thoroughly documented and catalogued in the National Institute of Justice's June 2016 report, *Environmental Scan of Developmentally Appropriate Criminal Justice Responses to Justice-Involved Young Adults*. In sum, effectively implementing Connecticut's proposal to provide emerging adults with developmentally appropriate responses within an expanded juvenile justice system will provide a better understanding of what works, and the country will be watching closely.

INTRODUCTION

"The future of our nation depends upon the future of our young people – including young people who have become involved with our justice system."
– Loretta Lynch, April 2016

On January 28, 2016, Governor Dannel P. Malloy visited the Juvenile Justice Policy and Oversight Committee (JJPOC) to propose the gradual expansion of the jurisdiction of the juvenile justice system to include 18, 19 and 20-year-olds. The change would be made over a three-year period. In the letter that he simultaneously submitted to the JJPOC, the Governor emphasized that the goal of his proposed changes is to increase public safety:

> Creating a justice system that enables our young adults to avoid the permanent effects of a criminal record will reduce crime and will help our young people have a greater chance for success. It will enable them to have a chance at finding employment, housing and go to school without carrying the weight of a permanent record. It is the right thing to do.[1]

At this meeting, the Governor also discussed previous efforts to elicit feedback on this important policy initiative and explicitly asked for JJPOC's assistance in considering the implementation issues of this "new raise the age effort."

The Program in Criminal Justice Policy and Management at the Harvard Kennedy School (PCJ) has undertaken this Action Research Project to provide guidance to the JJPOC and the State of Connecticut on how best to successfully implement an expansion of the juvenile justice system. The work has been supported by a grant to Connecticut from the United States Department of Justice's Office of Juvenile Justice and Delinquency Prevention entitled "Second Chance Act: Smart on Juvenile Justice: Community Supervision Initiative." PCJ has worked in collaboration with the Tow Youth Justice Institute (TYJI) at the University of New Haven in producing this report.[2]

Connecticut's pursuit of more effective ways to respond to emerging adults in its justice system is commendable and puts Connecticut in the forefront of our nation's approach to crime prevention and reduction. As will be explained below, the outcomes for 18 to 25-year-olds in our justice system have been particularly poor. The data show that not only are these individuals "failing," but that the justice system is failing them. As a result, society is losing increasing numbers of young people to incarceration as well as unproductive and unhealthy lives. In effect, the justice system is harming these individuals, their families, and society as a whole, resulting in further victimization and the erosion of public safety.

Despite these challenges, there is growing recognition that this age cohort also presents significant opportunities to intervene effectively in a positive manner – to improve the individual outcomes of emerging adults and to increase public safety and system fairness.

This report is intended to be a resource for the reform efforts in Connecticut to leverage these opportunities. As such, the report addresses four key questions:

- How would this reform fit into Connecticut's substantial experience with justice reform, including the past "raise the age" initiative that successfully expanded the juvenile jurisdiction age from 16 to 18?
- What lessons can be learned from other jurisdictions in the United States and abroad about more effective ways to address emerging adults in the justice system?
- What would be the broader impacts of these proposed reforms on Connecticut's justice system?
- What are the key issues that need to be addressed to ensure the successful implementation of these new reforms in Connecticut?

PCJ wishes to acknowledge the support of Connecticut in this endeavor, including private citizens, government officials, advocates, academics and especially the members of the Juvenile Justice Policy and Oversight Committee who devoted considerable time and effort to share their knowledge and opinions. Please note that this publication does not express the views of the Judicial Branch, Department of Children and Families, Department of Correction or the State of Connecticut. The views and opinions expressed are those of the authors.

WHAT THE GOVERNOR'S PROPOSAL SEEKS TO CHANGE

Most 18 to 21-year-olds (those charged with less serious offenses) would be included in the juvenile system. They would have an opportunity to participate in pre-arraignment diversion and be adjudicated/convicted of a delinquency offense. If detained, they would be held in a juvenile facility (now operated by Court Support Services Division) and, if committed, sentenced to the custody of the Department of Children and Families.

WHAT THE GOVERNOR'S PROPOSAL DOES *NOT* CURRENTLY SEEK TO CHANGE

If current waiver provisions stay as is, all 15 to 21-year-olds charged with serious offenses would be prosecuted in the adult session. These proceedings would be open to the public (unless designated as a Youthful Offender) and, if ordered to be confined during the court case, the youths or emerging adults would be detained in a Department of Correction (DOC) facility (not a juvenile facility). If sentenced to confinement by a judge after a conviction, these youths and emerging adults would be incarcerated at a Department of Correction facility (not a juvenile facility operated by DCF).

METHODOLOGY

PCJ conducted this Action Research Project to explore the most effective ways to implement the proposal to absorb emerging adults through age 20 in the juvenile justice system and to provide developmentally appropriate and effective community-based responses to offenders under the age of 21. PCJ developed four specific questions (outlined in the Introduction above) and then pursued a variety of different research methods to seek out the answers. These included conducting literature reviews in the fields of neurobiology, developmental psychology and life course criminology. At both the national and international levels, PCJ examined a growing body of research on best and emerging practices that target young, court-involved emerging adults. Over a four-month period, TYJI organized and PCJ facilitated a series of meetings in Connecticut to discuss the proposal and to seek feedback about both the opportunities and the challenges presented. Participants of these "focus groups" included members of the Juvenile Justice Policy and Oversight Committee as well as a wide range of government officials, advocates, academics and private citizens (see Appendix A for the list of these meetings). PCJ also spoke individually to some of the key juvenile and criminal justice leaders in person or by phone. In order to allow for open and free flowing brainstorming sessions, PCJ did not record any of the meetings or attempt to identify statements from particular individuals.

In addition to the above background research and analysis, PCJ also collected and analyzed juvenile and criminal justice data from Connecticut. Some of the data was publicly available, such as the arrest data from the Uniform Crime Report. However, PCJ also submitted specific requests for non-identified data to the Department of Children and Families, the Judiciary and the Department of Correction. This data was collected in order to examine how emerging adults are currently flowing through the justice system and analyze the potential impact on both the juvenile and adult justice systems during the implementation of this proposal.

Because of the type and scope of this Action Research Project, this report does <u>not</u> include information about the opinions of the individuals who will be most directly affected by the proposed policy changes: court-involved emerging adults. Some of the participants in the various focus group meetings raised concerns that emerging adults could be confused or even opposed to the notion of being processed in the juvenile system, rather than the adult criminal justice system. Others noted that if emerging adults did have a negative reaction to the proposed changes, this could be indicative of the developmental stage of emerging adults (who are often more concerned with immediate "status" rather than long-term consequences) as well as the misconceived notion that juvenile courts are mere "kiddie courts." Researching the views and opinions of emerging adults themselves, and asking them about what they believe would be most helpful to both hold them accountable and also provide them an opportunity to move on in a positive manner to become productive members of our communities, is an area of future study that would be useful for Connecticut to undertake in the future.[3] But on the assumption that public safety can be more effectively protected through the successful

outcome of an emerging adult's experience in the justice system, the absence of such research in the meantime does not preclude us from making recommendations now.

This report makes fifteen recommendations, all of which were (1) identified and developed through the above methodology and (2) selected because they appeared to be most relevant and also addressed the concerns or issues most often raised by different groups during the "listening tour" conducted over the course of this project.

Finally, it should be noted that this report uses the term "emerging adults" to define individuals between the ages of 18 up to and including 20. This term replaces that of "young adults," which was the specific term used in the proposed legislation filed earlier this year. The change was a conscious and deliberate choice, one that reflects PCJ's belief that "emerging adults" more accurately describes this important and distinct developmental stage. "Emerging adult," a term first coined in 2000 by psychologist and author Jeffrey Arnett at Clark University, has become increasingly adopted in the criminal justice arena and invokes a critical developmental period: the transition from a child who is dependent on parents or guardians for supervision and guidance (as well as emotional and financial support) into a fully mature, independent adult who engages as a productive and healthy member of society. The section of this report entitled "The Role That Age Plays In The Justice System" will provide greater details about this "in-between" stage as well as its implications to the justice system.

QUESTION #1:
How would this reform fit into Connecticut's substantial experience with justice reform, including the past "raise the age" initiative that successfully expanded juvenile jurisdiction from 16 to 18?

Connecticut's Legacy of Reform

Connecticut has a long track record of tackling justice reform and has been recognized as a national leader in the past couple of decades, especially for the improvements made to the juvenile justice system. As the Justice Policy Institute has pointed out:

> *Perhaps more than any other state, Connecticut has absorbed the growing body of the knowledge about youth development, adolescent brain research and delinquency, adopted its lessons, and used the information to fundamentally re-invent its approach to juvenile justice. As a result, Connecticut's system today is far and away more successful, more humane, and more cost-effective than it was 10 or 20 years ago.* [4]

Although not an exhaustive list, here are some highlights of past reform efforts that have a bearing on this emerging adult initiative:

- In 2000, Connecticut commissioned the Connecticut Policy and Economic Council to provide an in-depth recidivism analysis. The report, released in 2002, provided unwelcome and somewhat shocking news: 20 of 22 alternative programs being funded and implemented in Connecticut were ineffective at best – and that some of the programs may have increased the chances of recidivism.[5] In response, the Department of Children and Families and the Court Support Services Division committed substantial funding to expand and improve the network of evidence-based community programs for court-involved youth. By 2009, the annual budget for programs reached $39 million.[6] The new and improved programming included the development of "YES! Centers" around the state that offer a mix of individual and group programing for youth on probation, as well as the adoption of well-respected, evidence-based, non-residential treatment models, such as Multi-Systemic Therapy (MST)[7] and Functional Family Therapy (FFT).[8]
- In 2006, Connecticut engaged in a thorough strategic planning process for its juvenile justice system, a formal, thoughtful and inclusive process that few (if any) other states have replicated.
- In 2007, Connecticut passed legislation, often referred to as "Raise the Age," that raised the upper age of juvenile jurisdiction from 16 to 18. At the time, Connecticut was one of only three states in the country to automatically prosecute all children as young as 16 as adults. Connecticut implemented the upward shift in age of jurisdiction in a gradual manner: 16-year-olds were included in the juvenile system on January 1, 2010 and 17-year-olds were added later on July 1, 2012.[9] This Raise the

Age initiative has been implemented in a fiscally sound manner and proven to have advanced public safety. (The discussion from *Question 3: What would be the broader impacts of these proposed reforms on Connecticut's justice system* below further examines the impact of this earlier Raise the Age initiative on the juvenile caseloads and crime rates, while the section entitled "Fiscal Impact" reviews the implications of reform on the State budget).

- At the same time that Connecticut was raising the age of juvenile court jurisdiction to 18, it expanded its diversion programs, providing greater opportunity to effectively serve youth referred to court for an alleged criminal offense in a less formal, non-judicial manner. The Connecticut diversion system includes Juvenile Review Boards (JRBs), which are panels comprised of community volunteers, police, school personnel and or/local agency staff, who collectively work to resolve a youth's case. Outcomes can include the requirement for the youth to engage in substance abuse treatment, to pay restitution to the victim and/or to write a letter of apology, among other resolutions. Many of the JRBs have formally adopted a Restorative Justice approach.[10]
- Connecticut has implemented a number of substantial reforms to stop the "criminalization" of youth who have been referred to court for a "Family with Service Needs" (FWSN) case for a "status offense." Although FWSN cases are non-criminal cases (addressing behavior that is contrary to the child's own interest, such as running away from home), children were often treated in the same manner as a delinquent, both jeopardizing their well-being and increasing the likelihood that they would later become involved with the delinquency and/or criminal justice systems. Perhaps one of the most significant reforms occurred in 2007 with a new law that ended the practice of detaining or committing children in locked facilities on the grounds that the child disobeyed a judge's order in a status (non-criminal) case. In addition, Connecticut has taken a number of other bold steps to reform the FWSN system, including a law passed just this year (2016) that eliminates both "truancy" and "defiance of school rules" as grounds for judicial intervention within the FWSN system.[11]
- Connecticut has also tackled one of the other big "feeders" into the juvenile justice system: the school-to-prison pipeline. In 2007, Connecticut severely limited its public schools' use of out-of-school suspensions and began implementing memoranda of understandings between school and local police to reduce in-school arrests for low-level behavior.[12] In 2009, Connecticut launched a School-Based Diversion Initiative (SBDI).[13] And, in a dramatic move that garnered national headlines, the Connecticut juvenile courts began rejecting court referrals for school-based arrests for minor misbehavior.[14] Connecticut has made efforts to offer training on an ongoing basis to all school districts to implement Positive Behavioral Interventions and Supports (PBIS), a pro-active approach that has been found to be effective in both reducing incidents of misbehavior as well as increasing academic success.[15] The law eliminating the school-based grounds of filing a FWSN for truancy and defiance of school rules (mentioned above), will have a substantial impact on further reducing the school-to-prison-pipeline in Connecticut and will undoubtedly become a model in the country when it takes effect on August 15, 2017.

- Although the focus of this list has been on reforms in the juvenile justice system, we would be remiss not to mention that Connecticut has also made great strides in tackling much-needed reforms in the adult criminal justice system as well. As just one example, in 2003 Connecticut started working with the Council of State Governments Justice Center to address the rapid growth of the prison population and correction spending.[16] A year later, Connecticut became the first state to enact Justice Reinvestment, with approximately $14 million reinvested into programming and services administrated by the Department of Mental Health and Addiction Services.[17]

This hard-won list of accomplishments did not, of course, develop in a vacuum. Some of the reform efforts in Connecticut came about in direct response to specific crises, similar to those that have periodically caught the public's attention in other states and at the national level. In some cases, litigation has been the means to expose some of the system's failings, most notably in the *Emily J.* class action suit filed in 1993, which highlighted the deplorable conditions in the detention centers at the time, with overcrowded, unsanitary, and unsafe environments and neglectful and overly punitive supervision. A more recent example of public attention drawn to problems in the juvenile justice system came from last year's publication of the Office of the Child Advocate's investigative report on the Connecticut Juvenile Training School and Pueblo Unit that revealed "urgent safety problems for youth." Troubling findings included: "inadequate suicide prevention, lack of appropriate support and training for staff, inadequate and harmful crisis management, and an opaque system that, despite significant public funding, reports scant information regarding quality, public safety outcomes, and oversight."[18] Such litigation and investigative reports have been critical catalysts for reform over the years.

One particular failing in the recent history of the Connecticut juvenile justice system was the construction of the Connecticut Juvenile Training School (CJTS), a large, 230 bed-facility. In 2001, Connecticut's Governor John Rowland declined to adopt recommendations to build a therapeutic facility or regionalized network of smaller facilities—an approach that had been adopted by Missouri, and was considered a national model in juvenile corrections for youths found delinquent and sentenced to the custody of the state. Instead, Governor Rowland opted to build the CJTS, which was modeled on a maximum-security adult prison in Ohio. Although it would later be discovered that the contracting process had been rigged (Governor Rowland subsequently resigned from office in 2004 and was sentenced to prison along with the Chief of Staff and contractor), CJTS opened in August 2001. Many consider this a tragic mistake that the state continues to try to mitigate – or at the very least a "missed opportunity" for reform. Fortunately, Connecticut has closed the Pueblo Unit (hardware secure facility for girls) and taken significant steps to reduce the population of youth held in CJTS. As of the writing of DCF's October 18, 2016 report on CJTS that was presented to JJPOC, there were only 42 boys housed there.[19] Recently, Governor Malloy announced that CTJS will be closed by July 2018 and plans are underway to develop a more appropriate, model alternative (see section "The Proposals Impact on the Department of Children and Families below for further discussion).[20]

Despite such setbacks, the impressive list of reforms that have been accomplished to date in Connecticut occurred in large measure because of the hard work and dedication of organizations and individuals committed to improving the justice system. Many key leaders in the judicial, legislative and executive branches of government, as well as an array of public policy advocates, lawyers, service providers and funders from private foundations, have made these reforms possible. Fortunately, many if not most of these key leaders are still working towards further reform today.

Finally, it is worth noting that the comparatively rapid implementation of Connecticut's reforms is at least partly due to its political structure. In contrast to most other states, Connecticut has a statewide justice system and no county level jurisdictions. Each state agency has offices, courts or facilities scattered in different parts of the state but they are all overseen by the state agency. For instance, the statewide Superior Court holds both juvenile and adult sessions around the state, the Office of the State Prosecutor prosecutes all juvenile and criminal cases statewide, the Division of Public Defender Services provides counsel to indigent juveniles and defendants, the Court Support Services Division runs the juvenile detention centers, the Department of Children and Families oversees all committed youth, and the Department of Correction has custody of individuals (both under and over 18) who have been sentenced to prison. An exception to the statewide system is the police: there are separate departments for the major cities as well as many of the towns. But there is also the statewide Connecticut State Police, which provides law enforcement services for approximately half of the State's 169 municipalities[21] and for those areas not covered by local departments. Due to the integrated nature of Connecticut's legal system, reforms enacted at a higher policy level do not need to be implemented in a piecemeal fashion among various local jurisdictions across the state, but rather can be immediately implemented on a statewide basis. This structure allows Connecticut to avoid the classic "state versus locality" power struggles experienced in many other states, thereby enabling Connecticut to implement reforms in a consistent and rapid manner across the entire state.

In PCJ's facilitated meetings around the state to discuss the implementation of this proposal, reactions varied. Many expressed approval and enthusiasm over the prospect of Connecticut building on its past success in improving the juvenile justice system by expanding an individualized, rehabilitative model to 18, 19 and 20-year-olds. However, there was also some apprehension that these new reform efforts could unintentionally diminish—or even harm—the previous hard-won improvements that have been achieved for youth under age 18. Accordingly, the recommendations included in this report are offered with the view that the successful incorporation of emerging adults in the juvenile justice system must not be achieved at the detriment of the younger youth who have been swept into the juvenile justice system.

QUESTION #2:

What lessons can be learned from other jurisdictions in the United States and abroad about more effective ways to address emerging adults in the justice system?

The Role That Age Plays in the Justice System

Until the implementation of Connecticut's last "raise the age" legislation began in 2010, Connecticut automatically treated anyone 16 and above as an adult for criminal law purposes, prosecuting them in the adult court and sentencing them to adult prisons. Since the law was fully implemented in July 2012, Connecticut has used the 18th birthday as the default demarcation between the juvenile and the adult justice systems. But under this current proposal, this line would gradually rise to 21 over a period of three years.

The age of majority chosen for criminal law purposes has never been set in stone. In 1899, Cook County, Illinois, was the first jurisdiction in the country to establish a separate juvenile court for children under the age of 16. The idea quickly spread; within 25 years every other state except two (Maine and Wyoming) had followed suit, using a range of upper ages for their newly created juvenile justice systems, generally between the ages of 16 to 18.[22] At times, different ages were sometimes picked for different genders; for instance in 1905, Illinois lawmakers raised the age of juvenile jurisdiction from 16 to 17 for boys and from 16 to 18 for girls.[23] Between the court's inception and today however, most states that set the age of juvenile court jurisdiction below 18 gradually raised the age to 18, leaving the seven states that have jurisdictional limits before age 18 as today's outliers.[24]

Over the ensuing century, there was not a great deal of public debate or attention about the age set for juvenile jurisdiction. But in the 1990s, the United States experienced a rise in juvenile crime, eliciting a "tough on crime" response – one supporting the view that any child who committed a serious or "adult crime" deserved "adult time." Consequently, many states quickly changed their laws to allow more children under age 18 to be tried and sentenced as adults and incarcerated in adult facilities.

Although this drastic response was implemented in the pursuit of enhancing public safety, it ultimately backfired. Research on the cohort of young individuals subjected to "adult time" soon began to demonstrate a high rate of recidivism. Specifically, when comparing youth who were prosecuted in the adult system to those retained in the juvenile system, the former had a 34% to 77% greater likelihood of being re-arrested for a crime. They were also more likely to be re-arrested for a more violent crime than those exiting the juvenile system.[25]

In addition to these findings, more recent research has revealed a strong distinction between the development of children and adults, undermining the assumptions made in automatically treating youth as adults in the adult criminal justice system. Neurological research over the last two decades has found that brain development continues into early adulthood (mid-20s or beyond) and that adolescents are particularly prone to risky

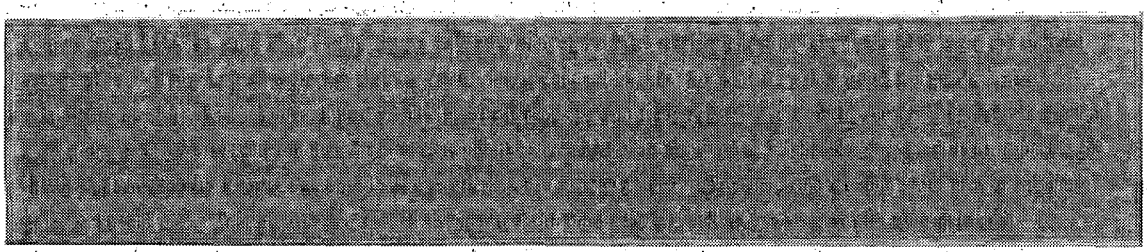
behavior, a proclivity that naturally declines with maturity. Specifically, research has shown that youths are:

- Prone to be impulsive;
- More sensitive to immediate rewards and less future-oriented;
- More volatile in emotionally charged settings; and
- Highly susceptible to peer and other outside influences.[26]

All of these factors have proven to be more pronounced for youth who have experienced trauma, which is estimated to be between 75 - 93% of all youth in the juvenile justice system.[27]

The picture is not entirely bleak. While youth are vulnerable to negative influences, the persistent and rapid physical, emotional, and cognitive development of adolescents and emerging adults also makes them particularly susceptible to positive influences. Research reveals that the vast majority of children will grow up and out of their risky (and sometimes criminal) behavior.[28] As many parents know from experience, it takes time to grow up.

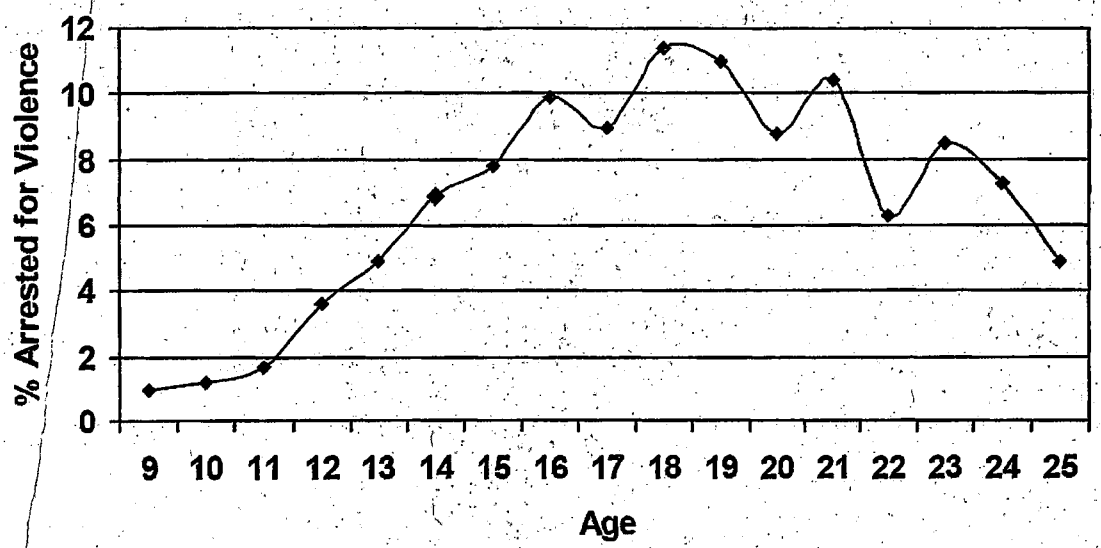
Connecticut was one of the first states to question the wisdom of automatically treating children as mini-adults. This reflection led the state to reverse the national trend to try more children as adults by passing the "raise the age" law to age 18 in 2007 (fully implemented by 2012). Following Connecticut's lead over the past decade, six other states have raised the age of juvenile jurisdiction to 18: Mississippi, Massachusetts, Illinois, New Hampshire, South Carolina, and Louisiana.[29]



The research that has influenced Connecticut and other states to redesign the parameters of the juvenile justice system has also had an impact on judicial jurisprudence, particularly from the United States Supreme Court. In a relatively rapid succession of decisions from 2005 to 2012, the Supreme Court has cited commonsense understanding of adolescent development as well as the large body of research in neuroscience and developmental psychology to find that adolescents have distinctive attributes and that these distinctions have important constitutional significance. Most significantly, under both the 8th Amendment and Due Process jurisprudence, the Court has held that youth have greater constitutional rights than adults.[30]

In addition, sociological data tells us that youth in the United States are entering into traditional, stabilizing adult roles later than in previous generations. The transition to adulthood has become prolonged, and the developmental milestones associated with both adulthood and desistence from committing crime, such as full employment and marriage, have become delayed.[31] As just one example, in 1960, 45% of 18 to 24-year-olds were married. In 2010, only 9% were married.[32] Sociologists have described the levels of detachment of 16 – 24-year-olds from mainstream institutions (e.g., employment) as a problem of "disconnection" and noted its increase over the decades, particularly for young men of color with little schooling, who are over-represented in our justice system.[33]

In shining the light of recent neurological, developmental, and sociological research on the justice system, it is not surprising to discover that the age-rates of criminal offenses are highest during the teenage years and that they only start to decline in the early 20s. This phenomenon, which has been found to be universal in all Western populations,[34] is reflected in the "age-crime curve"[35]:



Interestingly, irrespective of the age of onset of offending, most will desist "naturally" during the young adult years.[36] As highlighted in a 2013 report for the Department of Justice states:

> ...many young people who offend at ages 19 to 20 and who are now fed into the adult justice system (and are more likely to receive longer sentences than in the juvenile justice system), would have been likely to desist naturally in the next few years. It seems likely that justice system processing makes them worse rather than better...
>
> In summary, developmental studies of the persistence in and desistence from offending between adolescence and early adulthood do not support the notion that there is any kind of naturally occurring break in the prevalence of offending at age 18. Persistence in offending is not immutable; interventions

> outside of the justice system…can improve a young person's desistance from offending between adolescence and early adulthood.[37]

The problem of using 18 as a stark demarcation of the "transition" between childhood and adulthood is that the criminal justice system could, unintentionally, be making this natural maturing process worse rather than better: Emerging adults are "branded" as criminal and are weighed down with a criminal conviction that will follow them throughout the rest of their adult lives, affecting their employment, housing and educational opportunities. The juvenile justice system, on the other hand, holds the individual accountable but provides developmentally appropriate services and allows the individual to exit the system without a public "conviction."

The chart below – prepared by PCJ to compare the Connecticut juvenile justice system to the adult criminal justice system – highlights the key differences of the two systems. The most important distinctions are the juvenile system's focus on rehabilitation, with individualized assessments and treatment, and the absence of a "conviction" as a public record. By recognizing that there is no "magic moment" of adulthood and extending the jurisdiction of the juvenile system to emerging adults (while still allowing youth with more serious offenses/prior records to be tried as adults), Connecticut will be giving individuals the time and support to desist and move downward on the infamous bell curve.

Comparison of Juvenile and Adult Justice Systems in Connecticut

ry trial available		X

Note: This chart excludes the prosecution of 15-17 years as "youthful offenders" in the adult criminal session (pursuant to C.G.S. 54-76b).

National Perspective

No state has yet to raise the age of juvenile jurisdiction over age 18, but this could change under current reform efforts in Connecticut. Specifically, by recognizing "emerging adults" as a distinct developmental stage that deserves developmentally appropriate responses in the criminal justice system, Connecticut has placed itself on the forefront of justice reform in this country.

National attention to emerging adults in the criminal justice system – and questions about whether there might be more effective ways of handling them – has been quickly gaining prominence in the last few years with the publications of a number of influential research papers.[38] One of the reasons for this upsurge in interest is the recent developmental and sociological research described above. But another reason is the recognition that emerging adults are failing in our justice system. Nationally, approximately 78% of 18 to 24-year-olds released from state or federal prison are rearrested within three years, a significantly higher recidivism rate than for the released population as a whole. The racial disparities of emerging adults is particularly troubling: In 2012, the rate of incarceration in state or federal prison for males ages 18 and 19 was nearly three times greater for Hispanic people and more than nine times greater for Black people than for Caucasians.[39] These facts have led many to ask: *Can we do better and, if so, how?*

In addition to Connecticut, legislators in Illinois and Vermont held hearings in 2016 for proposals to raise the age of juvenile jurisdiction to include emerging adults up to age 21. In January, a subject matter hearing was held in Illinois, in which testimony was presented by the Cook County Jail raising concerns about the appropriateness of housing emerging adults in jail. Data from the jail was also presented showing that one-third of the 7,777 emerging adults who were incarcerated in it in 2015 were convicted of misdemeanor offenses.[40] This subject matter hearing, co-chaired by four House Committee Chairs, led to the filing of House Bill 6308, which sought to raise the age of juvenile jurisdiction for misdemeanor offenses to age 21. This reflected a strategy used previously in Illinois, when the state moved the age of juvenile jurisdiction from age 17 to 18 first for misdemeanor offenses (implemented in 2009) and then later for felony cases (implemented in 2014). HB 6308 was held up in the House Judiciary Committee following a hearing where questions were raised over whether young adults could be waived to adult court if their cases began in juvenile court. But in the meantime, there is a plan in place, including designated funding, to open a community restorative justice court in Chicago in the spring of 2017 specifically designed for young adults from age 18 to their 26th birthday. The court will be located in North Lawndale,[41] will be presided over by a Juvenile Court Judge, and will handle misdemeanor as well as some felony cases.[42]

Vermont also considered raising the age of juvenile jurisdiction to age 21, with the Senate Committee on Judiciary holding a hearing on the matter on March 24, 2016. Ultimately, the legislature directed the Justice Oversight Committee to study the feasibility of raising the age for this cohort except for the most serious offenses (known in Vermont as "the big 12 offenses"), thereby postponing the decision to a future date.

But Vermont did pass legislation that greatly expanded youthful offender status to emerging adults up to their 22nd birthday.[43] This expansion will take effect in 2018 and is significantly different than the current and limited youthful offender provision, which is used infrequently, and only applies to individuals before they turn eighteen (regardless of the age they allegedly committed the crime), and requires a plea (without an admission, the case must remain in the adult criminal justice system). This new law will allow any party to move for the emerging adult (again, up to the 22nd birthday) to be treated as a youthful offender and the court will conduct a hearing to determine the individual's amenability for treatment. Bench trials will be available for those designated as a youthful offender (although youthful offenders must waive their right to a jury trial to proceed as a youthful offender). At the time of disposition, the juvenile correctional agency (Vermont Department of Children and Families) and the adult correctional agency (Vermont Department of Corrections) will co-author a report with recommendations for services, supervision and confinement. The youthful offender can be supervised by either the juvenile or the adult correctional agency, depending on the report's recommendations about which agency would be most appropriate for that particular case.

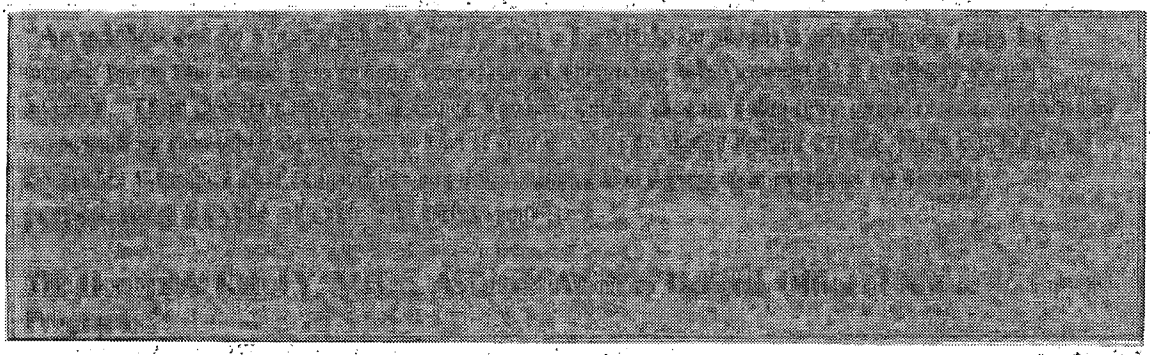
A few issues remain to be worked out with Vermont's new youthful offender statute before it is implemented, some of which were outlined in a report submitted to the Joint Legislative Justice Oversight Committee on November 1, 2016, and technical amendments will most likely be introduced soon.[44] But the passage of such an expansive statute demonstrates Vermont's strong commitment to approaching emerging adults in a new and different manner – one that adopts some of the rehabilitative features of the juvenile justice system – in the belief that it will improve public safety.

In addition to these legislative proposals to raise the age of juvenile jurisdiction and expand youthful offender statutes, states have been taking other steps to address emerging adults. For example, California, Kansas, Oregon and Wisconsin have extended youth-facility placements past age 18 and even past age 21, to give emerging adults the opportunity to receive rehabilitative treatment.

Another increasingly popular approach is to develop special correctional units or facilities within the adult correctional system specifically designed for emerging or young adults, with targeted programming for the needs of this age group. One specific example of such a program is the Mountain View Young Adult Offender Program in Charleston, Maine. Faced with closing a juvenile correctional facility due to decreasing caseloads, Maine converted the facility in April 2014 and designated one section specifically for 18 to 26-year-olds. Many of the previous juvenile facility staff have shifted focus to the emerging adults in this reconstituted facility.[45] A number of states, counties and cities have also recently announced plans to open special facilities for young adults, including Connecticut, Vermont, New York City and Essex, Middlesex and Suffolk Counties, Massachusetts. Once again, Connecticut has been a model for other states, working closely with the Vera Institute of Justice to carefully and thoughtfully consider staff training needs, effective disciplinary approaches, ways to retain connections to family

members, and an array of appropriate programming, including education, and vocational services.

There have also been numerous court- and prosecutor-driven initiatives focused on emerging adults that have sprung up on a local, county and federal district level. Two of the most well-known are the Young Adult Court in San Francisco Superior Court[46] and the Young Adult Opportunity Pilot Program offered by the United States District Court of the Southern District of New York.[47] The National Institute of Justice initiated an Environmental Scan in November 2015, in an attempt to identify all the existing programs and initiatives scattered around the country that are specifically directed to this age cohort. Noting that the search was "neither straightforward nor simple," the NIJ published its findings in a report in July 2016, identifying 40 different local initiatives that included young adult courts, probation/parole programs, District Attorney-led programs, community-based partnerships, and prison-based programs. This plethora of local programs demonstrates the remarkably high level of interest and investment in adopting developmentally appropriate responses to emerging adults in the justice system that is currently being embraced on a national level.[48]



International Perspective

Applying the rehabilitative goals and services of the juvenile justice system to emerging adults (18 and over) is relatively new to the United States but a firmly established concept internationally. The past three decades have seen the following important international bodies identify young adult offenders as a group to be distinguished for their distinct developmental stage and best served by applying the same special provisions traditionally applied to youth under age 18:

(1) The United Nation Standard Minimum Rules for the Administration of Juvenile Justice, more commonly known as the *Beijing Rules* and adopted by General Assembly resolution in 1985, recommends that "efforts shall also be made to extend the principles embodied in the Rules to young adult offenders" (e.g., the adoption of a rehabilitative approach, rather than merely punitive).

(2) The International Association of Penal Law (IAPL) (the world's oldest association of specialists in penal law that convenes 50 national groups to research and produce resolutions about criminal law) included in the resolutions flowing from their 17th International Congress in 2004 provisions for emerging adults.[50] The recommendations included that legislation for young adults must be adapted in a similar way for minors given that the state of adolescence can be prolonged into young adulthood,[51] that educational measures as alternative sanctions may be extended to individuals to the age of 25,[52] and that special provisions for minors may be extended to crimes committed by persons up to the age of 25.[53]

(3) The Council of Europe (founded in 1949 and consisting of 47 member states and covering over 800 million people) has passed recommendations firmly placing young adults within the purview of the juvenile justice system. A recommendation adopted in 2003 acknowledged the delayed transition into adulthood, with the Committee of Ministers writing that the "the age of legal majority does not necessarily coincide with the age of maturity".[54] Rules within that recommendation state that young adults under the age of 21 should be treated comparably to juveniles when the judge is of the opinion that they are not as mature and responsible for their actions as full adults[55] and facilitate entry into the labor market by ensuring young adult offenders are not required to disclose criminal records to prospective employers.[56] In 2008, a further recommendation defined young adult offenders as between the ages of 18 and 21.[57] The Committee of Ministers commentary on the recommendation acknowledged the progress of many European countries in the preceding 15 years in this area, and concluded that, "it is an evidence based policy to encourage legislators to extend the scope of juvenile justice to the age group of young adults."[58]

There are now numerous examples of countries that have embraced within their domestic legal structures the principles endorsed by these international bodies. Although not confined to Europe, it is worth noting that in a recent survey of European countries, all but seven countries have special provisions for prosecuting and/or sentencing young adults. The three countries below are examples of justice systems that have been tailored to respond specifically to young adults.

Japan

Both Japan's juvenile and civil laws state that all persons under age 20 are children.[59] Thus, teenagers 14-19 are, by default, dealt with in Family Court and, if sentenced to confinement, placed in the youth reform school.[60] Under certain circumstances, the Court can determine that the youth (age 14 and up) should be transferred and tried in adult court; however, the media is still prevented from disclosing the youth's identity.[61] In addition, in the relatively rare circumstance that a teenager is sentenced as an adult, attempts are made to separate them from older adults.[62] Due to low populations in the youth rehabilitative facilities, many of the young adults (up to age 26) are housed and treated in such facilities.[63]

Germany

In 1953, based on concerns about the development of fatherless youth post World War II, Germany raised the jurisdiction of the juvenile court through age 20 and extended the possibility of confinement in a juvenile treatment facility until age 24.[64] Under the German Juvenile Justice Act (*Jugendgerichtsgesetz*), courts are tasked with considering the young adult's maturity, developmental stage, and circumstances when determining the best avenue of treatment.[65]

The majority of young adults are prosecuted in the juvenile system, and the proportion continues to rise. In 1965, for instance, 38% of young adults were sentenced as juveniles, rising to 67% in 2012.[66] Unlike the United States, young adults are more likely to be prosecuted in the juvenile system for serious offences. In 2012, over 90% of young adults were sentenced under the juvenile law for homicide, rape, and other serious bodily injury crimes (compared to only 48% of motor vehicle sentences),[67] reflecting confidence in the ability of the juvenile system to appropriately handle even the most serious offenses.

It was an invitation from the Vera Institute of Justice to Governor Malloy and the Department of Correction Commissioner Scott Semple in June 2015 to tour European prisons and observe the rehabilitative correctional systems that influenced the Governor's proposal to raise the age in Connecticut to 21.[68] Neustrelitz Prison, a facility for only young adults aged 15 to 25, demonstrated the potential benefits of a therapeutic approach, even in a locked setting.[69]

The Netherlands

The Netherlands has a longstanding tradition of focusing on the needs of its emerging adult justice-involved population. As early as 1937, the Netherlands had two special emerging adult prisons for males and females 18 to 23 year olds.[70]

In 1971, a separate justice system with specific criminal sanctions for emerging adults ages 18 to 23 was proposed by the Wiarda Committee[71] (established by the Dutch Government to present suggestions for reform on the legal status of children).[72] This was also supported by the Anneveldt Committee (established by the Dutch Government to review the juvenile justice system[73]), which in 1982 proposed extending such a system to 24 year olds.[74] While neither Committees' recommendations were incorporated into Dutch law at the time, discussions continued and culminated in 2010, when the new government introduced "*adolescentenstrafrecht*" a major change to the law.

Implemented in April 2013, *Adolescentenstrafrecht* provides that all young offenders from ages 12 to 23 are eligible for juvenile law (previously limited to young offenders up

to 21),[75] including a wide range of educational measures for young adults and sanctions such as community service work or compensatory work for damage caused.[76] The maximum incarceration sentence a juvenile can receive is 7 years in exceptional circumstances.[77]

Although this law was enacted too recently to fully discern its impact, it is worth noting the recent prison closings in The Netherlands (including five planned for the next few years) due to a surplus of unused prison beds.[78]

QUESTION #3:

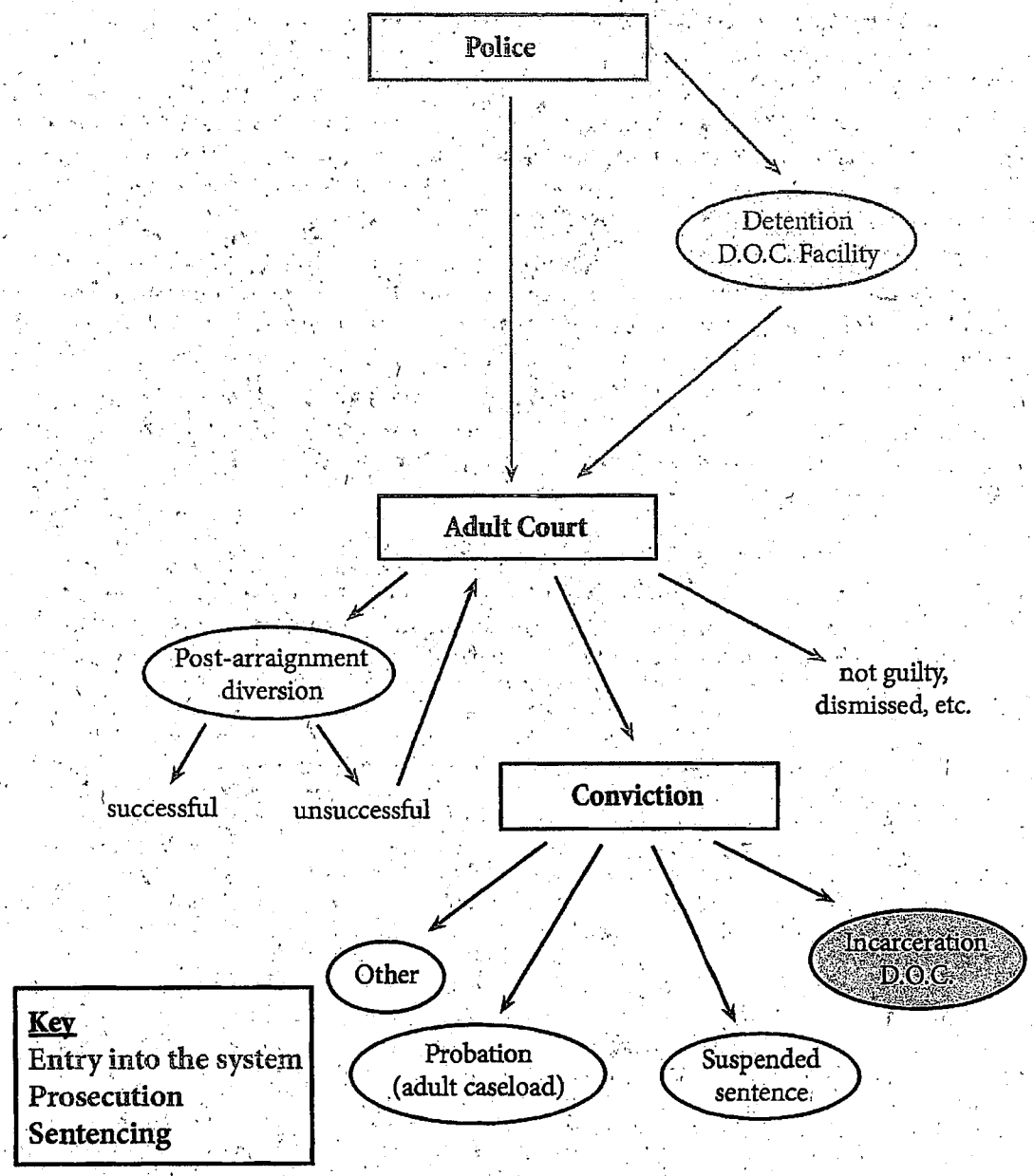
What would be the broader impacts of these proposed reforms on Connecticut's justice system?

By implementing this proposal, Connecticut would be moving many – *but not all* – of the 18, 19 and 20-year-olds that are now statutorily prosecuted and sentenced as adults by virtue of their age into the juvenile justice system. This will result in a reduction in caseloads throughout the adult criminal justice system (including the courts, detention, probation and prison caseloads and/or populations) with an approximately corresponding increase in the juvenile system. But because of the size difference between the two justice systems, the impact of this proposal will be felt most strongly by the juvenile justice system. Implementing the proposal gradually – over a three-year period – should assist Connecticut in coping with the changes. In addition, Connecticut has experienced a significant decline in crime that, were it to continue, would also make the incorporation of emerging adults into the juvenile system easier. Finally, there are a number of strategies that Connecticut is using now that could be expanded (e.g., diversion) or adopted (e.g., raising the lower-age of juvenile jurisdiction above age 7) that are discussed below, that would make room for emerging adults in the juvenile justice system.

The following two flow charts show (1) the general path that emerging adults currently take through the adult criminal justice system, and (2) the general path that they would take once the proposal to raise the age of jurisdiction to 21 is implemented (note that these charts are slightly simplified and were created by PCJ and reviewed by several JJPOC members).

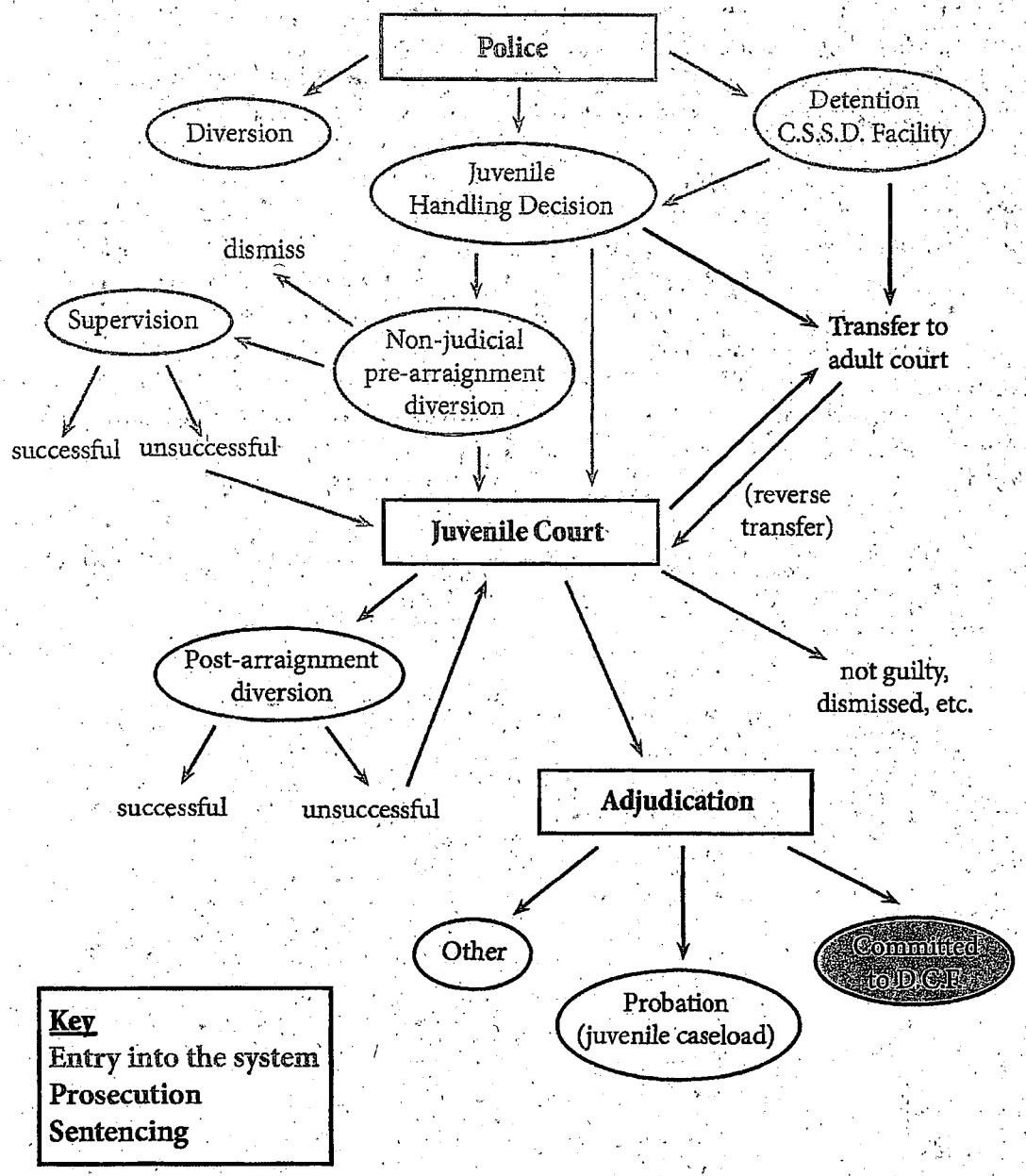
Current System

Flow Chart of 18, 19 and 20 year olds in the CT justice system



Proposed System

Flow Chart of 18, 19 and 20 year olds in the CT justice system



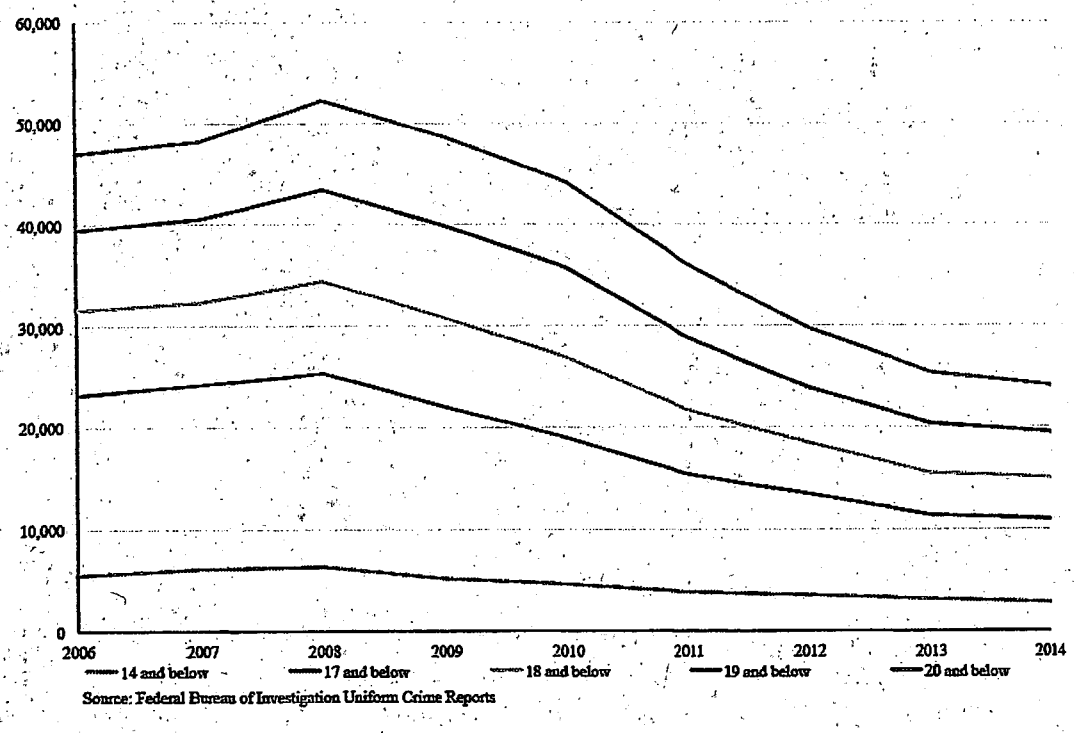
In order to understand how the implementation of the proposal to raise the age of juvenile jurisdiction to age 21 would impact both the juvenile and the adult justice systems, PCJ requested non-identified data on the caseloads and caseload trends (for both juvenile and emerging adults at each major step of the process) from all the relevant state agencies. The sections below include the findings from the data received.

Arrest

For emerging adults now entering Connecticut's criminal justice system, the first step is typically an arrest by the police, followed directly by a court appearance in the adult criminal court. When this proposal is implemented, police will still most likely be the first point of contact; however, assuming that the police follow the same practice used for youth under 18, emerging adults will usually be summoned to court rather than be sent there directly.

Over the past decade, Connecticut has experienced a dramatic decline in arrests of both youth under 18 and emerging adults, as showcased in the graph below. In 2008, arrests peaked at a high of 177,855 across the State, with 25,369 arrests for all youth under 18 (a time when Connecticut still treated all 16 and 17-years-olds as adults) and 26,831 arrests for emerging adults (ages 18-20). In 2015 (year not shown on chart below), total arrests in the state had dropped to a 10-year low of 99,920, with 8,168 arrests for youth under 18 and 8,994 arrests for emerging adults.[79] This represents a 43.8% decrease in arrests overall, a 67.8% decrease for youth under age 18 and a 66.5% decrease for emerging adults.

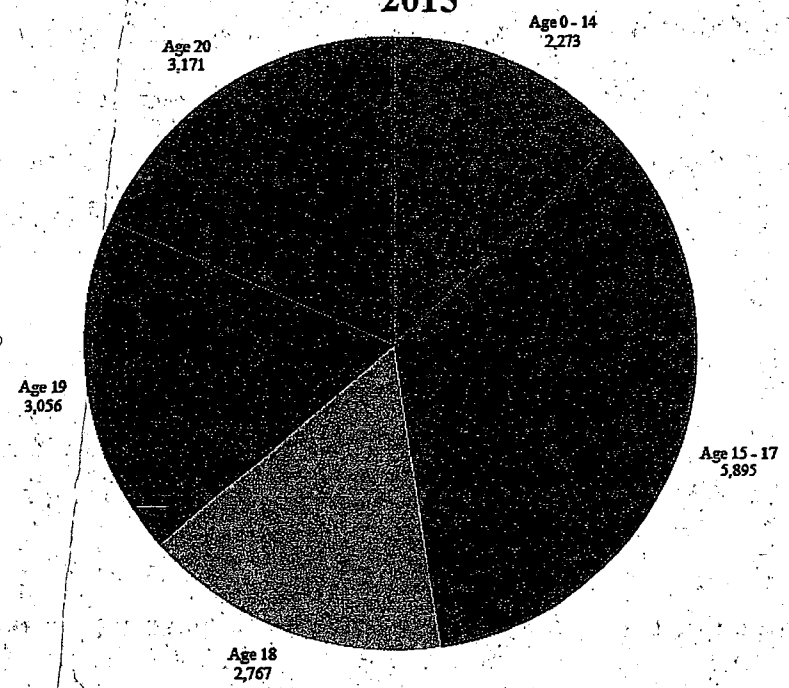
Youth and Emerging Adult Arrests in CT by Age Group



From 2013 (the year *after* Connecticut began including 17-year-olds in its juvenile justice system), arrests for emerging adults have declined by 36.1%. Assuming that this rate of decline continues into 2017, when 18-year-olds would begin to be included in the juvenile justice system, there would be approximately 1,769 18-year-olds arrested that year. Assuming a continuing declining trend, the number of arrests for 19 and 20-year-olds would also be lower, especially by the time they begin to be included in the juvenile system in years two and three of the implementation.

Although the number of arrests will vary for each age group during the implementation, it is likely that the proportion of arrests from each age group will remain relatively stable, unless additional reforms are implemented (such as raising the lower age of juvenile jurisdiction, as discussed below).

Youth and Emerging Adult Arrests in CT by Age Group 2015



Source: Connecticut Department of Emergency Services and Public Protection, Crimes Analysis Unit. "Crime in Connecticut 2015: Annual Report of the Uniform

Some of the participants of the JJPOC working groups and focus groups that PCJ facilitated over the last few months expressed a belief that emerging adults are arrested for more serious offenses than youth under 18. As the following chart demonstrates, the five most frequently arrested offenses for emerging adults are remarkably similar to the most common arrests for 15 to 17-year-olds. It should be noted that the category "All Other Non-traffic offenses," the most common offense for emerging adult arrests, includes such non-serious offenses as trespass and disturbing the peace; and the category "Other Assault" is for what is otherwise known as "simple assault" in which no weapon is involved and there is no aggravated or serious injury reported. So, although the

numbers of arrests leading to a court referral to juvenile court will increase during the implementation of the expansion of the juvenile court, the types of offenses charged should be quite similar. The one exception worth noting is the increase in drug abuse violations. As one might expect, the prevalence of substance abuse and addiction appears to increase with the age cohort of emerging adults.

Top Arrest Offenses by Age Group
2014

0 - 14 Year Olds			15 - 17 Year Olds			18 - 20 Year Olds		
Offense	Arrests	Percent	Offense	Arrests	Percent	Offense	Arrests	Percent
Other Assault	763	26.96%	Other Assault	1,629	20.13%	All Other Non-traffic offenses	2,546	19.32%
Disorderly Conduct	600	21.20%	Disorderly Conduct	1,136	14.04%	Other Assault	1,686	12.79%
Larceny	377	13.32%	Larceny	1,006	12.43%	Larceny	1,493	11.33%
All Other Non-traffic offenses	290	10.25%	All Other Non-traffic offenses	926	11.44%	Total Drug Abuse Violations	1,349	10.24%
Vandalism	159	5.62%	Total Drug Abuse Violations	655	8.09%	Disorderly Conduct	1,149	8.72%
Total Arrests	2,830	100%	Total Arrests	8,092	100%	Total Arrests	13,178	100%

Source: Federal Bureau of Investigation Uniform Crime Reports

Diversion

In the Connecticut juvenile justice system, diversion is a common practice in the "front-end" of the system. Participants at the JJPOC and focus group meetings commonly described three stages of the juvenile justice system when diversion most frequently occurs:

- Police/pre-court diversion: This can be formal or informal but provides an opportunity to find a resolution for the alleged offense without a referral being made to the Juvenile Court.
- Post-court referral and pre-arraignment diversion: This is most commonly referred to as "non-judicial" diversion and occurs after a case has been referred to the Juvenile Court and has been screened by a Juvenile Probation Officer.
- Post-arraignment/judicial diversion: This occurs after a juvenile has been formally charged with a delinquency offense but before there is a formal disposition.

The importance of developing and maintaining an effective and robust diversion system in the justice system has long been recognized but too often fails to be implemented by states.[80] Literature over the past 35 years sets forth five purposes of diversion: reducing recidivism, providing services, avoiding labeling effects, reducing system costs and reducing unnecessary social control.[81] Not only is the implementation of diversion good

public policy, it becomes critically important when a system is facing an increase in caseloads, as it is with the implementation of this proposal. Just as Connecticut expanded diversion when it previously raised the age of juvenile jurisdiction from 16 to 18, the state needs to once again focus on the use and expansion of effective diversion when it includes emerging adults.

In June 2015, the JJPOC set specific target goals for the juvenile justice system, and one of these goals was focused on diversion (the other two were focused on reducing incarceration and recidivism). By June 30, 2018, JJPOC's goal is to increase diversion by 10%. JJPOC's Data Sharing Work Group gave a presentation at the October 20, 2016 JJPOC meeting indicating that Connecticut is well on its way to achieving, if not surpassing, this goal: The Data Sharing Work Group reported that there has been 15% decrease in delinquency referrals to the juvenile courts since 2015 and that referrals to the Juvenile Review Boards increased by 33% from FY08/09 to FY15/16.

But data on exactly when and how diversion is applied in Connecticut's juvenile justice system is limited, making it difficult to assess the impact of including emerging adults in the system with any detail. For instance, there is no data available on how many youth participate in the police/pre-court diversion process in Connecticut each year. PCJ recommends that once emerging adults are included in the juvenile justice system, they be eligible to participate in and benefit from this less formal diversion process and to the same degree as those under age 18. The research is clear that providing limited interventions, like "cautioning" by the police, in less serious, low risk cases (e.g., disorderly conduct) are much more effective (and less costly) than pursuing traditional court processing.[82] In fact, research shows that involvement in the judicial system for these types of cases produces negative outcomes,[83] so to the degree possible, such diversion by police should be encouraged.

There are some data available about the diversion offered by the Juvenile Review Boards, which can take referrals from a number of different sources including the police, schools and the court, but unfortunately these data are also limited. Connecticut is still developing a process to collect information from each JRB in a uniform, comprehensive and timely manner, so JJPOC and others will be able to analyze this data as it becomes available in the future. In the meantime, PCJ did receive and review some of the data from this past fiscal year [84] and was able to identify two important factors:

- Approximately three-quarters of referrals to JRBs are completed successfully; and
- JRBs are handling cases with offenses that largely match the offenses that most frequently lead to arrests for emerging adults:

Top Juvenile Review Board Referral Offenses July 2015 - June 2016

Offense	Count	Percent
Breach of Peace	401	22.1%
Other	269	14.8%
Larceny	257	14.2%
Disorderly Conduct	196	10.8%
Illegal drug possession	176	9.7%
Assault	162	8.9%
Criminal Mischief	115	6.3%

Once emerging adults are included in the juvenile justice system, they should have the opportunity to participate in this diversion process and should benefit to the same degree as the youth under age 18. Whether the success rate would be the same for emerging adults is unknown, and Connecticut should carefully track outcomes and make adjustment if this recommendation is adopted. Other important issues that cannot be addressed at this time are the current capacity of JRBs and the services and referrals needed to appropriately serve this new age cohort. All of these issues deserve to be studied carefully, emphasizing the need for the data collection process to be firmly established and implemented. But certainly the model of JRBs, the standards established by the Youth Services Association,[85] and the adoption of such principles as Restorative Justice,[86] fit many of the "best practices" that have been established in the field of justice reform.[87]

Data on juvenile diversion that are readily available comes from the Judiciary and shows that a large percentage of juvenile cases are diverted from formal prosecution through the screening process conducted by Probation when a case is referred to the Juvenile Court (some of which may then be referred to JRBs) and designated as "non-judicial handling." In 2015, there were a total of 10,176 cases disposed in the Juvenile Court. Of these, 36% or 3,640 cases were handled in a non-judicial process and the rest, 64%, were handled in the judicial (traditional) manner.

Although the data does not indicate how many of the judicial cases are diverted after arraignment, the data does show that a majority of these cases (3,988 out of 6,536 judicial cases) were dismissed in some manner (e.g., withdrawal, return to police, discharge, referral to JRB, etc.), ended in a not guilty finding or were otherwise disposed of in a manner that did not involve a guilty finding. This means that of the 10,176 juvenile cases referred to the Juvenile Court in 2015, approximately a quarter resulted in a delinquency finding, while about three-quarters were diverted or were otherwise disposed without any formal finding.

In contrast, the adult criminal justice system has no formal pre-arraignment diversion programs. Once arrested, emerging adults are sent to court to be formally processed. There are a number of special sessions and diversionary programs (e.g., Community Court and drug intervention program)[88] offered to adult defendants but these become available only after the court process has begun.

The data that PCJ received from the Judiciary do not indicate how many of the cases involving emerging adults are diverted using these special sessions and programs. But an examination of the dispositions in 2015 shows there were a total of 27,613 dispositions involving offenses allegedly committed by 18, 19 and 20 year olds, in which 14% resulted in a guilty finding, 29% were categorized as something "other" than a conviction, and 57% were not guilty or dismissed in some manner.

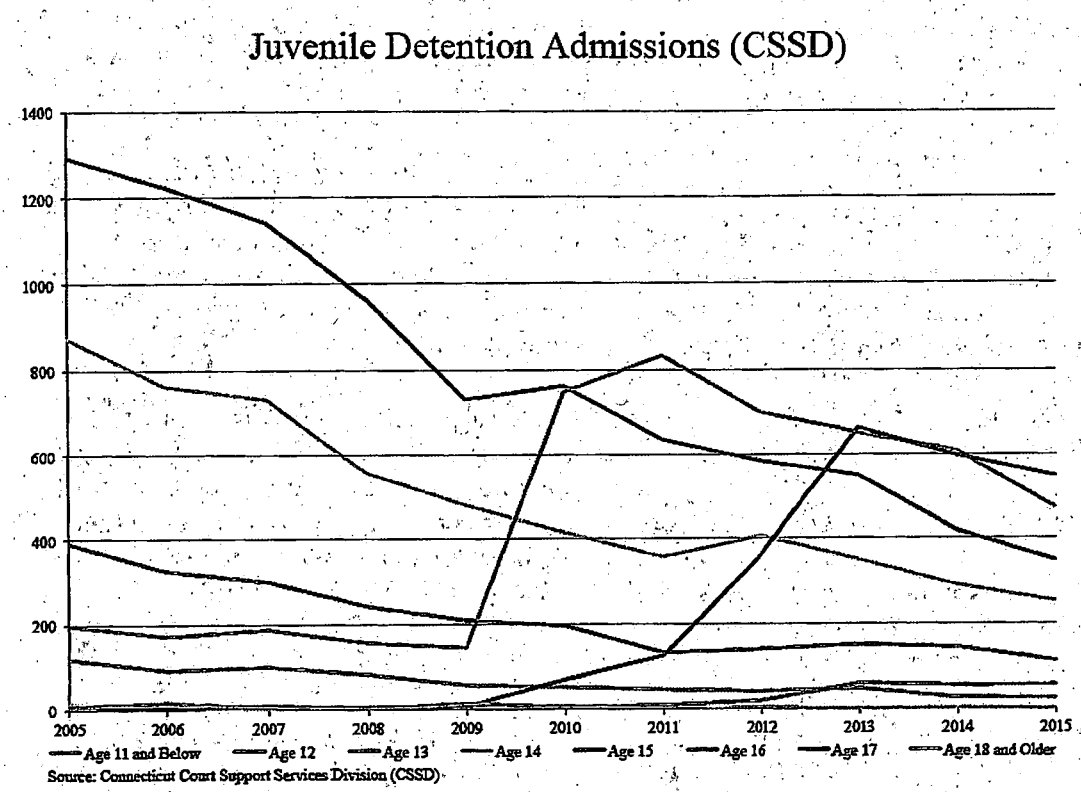
By including emerging adults in the juvenile justice system, the opportunities for front-end diversion, the most useful and effective response to low level and low risk cases, will be provided in a way that does not exist in the adult system. Obviously, diversion will not be appropriate for every case involving an emerging adult – just as it is not for every youth under 18. But as the discussion below on court cases will show, the majority (55%) of cases involving emerging adults are prosecuted for low level misdemeanor offenses, so applying the front-end diversion opportunities in the juvenile justice system should be beneficial by both increasing positive outcomes (and providing long-term savings) and reducing court cases (and lowering short-term expenses). This is particularly important when the juvenile system is expanding, allowing the system to focus its attention and resources on only those who cannot be better served outside of the formal justice system.

Detention

Currently, youth accused of committing a criminal offense before turning 18 can be detained (held in secure confinement) while the case is pending. Most of these youth (except for those prosecuted as an adult, which will be discussed below) will be held in one of two juvenile facilities, which are operated by CSSD.

Connecticut has experienced a substantial decline in the juvenile detention caseload in recent years. In 2005, there were 2,925 admissions to juvenile detention with an average daily juvenile detention population of 138 youth. In 2015, there were 1,818 detention admissions with an average daily population of 54. This represents an overall decline of 38% in juvenile detention admissions, which is particularly striking when considering the fact that Connecticut added both 16 and 17-year-olds to its juvenile justice system during this time period. It was the steep declines in the detention admissions of the younger youth (approximately 79.7% decline for 12-year-olds, 71.5% for 13-year-olds, 71.2% for 14-year-olds and 73% for 15-year-olds) that more than offset the expansion of the system to the older youth. The following chart shows the detention admissions for the different

age youth over time with the upward spikes up for 16 and 17-year-old reflecting the statutory changes in the age of jurisdiction:



All emerging adults who are detained pretrial at the ages of 18, 19 or 20 are currently detained in facilities operated by the Department of Correction (DOC). In addition, some youth under age 18 are also held in adult detention facilities if they have been transferred (either by automatic or discretionary statutory transfer provisions) to the adult system. The DOC collects data on the average daily population rather than the number of admissions, as recorded by CSSD for juveniles (seen in the chart above), and the DOC daily population data for the specific ages includes both unsentenced and sentenced individuals. But when looking at the daily population of the individuals held in DOC detention facilities (including both pretrial and convicted individuals), the data shows a decline: For all ages, there was a 12% decrease in the average daily detention population from 2005 to 2015. For youth under 18, there was a dramatic drop of 76%, which must, in part, reflect the statutory change in the age of jurisdiction, with the 16 and 17-year-olds being included in the juvenile justice system during this time period. For emerging adults, there was a 50% decrease in the average daily population.

Further analysis will be required before the actual number of emerging adults held pretrial in DOC detention facilities can be properly assessed: It is unknown how many of the average population of 729 emerging adults detained in DOC facilities in 2015 were actually pretrial (unsentenced) detainees. Furthermore, it is unknown how many of these

were being held for charges that would subject them to statutory transfer provisions, which means that they would be held in DOC even when the age of jurisdiction is raised to 21.

Even without the availability of the relevant detention data, it is to be expected that moving many of the emerging adults from the adult to juvenile detention systems will have a significant impact on the smaller, juvenile detention system. But there are two factors that make this transition easier than it otherwise could be:

1. Detention admissions have been declining steadily and at a particularly high rate for both youth and emerging adults and, if this trend continues, the populations will be even lower when emerging adults are gradually incorporated in the juvenile system over a three-year period.

2. Detention admissions from the juvenile session should decline at an even greater rate when the new detention law, which passed earlier this year, takes effect in January 2017. Among other things, this law will limit the use of detention to only those who cannot be appropriately placed in a less restrictive alternative and will require CSSD to develop and implement a new detention risk assessment instrument.[89]

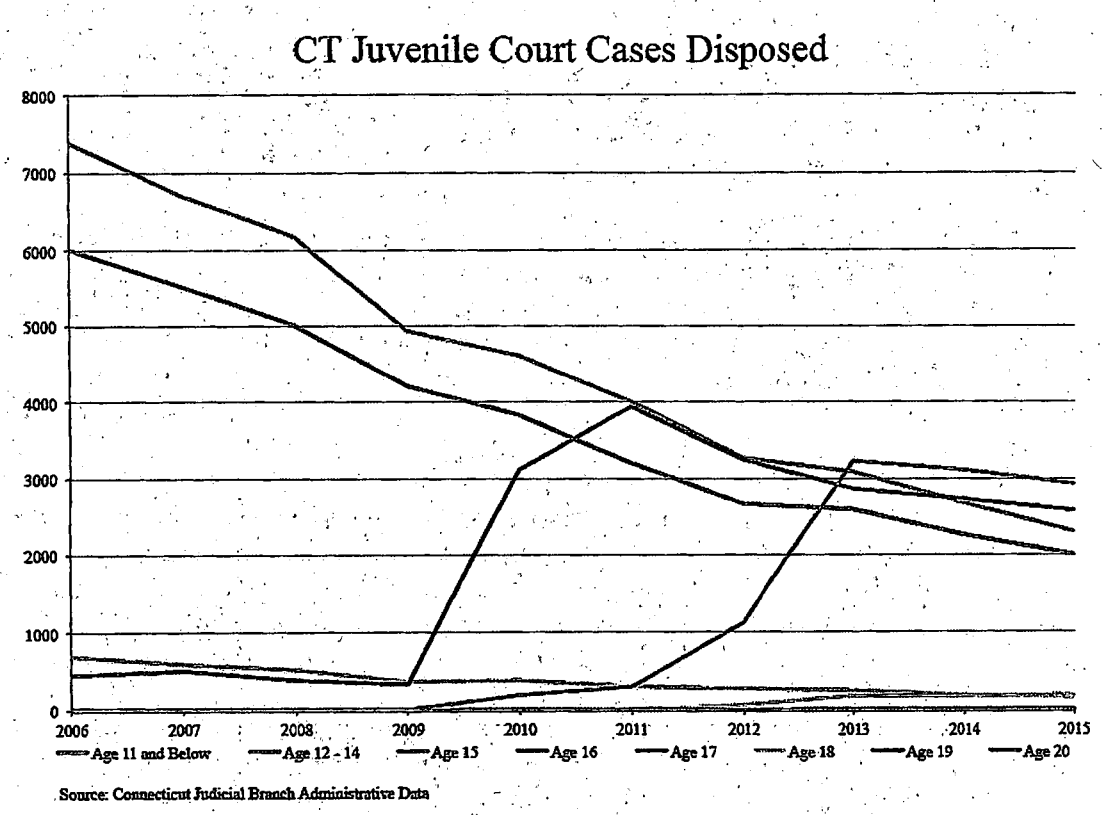
Shifting most emerging adults from the adult detention system to the juvenile one is not, of course, just a shuffle of numbers: It is an important shift in philosophy as well. Considerable research and attention has been focused on the use of juvenile detention over the last few decades, and it is now widely recognized that detention is not a benign event, but rather can cause considerable harm.[90] Research shows that detention can negatively impact young persons' physical and emotional well-being, their education and their employment.[91] Pre-trial detention also increases the likelihood that the youth detained will later be sentenced to confinement, with research showing that youth who are detained pre-trial are three times more likely to be committed to custody than youth who remain successfully in the community during the pre-adjudication period.[92] Finally, some studies have shown that detention increases recidivism, especially amongst youth who have a low risk of reoffending.[93]

The fact that most emerging adults (except those subject to automatic or discretionary transfer provisions) will be included in the juvenile detention system will increase the juvenile detention caseload. But it should also result in further declines in the total number of detentions in Connecticut (limiting detention to only cases where there are no appropriate alternatives and for as short a period of time as possible), which will reduce long-term costs and improve outcomes.

Court Cases

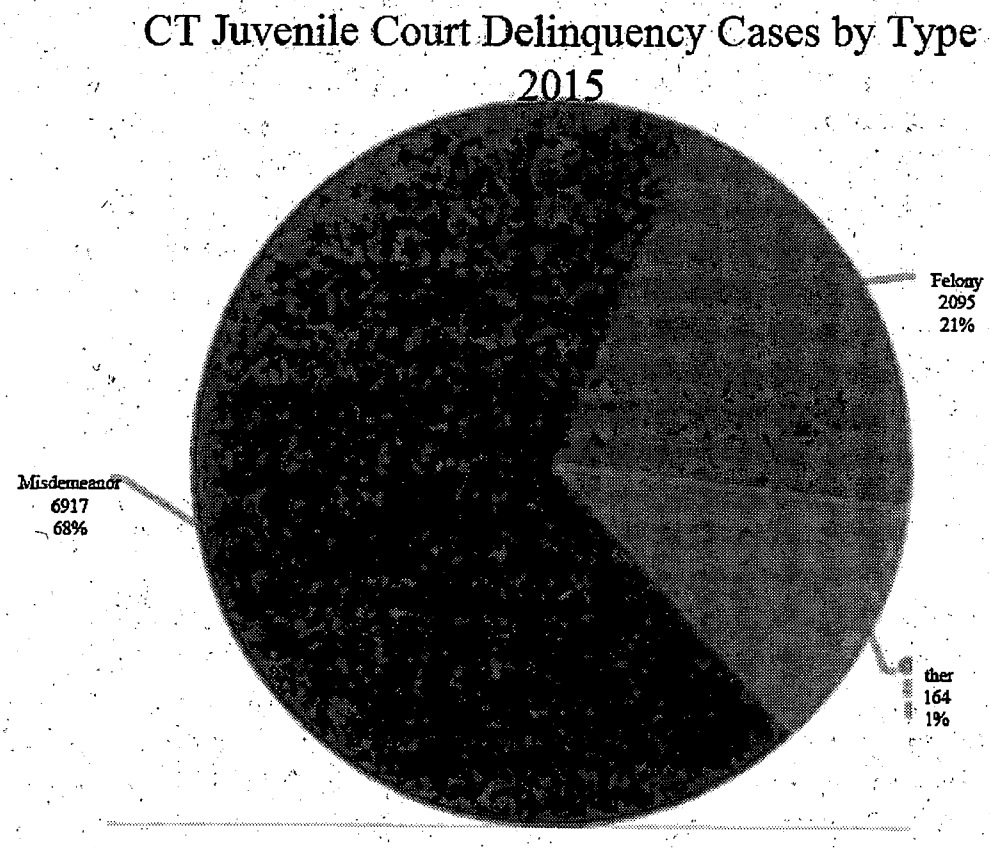
Over the past decade, the overall number of juvenile dispositions in Connecticut's Juvenile Session decreased 34% (from 15,387 dispositions in 2005 to 10,176 in 2015).

This reduction would be noteworthy under any circumstances, but it is particularly remarkable given that the age of jurisdiction was raised during this time period – meaning that both 16 and 17-year-olds were added to juvenile cases instead of being processed in the adult criminal court. The chart below shows the trends in juvenile cases from 2006 to 2015 (2005 is not included due to missing age category data for that year); it is critical to bear in mind that the dramatic spikes up for the 16 and 17-year-olds mark the two stages of the last "raise the age" reform to age 18.



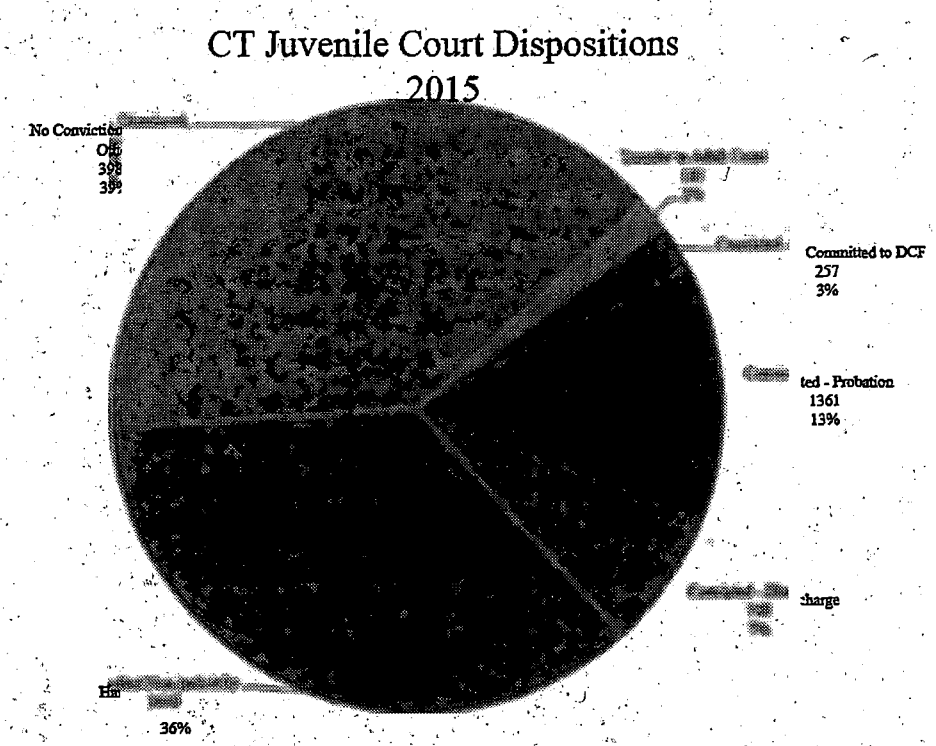
In 2015, there were 182 youth who were transferred to the adult criminal court, either by automatic or discretionary statutory provisions. This was a 36% increase from 2005, when 134 youth were transferred. This increase is not surprising since, again, both 16 and 17-year-olds were incorporated into the juvenile session during this period and thus were subject to these transfer provisions. In 2015, Connecticut passed a new law that raised the minimum age of transfers from 14 to 15 and eliminated automatic transfer for certain class B felonies.[94] This should reduce the number of cases involving youth under 18 from being transferred to criminal court going forward.

As the chart below shows, more than three-quarters of the 2015 juvenile delinquency cases involved misdemeanor offenses or other minor cases (e.g., infractions) while 21% involved a felony offense as the most serious charge listed.



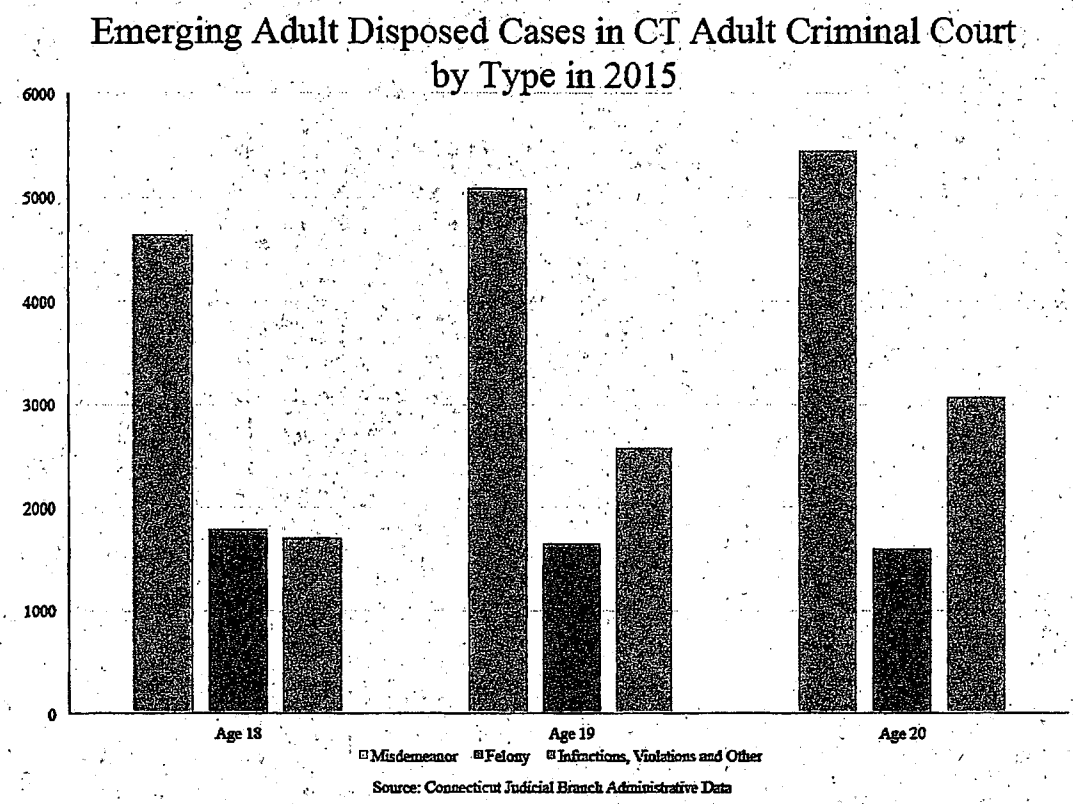
Source: Connecticut Judicial Branch Administrative Data

The dispositions of delinquency cases in 2015 show that 36% of the cases were handled non-judicially and another 39% were resolved without a conviction. The 25% of cases that resulted in a delinquency finding were most likely to end with a sentence of probation. Only 3% of all delinquency case dispositions resulted in a commitment to DCF.



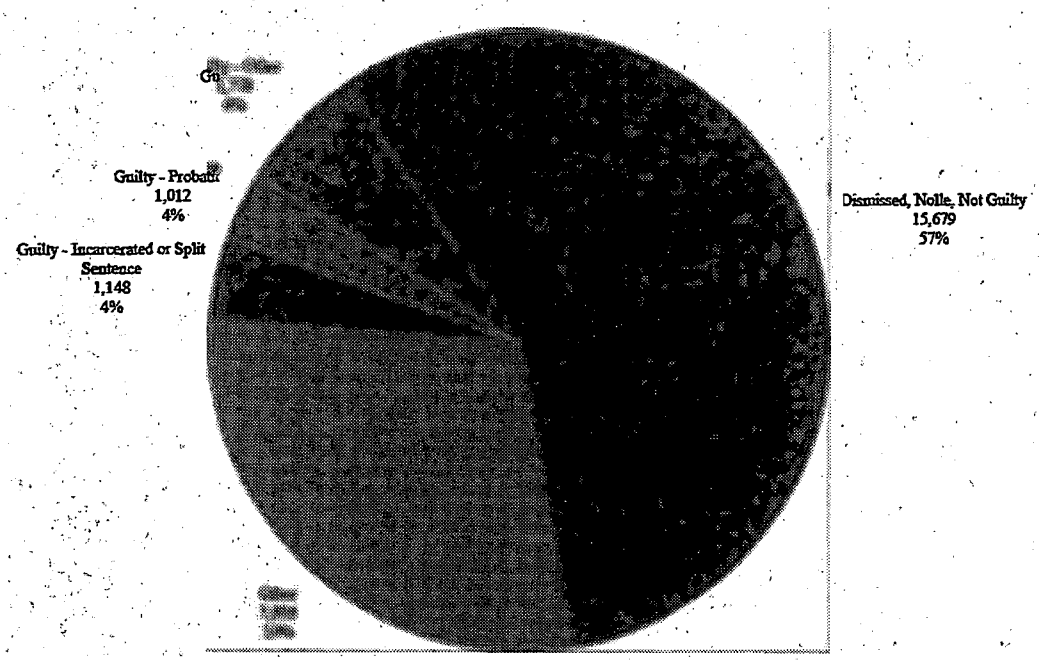
Source: Connecticut Judicial Branch Administrative Data

The court case trend for emerging adults in the adult criminal justice system is similarly encouraging, with a 51% reduction in case dispositions from 2005 to 2015. Examining the case disposition in 2015, it appears that there were 161 cases, or 0.6% of the total cases, that would have been subject to automatic transfer to adult court if the age of juvenile jurisdiction had been 21 instead of 18. In addition, 18% of the dispositions were for felony cases, which are subject to discretionary transfers. Over half of the cases involved misdemeanor offenses and another 27% involved other, less serious offenses (e.g., infractions). As the chart below shows, the breakdown of the types of offenses remains fairly consistent for 18, 19 and 20-year-olds.



Over half (57%) of all emerging adult cases in adult criminal court were disposed without a finding of guilt (e.g., "not guilty" finding or dismissal) and another 29% were resolved in some other manner that also did not result in a guilty finding. Of those cases that resulted in convicted, probation and incarceration sentences were about equally common with each representing 4% of the overall dispositions for emerging adults.

Dispositions for Emerging Adults in CT Adult Criminal Courts
2015



Source: Connecticut Judicial Branch Administrative Data

Commitment (DCF) & Incarceration (DOC)

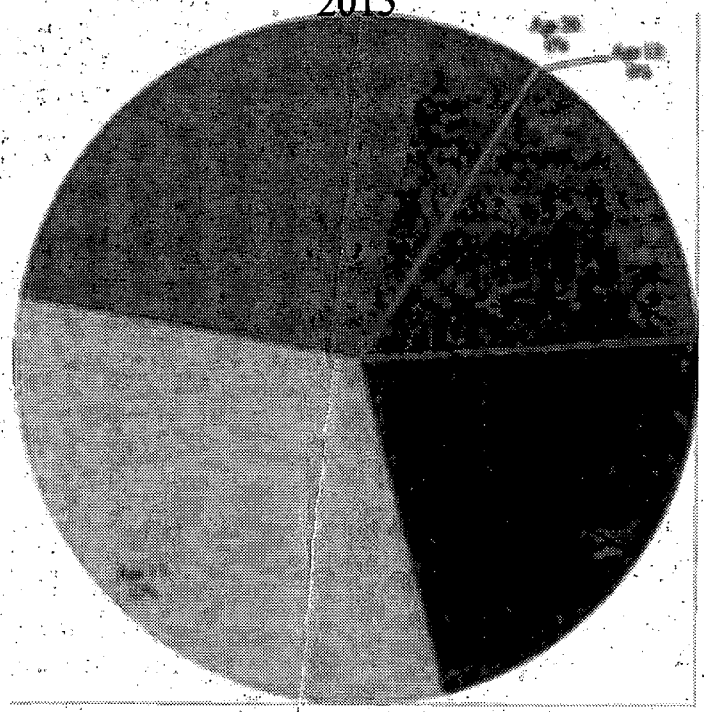
Because DCF and DOC collect data on their caseloads in different ways, it was difficult to compare confinement data in the juvenile and adult systems. As a result, this report uses the sentencing data from the judiciary to track trends but uses "a snapshot" or a head count on a particular day by DCF and DOC to analyze the breakdown of the population of youth and emerging adults in the different types of facilities.

Starting with the trends of youth committed to the Department of Children and Families by a judge from the Juvenile Session, there was a 54% drop in the number of cases that resulted in a commitment to DCF from 2005 to 2015. Similar to the decline in the juvenile detention caseload, the decrease in the committed caseload is particularly noteworthy considering that 16- and 17-year-olds were added to the juvenile justice system during this time period. Once again, the decline in the number of commitments of younger youth more than offset the inclusion of 16 and 17-year-olds in the juvenile justice system.

As might be expected, the older youth (ages 17 and 18) represent the largest share of the DCF caseload with the proportions tracking the ages in a descending order. The

following chart shows the proportion of the different ages as recorded by DCF at the time of placement in 2015:

DCF Commitments in CT by Age Recorded at Time of Placement 2015



Source: Connecticut Department of Children and Families Administrative Data

The average daily population of committed youth is about 250 but not all of these youth are confined: 44% are in DCF residential programs, 11% are incarcerated or detained for a new crime allegedly committed after their sentence to DCF, and 45% are living at home and being supervised by DCF. [95] For the committed youth being housed in residential programs, these range from the most secure (e.g., the Connecticut Juvenile Training School), to non-secure group homes and foster homes.[96] According to a recent DCF report published in October 2016, of the 109 youth living in a residential setting, 53 were confined in secure facilities with 42 male youth at the CJTS and 11 female youth at Journey House.[97] One of the greatest advantages to including emerging adults in the juvenile system is the much greater degree of flexibility that DCF has both for placement options and length of secure confinement, flexibility that does not exist in adult correctional system. Given the compelling research showing that longer terms of juvenile incarceration have little impact on lowering recidivism rates and, in fact, are associated with increased recidivism risk,[98] this flexibility is critically important.

But DCF does not have custody of all youth sentenced to confinement for offenses committed before their 18th birthday, nor will this proposed expansion of the juvenile justice system change this. Because Connecticut has both automatic and discretionary

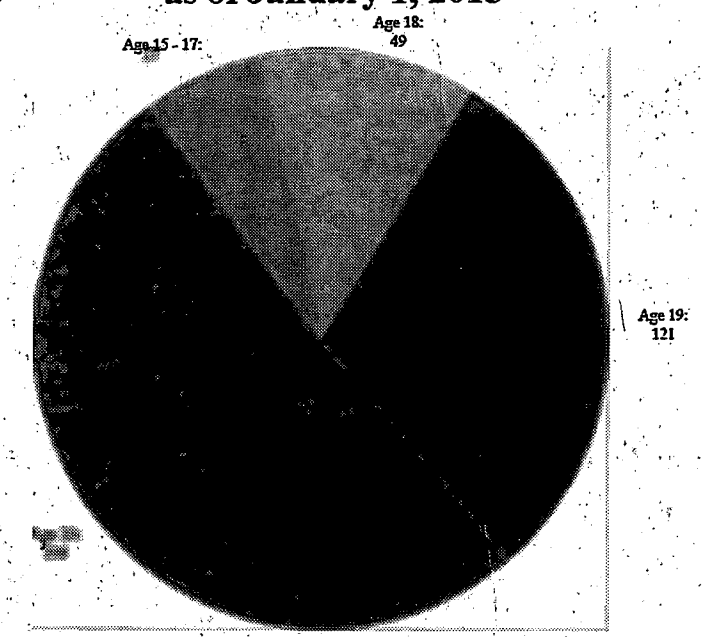
transfer provisions, there is a cohort of 15, 16 and 17-year-olds who are prosecuted in adult criminal court and who sometimes end up being sentenced to adult prison. The caseload of these youth under age 18 who are held in DOC facilities has declined from a high of 175 in 2008 to only 27 in 2015, an 85% drop.

One of the JJPOC working groups has begun to examine this small group of youth in the adult correctional system. Concerns have been raised as to whether public safety would be better served by providing these youth with the individualized, rehabilitative services available in the juvenile justice system and protecting them from the known harms to youth held in the adult prisons. These discussions are timely and important: With the proposed expansion of the juvenile justice system to 21, this group could get "lost in the shuffle" and overlooked.

The cases of emerging adults in the adult criminal court that resulted in a sentence of incarceration, including split sentences, has also decreased from 2005 to 2015 by 43%. The population in the DOC (as counted on the same day of each year) shows a 12.5% decline for all ages but a much greater 57% drop for emerging adults. In 2005, emerging adults made up 6.3% of the overall population of incarcerated people in Connecticut but, because of their greater rate of decline in custody, they made up only 3.1% of the overall prison population in 2015.

The following chart provides information about the age breakdown of the youth and emerging adults incarcerated in DOC prisons in 2015:

Youth and Emerging Adult Incarceration in CT Prisons by Age as of January 1, 2015



Source: Connecticut Department of Correction Administrative Data

Special Populations

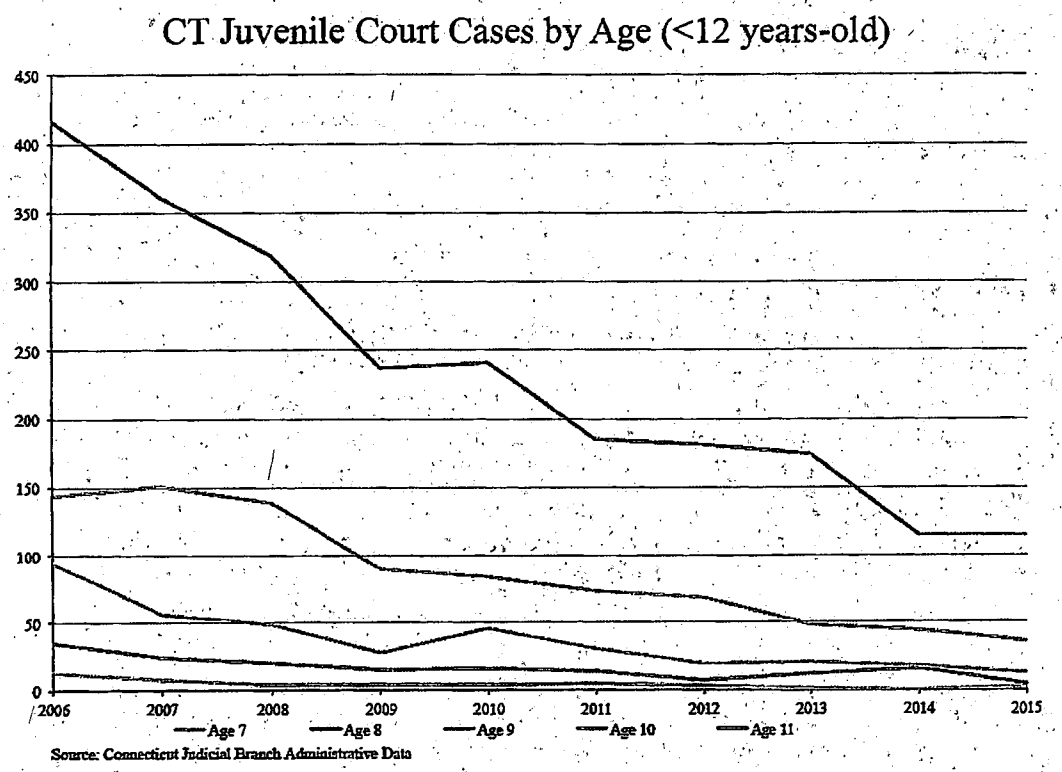
There are three particular populations of youth and emerging adults that deserve some additional discussion:

Youth Under Age 12

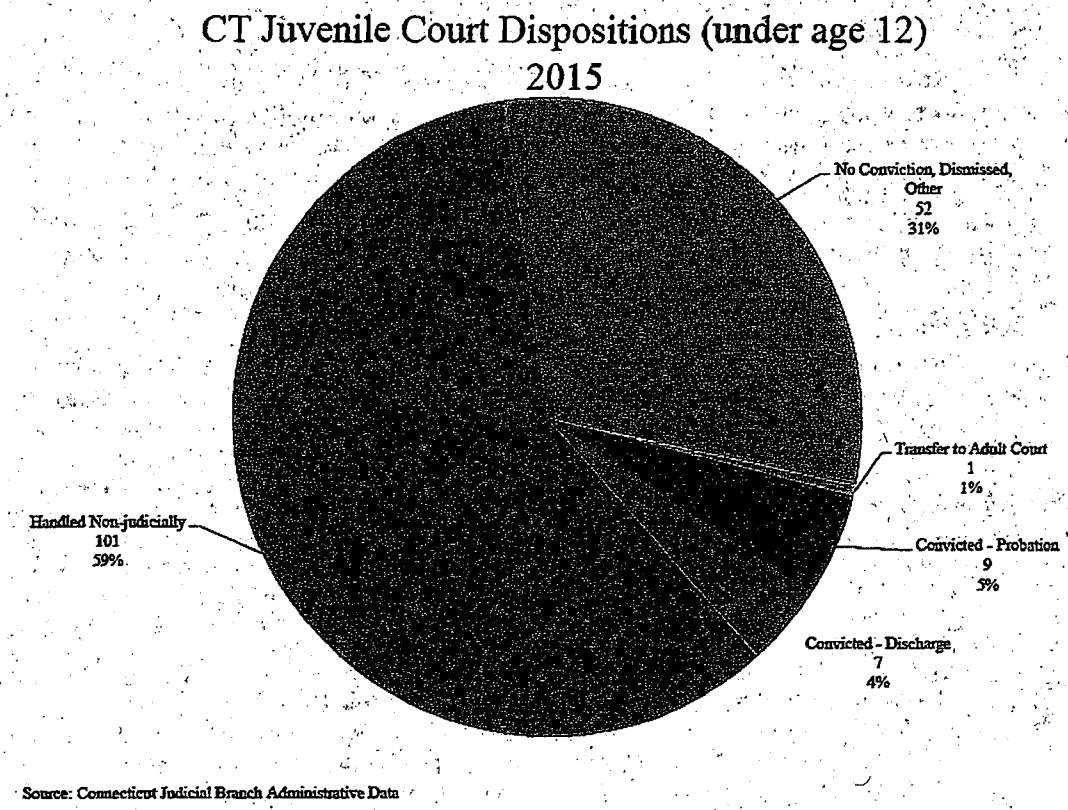
As Connecticut plans to raise the upper-end of the age of juvenile jurisdiction to include emerging adults, PCJ recommends that it consider simultaneously raising the age of the lower-end of jurisdiction, which is currently at age 7. There have been a number of concerns raised by legal experts and social scientists regarding the capacity of very young children to stand trial.[99] For similar reasons, we might expect that formal prosecution may have a great adverse effect for young children than for older youth. There are other systems (e.g., child welfare system) that could serve these young children more effectively. As Connecticut raises the age juvenile jurisdiction to 21, increasing the juvenile justice caseload and shifting the focus to the older population, it becomes even more important to find more appropriate and effective ways to treat the youngest children.

There is, unfortunately, no clear norm in the United States regarding the age of the lower-end of juvenile jurisdiction: One state sets the age at 6, five states join Connecticut at age 7, three states set the age at 8, 10 states set the age at 10, and 30 states have not established any lower-age of juvenile jurisdiction.[100] However, international norms have been firmly established at age 12,[101] and there have been some recent legislative proposals in some states to try to match these standards,[102] including a bill in Nebraska that was recently passed to set the lower age to 11, effective July 1, 2017.[103]

As the chart below shows, the delinquency cases of children under age 12 in the Connecticut juvenile justice system has decreased 75.8% over the past decade:



When younger children are involved in the juvenile justice system, the vast majority of cases, 90%, are resolved without any conviction or finding. As the chart below shows, 59% of the cases disposed for youth under 12 in 2015 were handled in a non-judicial process and another 31% of the cases were dismissed or disposed in some manner that did not involve a delinquency finding:



In 2015, there were two children under 12 held in a CSSD pre-trial detention facility, compared to 45 in 2006, and there were no cases that resulted in a commitment to DCF. PCJ has no detailed information about the one case that was recorded as being transferred to the adult court in 2015. By far, the most frequent dispositional outcome for these youth was the nine youth placed on probation. Probation provides a case management function that could be replaced by child welfare case managers rather than probation supervision, which carries with it a heightened stigma and brings youth under age 12 into contact with older youth in probation offices and programming.

Females

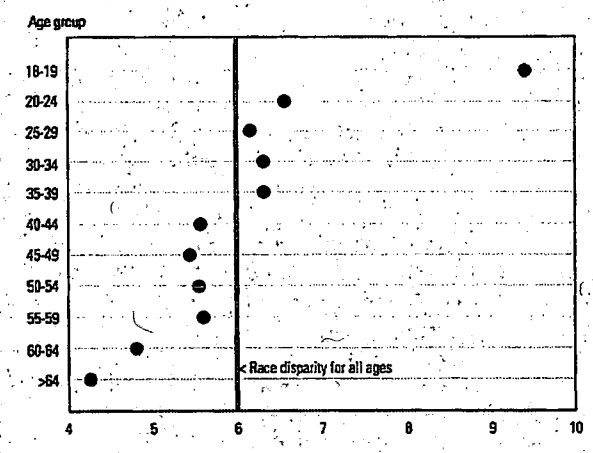
Girls represent a minority in the juvenile justice population (although they are the fastest growing segment of the juvenile justice population).[104] Similarly, female emerging adults represent a relatively small percentage of those involved in the adult criminal justice system: Females made up 23.2% of emerging adult arrests in 2014, 22.4% of the adult criminal court cases in 2015, and 4.2% of the emerging adult incarceration population in prison, calculated by a head count in 2015. As Connecticut expands the juvenile justice system to include juveniles, it must ensure that the needs of female court-involved emerging adults – although only a small minority of the emerging adult population – are nevertheless being appropriately addressed.

Racial and Ethnic Minorities

The federal Juvenile Justice and Delinquency Prevention Act requires states to collect race and ethnicity data at all the major decision points in the juvenile justice system (from arrest to confinement) and to adopt strategies to reduce any disparities found.[105] In almost every state in the country, disparities have been found to exist and these differences cannot be explained by a difference in criminal history and offending behavior of different racial and ethnic groups.[106] According to the last assessment completed by Connecticut in 2009, racial and ethnic disparities not only exist but actually increased in some of the key stages of its juvenile justice system. Connecticut's own study also found that disparities existed even when white and minority youth were similarly charged.[107] A recent report published by DCF showed that the committed caseload included 26.7% Caucasian youth and 73.3% youth of color.[108]

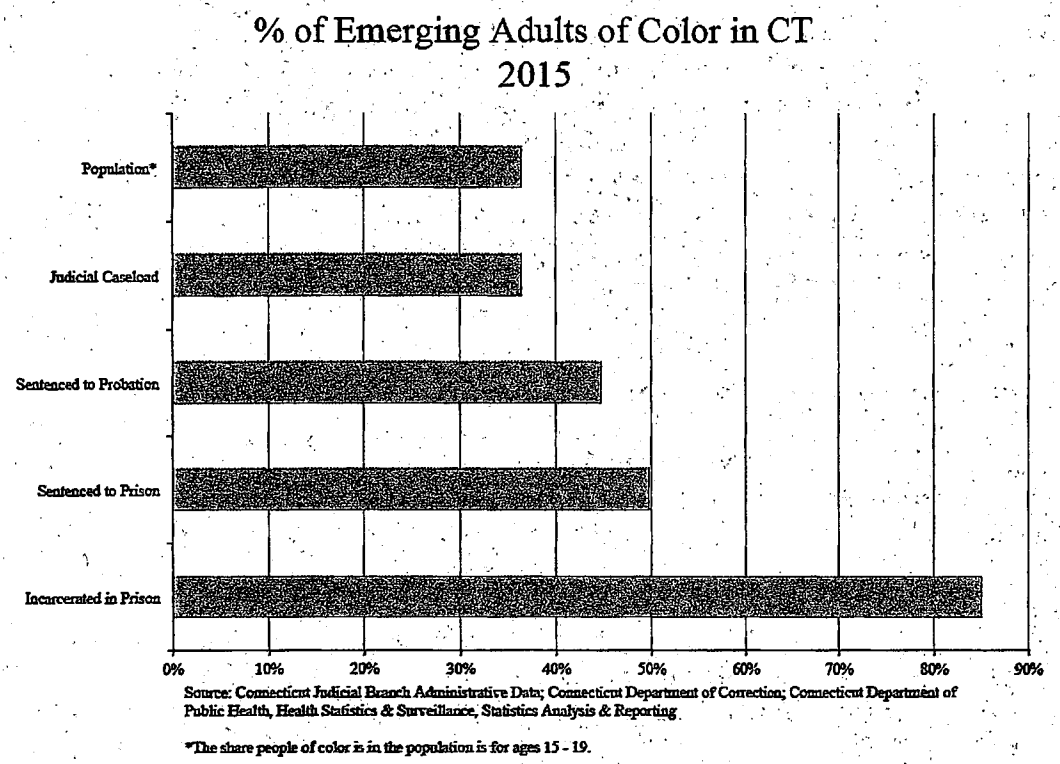
National data shows that the disparities also exist for court-involved emerging adults: 18 and 19-year-old Black males were found to be imprisoned at a rate over nine times greater than Caucasians.[109]

Figure 3. The ratio of black to white male imprisonment rates, by age group, 2012



Source: Carson and Golinelli (2013, table 18).

The data on emerging adults in the Connecticut adult criminal justice system shows that racial and ethnic minorities are also over-represented and that the disparities increase as cases move deeper into the justice system. While emerging adults of color make up roughly 36% of Connecticut's overall population and youth in criminal court, they are 45% of those sentenced to probation, 50% of those sentenced to prison, and a staggering 85% of those incarcerated in Connecticut prisons as of the head count on January 1, 2015.



Racial and ethnic disparities are extremely troubling and raise questions about the fundamental fairness of the justice system and they can undermine the perceived integrity of the system. As described in a recent report on Connecticut youths' perspective of the justice system, youth "...were acutely aware of how a young person's race, ethnicity and socioeconomic status not only determine a young person's access to opportunities but also how he or she is treated within the justice system."[110]

One of the advantages of Connecticut's proposal to raise the age of juvenile jurisdiction to 21 is that the state will be required to collect and analyze the race and ethnicity data for emerging adults as well as youth under 18. In addition, efforts to reduce the disparities will target youth and emerging adults, both groups that show high rates of disparity.

QUESTION #4:

What are the key issues that need to be addressed to ensure the successful implementation of these new reforms in Connecticut?

The implementation of this proposal will have several legal, policy, operational, and fiscal implications for Connecticut. This section of the report discusses four issues that PCJ believes deserves extra attention from policy makers in preparing for the implementation of the expansion of the juvenile justice system to include emerging adults.

How This Proposal Intersects with Federal Laws and Rules

PCJ has identified the following three specific federal programs or statutes that could be directly implicated by the proposal to include young adults ages 18 – 21 in the Connecticut juvenile justice system and offers an analysis of the potential impact.[111]

The Juvenile Justice Delinquency Prevention Act

The Juvenile Justice and Delinquency Prevention Act (JJDPA), first enacted in 1974, requires states to abide by four core requirements in order to receive federal funding. One of those requirements involves the sight and sound separation of juveniles from adults.[112] Specifically, the JJDPA provides that "juveniles alleged to be or found to be delinquent...will not be detained or confined in any institution in which they have contact with adult inmates."[113] The application of this provision is further laid out in a Guidance Manual for facilities under the JJDPA, which states that "[i]t is important to note that the separation requirement prohibits a state from transferring adult offenders to a juvenile correctional authority for placement in a juvenile facility. For example, an adult could not be transferred to a juvenile detention center to alleviate overcrowding in an adult facility."[114] The purpose of this requirement is straightforward and important: to prevent children and youth from both psychological and physical harm that could be caused by older, developmentally more sophisticated and sometimes more serious adult offenders. The question that arises, however, is whether Connecticut would violate the JJDPA by including 18, 19 and 20 year olds in the juvenile system.

While the JJDPA bans the mingling of criminally charged adults with juveniles, it does not appear to bar the housing of *adjudicated* youth over 18 with those under 18. Under the JJDPA, "adult inmate" is defined as "an individual who a) has reached the age of full criminal responsibility under applicable State law; and b) has been arrested and is in custody for or awaiting trial on a criminal charge, or is convicted of a criminal charge offense."[115] Under the Connecticut proposal, emerging adults (unless transferred to adult court), would be tried in the juvenile session and adjudicated, not convicted. Therefore, they would not be classified as an "adult inmate" and would not need to be separated from younger youth who also are being prosecuted in the juvenile system.[116]

Nationally, age mingling of youth under and over age 18 in juvenile facilities is a common practice. The maximum extended age of juvenile jurisdiction in most states is over 18, extending in some states as far as 24.[117] A 2012 Bureau of Justice Statistics report found a mixture of youth under age 15 and over age 18 in fully half of the 322 facilities surveyed in 2012.[118] In a quarter of the facilities surveyed, more than a third of their population was over age18.[119] Connecticut already houses youth under and over the age of 18 together: For instance in the Connecticut Juvenile Training School, 9 of the 48 held on December 12, 2016, were over the age of 18.[120]

There is movement in some states towards a more mixed population. In Oregon, for instance, facilities have begun housing youth not based on age or charge but on other social factors. Yet there are no indications that compliance with JJDPA has become an issue in Oregon or other such states that mix the age populations within their juvenile systems. The important factor with regards to JJPDPA is the designation of youth (or in Connecticut, emerging adults) in the juvenile system, rather than a specific cut-off age.

The Prison Rape Elimination Act (PREA)

The Prison Rape Elimination Act (PREA), passed in 2003, establishes a zero-tolerance standard for sexual violence in prison, jails, juvenile facilities and other criminal justice institutions.[121] Under the law, the Department of Justice was required to issue "a final rule adopting national standards for the detection, prevention, reduction, and punishment of prison rape,"[122] which it accomplished in 2012.[123] "In 2015, more than 7,600 prisons, jails, community-based facilities, and juvenile correctional facilities nationwide were covered by PREA."[124] Failure to comply with PREA standards results in the loss of 5% of federal funding provided to the state for prison-related purposes.[125]

The rules and regulations promulgated under PREA establish particularly strict standards for "youthful inmates," a category defined as youth under age 18 who are held in adult facilities. Such youthful inmates may not be housed anywhere in which they will "have sight, sound, or physical contact with any adult inmate through use of a shared dayroom or other common space, shower area, or sleeping quarters." [126] Sight and sound separation must also be maintained outside of housing units absent direct staff supervision.[127] Similarly, in lockups, "[j]uvenile and youthful detainees shall be held separately from adult detainees."[128] Similar to the sight and sound separation requirement of the JJDPA, the question arises of whether Connecticut would (unintentionally) violate PREA by including 18, 19 and 20-year-olds in its juvenile system.

PREA, however, makes a critical distinction between adult and juvenile facilities, and it is this distinction that provides leeway for Connecticut and other states to house emerging adults with those under 18. A "juvenile facility" is defined as "a facility *primarily* used for the confinement of juveniles pursuant to the juvenile justice system or criminal justice system." [129] This definition is intended to include group homes and halfway houses that house juveniles.[130] A "juvenile" is defined as "any person under the age of 18, unless under adult court supervision and confined or detained in a prison or jail."[131] Subpart D

of PREA, which outlines the standards for juvenile facilities, makes no mention of age factors or requirements for separation.[132] But reading these definitions and standards together, it is clear that the PREA rules contemplate the housing of those under and over 18 in a single juvenile facility, without requiring age segregation. This impression is confirmed by the Department of Justice commentary on the PREA standards, as published in the Federal Register:

> Some commenters recommended that the definition of juvenile include persons over the age of 18 who are currently in the custody of the juvenile justice system, because some state juvenile justice systems hold persons beyond that age who were originally adjudicated as juvenile delinquents. The final rule does not make that change. The set of standards for juvenile facilities refers throughout to "residents." A "resident" is defined as "any person confined or detained in a juvenile facility." Thus, the standards already cover over-18 persons confined in a facility that is primarily used for the confinement of under-18 persons, and the commenters' proposed change is not needed.[133]

Connecticut will need to define clearly the status of the facilities that will house emerging adults as they are gradually included in the juvenile system. As long as the facilities are designed primarily for juveniles in the juvenile system, and emerging adults are newly included in the juvenile system, it should not be subject to PREA age restrictions.

Concerns have been raised, however, that even if PREA does not provide any legal or financial obstacles to treating emerging adults in juvenile facilities with those under age-18, the mere presence of older youth would increase the risk of sexual violence. The Bureau of Justice Statistics (BJS) recently released a report that sheds some light on this issue;[134] providing an in-depth statistical analysis of data collected in 2012, the BJS sought to identify rates of sexual victimization of youth in facilities, and what characteristics of youth and facilities were associated with this victimization.[135] One of the factors by which the report explored vulnerability was "age mixture."[136] The report noted that age mixture was associated with staff-on-youth sexual misconduct, with facilities with a mix of young minors and adults (under 15 and over 18) reporting the highest rates of misconduct.[137] However, age mixture was not a significant factor in the rates of youth-on-youth sexual assault.[138] Factors such as gender composition and staffing instability were deemed to be more substantive in facility-level attributes associated with sexual victimization than age mixture.[139] These findings should make the training and supervision of the staff at the residential treatment facilities a high priority for Connecticut as emerging adults gradually are incorporated into its juvenile system.

Pell Grants

Pell Grants are need-based grants awarded by the federal government to students who have not earned a bachelor's or professional degree.[140] The amount awarded to an individual student is based on the student's financial need, the cost of attendance, and the type and length of schooling.[141] For the 2016-17 award-year, the maximum award is

$5,815.[142] A student may receive Pell Grants for no more than twelve semesters, or around six years.[143] Students may use their grants at any of 5,400 postsecondary institutions.[144] These include not only undergraduate institutions but also technical and vocational schools.[145]

Under the law, students "incarcerated in a federal or state penal institution,"[146] are ineligible for Federal Pell Grants, except for the few fortunate students who are in states that are participating in a limited, federal pilot program (which includes Connecticut).[147] In 2014, the Department of Education clarified the definition of "incarcerated" in a "Dear Colleague Letter," stating clearly that this prohibition does not apply to students housed within juvenile justice facilities, because these facilities are not "penal institutions."[148] The term "juvenile justice facility" was defined within the Letter as "all public or private residential facilities that are operated primarily for the care and rehabilitation of youth who, under State juvenile justice laws, (1) are accused of committing a delinquent act; (2) have been adjudicated delinquent; or (3) are determined to be in need of supervision."[149]

Moreover, the Letter clarified that it is the status of the facility that renders a student eligible, rather than individual criteria of age or offense:

> This Federal Pell Grant Eligibility applies for students who are confined in juvenile justice facilities regardless of the student's age, the type of sentence the student received (such as a blended sentence), the length of the sentence the student is serving, and whether the student was adjudicated as a juvenile or convicted as an adult.[150]

In addition, a Questions and Answers document attached to the "Dear Colleague Letter" laid out the logistics of applying for aid from a juvenile justice facility.[151] For students held in juvenile facilities, the cost of attendance does not include living expenses, but does include tuition and fees, as well as books and supplies if required.[152] Students may obtain funding for programs that extend beyond the length of their stay in a juvenile facility.[153]

Given the careful wording of the Letter and the strong emphasis on the status of the facility rather than the individual, it can be concluded that Connecticut would not be jeopardizing the awards of Pell Grants to youth in the juvenile system by implementing this proposal. In fact, the proposed reforms would have the beneficial effect of increasing the number of youth in Connecticut who could take advantage of Pell Grants. At the moment, the only reason any 18, 19 and 20 year olds who are convicted and sentenced to incarceration in the adult Connecticut Department of Correction can use Pell Grants is because the state is participating in a federal pilot program. Once included in the juvenile system, these emerging adults would be eligible simply by being treated in the juvenile system.

In conclusion, JJDPA, PREA and Pell Grants do not appear to pose any substantial obstacles to Connecticut's proposal to raise the age of juvenile jurisdiction. In fact,

including emerging adults ages 18, 19 and 20 in the juvenile justice system is likely to render them eligible for Pell Grants if confined when they would not normally be eligible if incarcerated in an adult facility. Nonetheless, the definitions of categories such as "juvenile" and language used such as the word "primarily," play a significant role in evaluating how the federal laws and rules will be applied to the Connecticut justice system. Legislation should clearly state the fact that emerging adults will be processed in the "juvenile" docket and treated in the juvenile justice system in facilities "primarily" designed for the rehabilitation of juveniles (unless such emerging adults are formally transferred to the adult system).

Identifying Needs and Providing Developmentally Appropriate Services to Emerging Adults

In order to successfully implement the inclusion of emerging adults in the juvenile justice system, Connecticut will need to provide developmentally appropriate services and treatment targeted specifically to this age cohort. Unfortunately, due to the longstanding practice of lumping emerging adults with all adults in the criminal justice system, researchers do not have a great deal of information to offer about this group. Specifically, studies have generally not broken out samples of adolescents, emerging adults, and older adults using the same measures for all age categories.[154] This should change, however. As Connecticut and other jurisdictions innovate and advance laws, policies and practices in the justice system to specifically address emerging adults, researchers will be given significant incentives to focus future studies on the category of emerging adults—a group that attained significant public policy attention.

PCJ has identified four specific categories of services that Connecticut will need to enhance and tailor specifically to emerging adults: (1) educational/vocational services, (2) mental health/substance abuse, (3) housing, and (4) family involvement/parenting. These categories were based on several data and information sources, including: the most current research available; the key elements of the "positive youth development" framework (which focuses on protective factors and strengths rather than solely risk factor and problems);[155] and thoughtful input provided by experienced practitioners who work with court-involved emerging adults both inside and outside the Connecticut justice system.

The following provides only a brief overview of the issues under each of the four categories. It will be imperative for Connecticut, with the assistance of the JJPOC, to study each category to determine what services are now available for emerging adults in Connecticut, whether connected or independent of the adult criminal justice system. After a preliminary environmental scan, a determination can be made of (1) whether these services can be accessed for emerging adults involved in the juvenile justice system, and (2) whether there are gaps that need to be filled with an expansion of current services or the development of new services. Involvement in the justice system can interrupt and prevent the development of strong social networks and support systems needed to successfully transition into adulthood. Consequently, providing these services to

emerging adults in the community, or in the least restrictive setting as possible, should be the goal.

Educational/Vocational Services

Court-involved emerging adults are often significantly behind their peers in educational attainment and job readiness. Less than 20% of people incarcerated nationally have a high school diploma or GED, compared to approximately 75% of all males age 18 – 24.[156] This is not only disconcerting in terms of the low probability that these emerging adults will be able to secure stable and well-paid jobs, but also in terms of the increased risk to public safety, given the research demonstrating the effectiveness of education (as well as supportive work opportunities) in reducing recidivism.

Broadly speaking, our society assumes that 18-year-olds are finishing high school and that 19 and 20-year olds are studying in college. Under either of these circumstances, emerging adults find themselves in a physically and emotionally safe environment—with at least four years within such an environment to mature. Unfortunately, for the population of emerging adults being swept into the justice system, these circumstances rarely apply.

Under the current juvenile justice system, many problems have arisen in the delivery of high quality educational and vocational services, and a number of specific reforms have been identified, including in Connecticut.[157] Despite these challenges to the current juvenile justice system, emerging adults will undoubtedly benefit from the focus and attention on educational services that have been emphasized in the design of the juvenile justice system—and largely ignored in the adult justice system. As just one example of how the difference is built into the legal structure, the "Raise the Grade" Act (Public Act 14-99) that was passed in 2014 requires that "each youth who is in a secure facility run or contracted for by the Court Support Services Division shall have a case plan that describes the youth's educational needs and grade-level performance and identifies what supports or services will or are being provided to support academic performance." In contrast, there is no equivalent requirement applied to adult prisoners.

Under the Governor's proposal, there is also a better chance that emerging adults will receive specialized educational services. Adjudicated youth are three to four times as likely to require special education and/or related aids and services than students in community schools.[158] Under federal law, these students with disabilities are entitled to special education until the end of the school year following their 21st birthday or when the students accept a high school diploma, whichever comes first. These rights are not extinguished in any way by being an emerging adult involved in the justice system.

Although PCJ is not endorsing any particular program in Connecticut, we note that a number of participants who attended PCJ's facilitated discussions referred to the Hartford-based Options Education Services (OES) program as a useful model. Serving youth and emerging adults through age 21, this program provides both educational and vocational services with the goal of independent living. Through an environmental scan,

Connecticut can identify any extant educational and vocational programs that are similar to OES, and then assess the capacity and scope of these existing programs to serve appropriately the court-involved emerging adult population.

In addition, there are programs outside of Connecticut that may be useful models to consider:

1. Roca is an organization in Massachusetts that focuses on engaging young adults wrapped in cycles of incarceration and poverty. The non-profit works to develop young adult education and employment skills for young mothers, gang affiliated and other high-risk youth. Data shows that upon completing the two years of Roca programming, participants' criminal behaviors reduced significantly: 93% are not re-arrested, 95% are not re-incarcerated, and 88% of those on probation adhered to their conditions.[159] Roca is now the subject of a rigorous, independent randomized clinical trial as part of one of the nation's largest social innovation bonds.
2. United Teens Equality Center (UTEC) serves "impact youth" between the ages of 17 and 25-years-old who are seriously gang- or criminally-involved. Priority for UTEC programming is given to those who are exiting prison with a felony conviction, who lack high school credentials, and who are young parents. Outcome measurements from UTEC have also been positive: Of those who completed the programming, 83% had not been arrested since leaving the program and 82% were currently employed.[160]
3. The Neighborhood Opportunity Network (NeON) in New York was launched as part of Mayor Michael Bloomberg's Young Men's Initiative, focusing policy changes and programming on young adults in New York City. NeONs are neighborhood based probation offices that provided probation clients ages 16 to 24 with academic support, supported work, mentoring and employment preparation. An initial evaluation shows a 23% lower re-arrest rate for the mid- to high- risk youth in NeONs versus probation clients in non-NeON neighborhoods who received standard probation services.[161]

Mental Health/Substance Abuse

Mental health and substance abuse are prevalent problems throughout the juvenile and criminal justice systems. A national study of correctional facilities in 2005 found that over half of all incarcerated individuals had a mental health problem, identified by a recent clinical diagnosis or treatment by a mental health professional and/or recent self-reported symptoms of depression, mania, or psychotic disorders based on the criteria in the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (DSM-IV).[162] Young adults (age 24 and younger) had the highest rate of mental health problems of any age group.[163] Furthermore, it is estimated that 75-95% of system-involved youth exhibit symptoms of trauma due to exposure to violence,[164] and it would seem consistent that similar rates would be found in the population of court-involved emerging adults.

In addition, young adults have some of the highest rates of alcohol and substance abuse. For example, in 2014 rates of binge drinking (drinking five or more drinks on a single

occasion) were 28.5% for people ages 18 to 20 and 43.3% for people ages 21 to 25. In terms of illicit drug use, the highest rate is for emerging adults ages 18-20, exceeding just slightly the second highest rate for young adults ages 21-25.[165] It is not surprising, therefore, that drug abuse violations constituted the fourth most frequent reason for arrest for emerging adults in Connecticut in 2014 (year with most recent data available), representing about 10% of arrests for this age group.[166]

In the PCJ-facilitated discussions on the proposal to include emerging adults in the juvenile justice system, many participants expressed particular concern about some of the differences in the types of mental health diagnoses for this age group. The first onset of schizophrenia, for example, usually occurs in late adolescence and young adulthood (early 20's).[167] Mental health professionals now working in the juvenile justice system may not have experience or expertise in treating this chronic and severe mental illness.

These are significant concerns. Fortunately, Connecticut has an existing institutional resource at-hand that it can and should use as it prepares to serve emerging adults in the juvenile justice system. This is the Young Adult Services Division of Connecticut's Department of Mental Health and Substance Abuse Services. The Division serves 18-25-year-olds with a history of mental health problems and/or substance abuse to whom it applies trauma sensitive treatment.[168] With both expertise and experience about how best to serve this age group, the Young Adult Services Division should be able to assist JJPOC identify the gaps in services that will need to be addressed.

Finally, the development of the evidence-based program Multisystemic Therapy (MST) has recently been adapted specifically for emerging adults (MST-EA) and has shown impressive results. In a study in the Journal of Behavioral Health Services and Research, the majority of 41 participants aged 17-20 who had mental health diagnosis and recent arrest and incarceration successfully completed the interventions. Moreover, client satisfaction with MST-EA implementation was high and pre-post-analyses showed significant reductions in clients' mental health symptoms, further involvement in the justice system, and associations with antisocial peers. MST-EA is now the subject of a rigorous, independent randomized clinical trial.[169]

Housing

The critical role of stable and safe housing should be self-evident regarding school attendance, employment, mental and physical health, social well-being and many of the protective factors associated with a reduction in recidivism. Accordingly, stable and safe housing was flagged by many in PCJ's facilitated sessions as an area that needs much greater attention with the implementation of the inclusion of emerging adults in the juvenile justice system. By extension, this means that housing stability is currently under-addressed for this age cohort in the criminal justice system.

Today in the United States, there are more young adults living at home than at any time recorded in the past 130 years.[170] It is likely that the vast majority of court-involved emerging adults are still dependent on their families for housing (as well as for food and

finances). But the housing situation could be more complicated for emerging adults than youth under 18, especially for those who are transitioning out of the foster care system. It will be important to conduct a careful assessment of the housing needs for emerging adults at all stages of the legal process and a common assessment measure should be adopted and integrated into existing tools used by juvenile justice professionals. In addition, Connecticut, through the JJPOC, should commission a study to examine the housing needs of court-involved young adults with a particular focus on ensuring that a sufficient array of services is available to support this age cohort (whether that means engaging in family mediation so the emerging adult can stay with family, or finding other suitable alternatives).

Family Involvement/Parenting

Because most emerging adults are still very much dependent on their families for financial, physical and emotional support, the engagement of the families should produce better outcomes for emerging adults—just as research has shown how important family engagement is for youth in the juvenile justice system.[171] But as was noted by many of the Connecticut-based professionals currently working with emerging adults outside of the juvenile justice system, the definition of "family" needs to be broadened for this age group. Engagement of "family" should include not just parents and legal guardians, but other responsible adults that play an important role in the emerging adults' life, including older siblings, mentors, grandparents, coaches, etc.

Another aspect of family involvement that will need more attention under the proposal will be providing services and support to the emerging adults who are themselves parents. In 2007, 44.1% of young adults aged 24 or younger in state prisons were estimated to be parents.[172] Although research on the impact of parental incarceration on parents and their children has not focused on emerging adults, research on the broader population has found parental incarceration associated with a number of negative outcomes for both the parent and the child, including family economic hardships, instability of parental relationships and increased risk of child behavior problems.[173]

The Proposal's Impact on the Department of Children and Families

Although the inclusion of emerging adults will have an impact on all of the justice system agencies (e.g., police departments, courts, etc.), the effect on the Department of Children and Families (DCF) will be particularly significant. While the most obvious factor will be the projected increase in the caseload of committed youth, DCF is facing a range of other current and prospective challenges. Notably, at almost every meeting facilitated by PCJ in Connecticut over the last few months, participants raised numerous concerns about how DCF would be able to successfully incorporate emerging adults in their juvenile correctional services. Consequently, PCJ believes that this topic deserves extra attention when planning for the implementation of the expansion of the juvenile justice system.

DCF has an enormous statutory mandate inasmuch as it oversees the following protections:

- the child welfare system, including protection from abuse and neglect and status offense cases;
- children's mental health, including behavioral health and substance abuse services; and
- the juvenile justice system, including both residential and non-residential services and treatment for youth found to have committed delinquency offenses and then sentenced by a judge to the custody of DCF.

With such a wide purview, DCF can be involved at any time in a child's life from birth to his or her 21st birthday due to a host of different reasons. At the same time—for the very same reasons—DCF has minimum control over its own caseload.

Connecticut is one of the few states to designate a single agency to handle all three types of cases – child welfare, children's mental health and juvenile justice. In regard to the practices of other states around the country, the 2015 report of the Council of Juvenile Correctional Administrators (CJCA)[174] found that:

- eleven states included juvenile corrections within a larger human services agency;
- eight states had divisions within the adult corrections system; and
- the remaining thirty states had either free-standing agencies in the executive branch or distinct agencies under a human services umbrella.

Within the broad mandate of DCF, juvenile justice represents a tiny fraction of its work, with the juvenile justice committed population making up just 3% of the agency's overall caseload.[175] This 3% also includes "cross-over" youth, who are being simultaneously served in both the child welfare system and the juvenile justice systems, meaning that the percentage of youth being served only for juvenile justice is even smaller.[176] Consequently, although the implementation of the Governor's proposal to include emerging adults in the juvenile justice system will increase the caseload at DCF (especially in the short-term), the overall percentage of juvenile cases will nonetheless remain a small fraction of the agency's work.

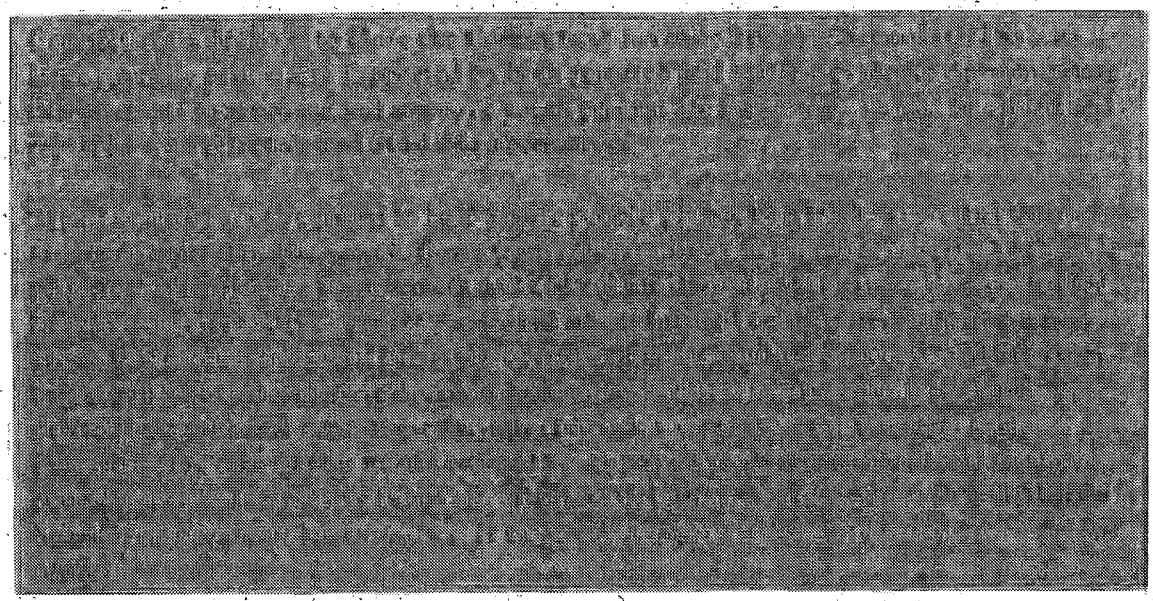
These facts raise a number of questions, all of which were expressed by participants at the meetings facilitated by PCJ:

- Will emerging adults receive the attention they deserve under the current organizational structure at DCF?
- Will DCF be able to focus on the needs of emerging adults, a population with which they have had comparatively less experience?
- Can DCF make the necessary culture shift from working with younger youth to working effectively with emerging adults?
- How will the incorporation of emerging adults fit in with all the competing and important issues facing DCF, including efforts to successfully meet the

compliance standards being actively overseen by a court monitor after decades of federal oversight of DCF and child protective services?[177]

Clearly, for DCF to successfully include emerging adults, Connecticut will need to devote considerable attention and focus to sort out these important issues – and to put forth strong leadership in the process. But the timing for this proposed reform is particularly opportune since Connecticut is already setting plans for other substantial reforms in the "deep-end" of the juvenile justice system. This provides DCF with a unique opportunity to redirect resources and to redesign the overall juvenile correctional system, ultimately creating a system that will serve both youth and emerging adults as effectively as possible.

One of the reform efforts currently underway is the planned closure by July 2018 of the Connecticut Juvenile Training School (CJTS), the State's most secure facility for boys.[178] A large 230-bed facility that now holds less than 50 youth, CJTS is a substantial drain on the state coffers. As of September 30, 2016, the operating costs for CJTS for FY 2017 had reached $34, 913,439.[179] CJTS's very design – modeled after a large maximum-security prison in Ohio for adults – has been shown by research to be ineffective and even harmful to youth housed in such a facility.[180] And reports from Connecticut's Office of the Child Advocate (OCA) have recently exposed safety concerns at CJTS, including improper handling of youths' suicidal behavior as well as the overuse of restraint and seclusion practices, among other critical issues.[181]



With the future planned closure of CJTS, along with the recent closure of DCF's secure facility for girls (Pueblo Unit) that the OCA also found to have safety concerns, Connecticut can shed outdated approaches to juvenile corrections, turning instead to the design and implementation of a new and model approach. This would include a statewide network of small treatment facilities (e.g., 15-40 beds each, with the youngest youth housed in the smallest facilities) that provide a full range of placement options,

ranging from high-end facilities that are hardware and staff secure to less secure placements such as foster care and supported independent living. Connecticut could use both state-run facilities, as they have done with CJTS, and also contract with non-profit providers. Although there is no evidence indicating that either the government or private sector is more effective, private contracts do provide greater flexibility. Connecticut can either increase or decrease the number of beds "purchased" in the annual (or periodic) contracts based on future fluctuations in the committed population, as has been done effectively in New York City. The Administration of Children's Services in New York City contracts with non-profits to run both hardware and staff secure facilities. When the caseloads declined from over 500 youth to under 180, the City was able to quickly reduce the number of beds by cancelling or trimming these contracts.[183] Over the last several months, there have been some discussions at JJPOC meetings that non-profits might not be interested in contracting for secure facilities or might "reject" certain youth to be placed in the facilities that they operated. However, Connecticut can look to such neighboring states as Massachusetts and New York that have a history of successfully contracting with private, non-profit organizations to operate some of their treatment facilities, including the most secure ones.

Both the publicly and privately run facilities should be subject to licensing by an independent agency to ensure that minimum standards of care are being met and that there is proper oversight. Models for such a licensing process can be found in two neighboring states. In Maine, residential treatment facilities – all run by the private sector – are required to be licensed by the Department of Health and Humans Services.[184] In Massachusetts, all residential treatment facilities – whether operated by the Department of Youth Services or a private organization – must be licensed and are overseen by the Department of Early Education and Care in the Executive Office of Education.[185]

As noted above, another advantage to the current reform proposal would be in regard to the location and number of facilities treating juveniles and emerging adults. Although Connecticut is not a geographically large state, having only one secure facility rather than a number spread across the state is not ideal. In this regard, it is worth noting that CJTS is located in Middletown rather than in any of the three largest cities of Bridgeport, Hartford and New Haven. By adopting a network of smaller residential treatment facilities, Connecticut can spread them out across the state for closer proximity to families and communities.

In addition to geographic considerations, another major advantage of having smaller residential facilities with a range of care is the ability to thoughtfully and carefully place youth together based on key factors such as age, maturity, sophistication, type of service needs and educational attainment. This will become particularly important when emerging adults become incorporated into the DCF committed population, who will have a greater need for particular services generally expected by an older population, such as post-high school education, vocational training and, in some cases, preparation for independent living.

In the same manner that Connecticut should design a statewide network of residential treatment services, the state should also create and expand the range of community-based options that can safely keep youth and emerging adults at home and/or more actively engaged with the services in their own communities. Again, these options can be provided by both public and private entities to provide for as much flexibility as possible. Many of the youth and emerging adults committed to DCF may not need to be confined or confined for long periods of time. In fact, research shows that lengthy confinement fails to reduce recidivism, fails to produce better outcomes than alternative sanctions and, in some instances, can actually be counterproductive.[186]

A topic that to date has rarely been raised, but which PCJ believes is important for Connecticut policy makers to consider, is whether the legislative proposal to raise the age of juvenile jurisdiction should include a complementary provision to raise the age of commitments to DCF above age 20 for emerging adults. It would be possible, for instance, to have a 20-year-old prosecuted in juvenile court and sentenced to the custody of DCF and, if no other changes were made to the law, then DCF's involvement would end within months (or even days), depending on how close the 20-year-old is to his or her 21st birthday. It would seem reasonable, therefore, to increase the upper-age of DCF custody for emerging adults to age 22. There is considerable national precedent and experience for extending juvenile corrections beyond 20, with at least four states having extended youth-facility placements past age 21 (as discussed earlier in the report). Oregon, for instance, retains custody in the Oregon Youth Authority up to age 24.

Providing strong leadership to undertake the expansion of the committed population to include emerging adults, and perhaps retaining custody beyond the current age limit, could be accomplished within DCF. It would be imperative, however, for the agency to designate a leader to focus exclusively on the design and implementation of the new model system, overseeing both the full continuum of residential facilities and community-based services. This leader would also need to assist the agency in making a cultural or identity shift; although DCF has worked with emerging adults for many years (again, custody can continue up to age 21), the numbers of emerging adults in the caseload are so small that the needs of this age cohort have not been thoroughly evaluated or made a top priority.

An alternative approach that Connecticut should consider is to unify all juvenile corrections within one agency, either as a division of DCF or as a separate agency. Currently, the responsibility and oversight of juvenile corrections is split by two different state agencies: CSSD oversees detention and DCF oversees commitments. A newly created youth/emerging adult services agency could potentially work in a more efficient manner to improve conditions of confinement for the limited number of youth and emerging adults who will require confinement and improve service delivery needs and community supervision for the rest. In addition, many of the efforts to reduce unnecessary confinement, such as the Juvenile Detention Alternative Initiative, can be successfully implemented to reduce both the detention and commitment populations, and having one agency oversee these efforts may produce greater results.

Again, there are numerous models for Connecticut to consider. Massachusetts, for instance, has all juvenile corrections overseen by the Department of Youth Services, an agency within the Executive Office's Health and Humane Services where other child serving agencies are housed, such as the Department of Children and Families that handles all child welfare cases. New York, on the other hand, has one state agency that handles both child welfare and child protection cases (the Office of Children and Family Services), but the juvenile justice piece is directed by a Deputy Commissioner and assisted by three Associated Commissioners to each oversee community partnerships, facilities management and youth programs and services on a statewide level. New York has one added layer of complexity to its juvenile justice oversight: Because of the Close to Home Initiative, youth from the City who are placed in secure or staff secure care are committed to the custody of the New York City Administration for Children's Services (ACS) for both residential services and aftercare.

In principle, having a single agency that handles both child welfare and juvenile justice is appealing. There is tremendous overlap of youth in the juvenile justice system and youth who have been swept in to the child welfare system, either as a victim of abuse or neglect or as a "status offender" (a youth who is allegedly acting out against his or her own best interest, e.g. a runaway). The youth involved in both the child welfare and juvenile justice systems are commonly referred to as "dual status." Research shows that being abused or neglected as a child increases the likelihood of arrest as a juvenile by 59%, as an adult by 28%, and for a violent crime by 30%.[187] By housing both child welfare and juvenile justice within one agency, there is arguably a greater capacity for the full range of child services to be better coordinated and integrated. In addition, combining child welfare with juvenile justice within one agency should, theoretically, prevent the child welfare system from the well-documented phenomenon of "dumping" a difficult child into the juvenile justice system, by involving law enforcement in response to behavior that most families would manage to handle themselves, as a way to effectively get rid of a problematic child welfare case.

But at least anecdotally, PCJ heard complaints by some in Connecticut that this type of "dumping" of child welfare cases has been happening under the current structure. Having both functions under one agency hardly guarantees intra-agency collaboration. Many have also expressed a lack of confidence in DCF's ability to serve the committed youth in its care now, in part because juvenile justice is such a small part of the Department's overall mission and it is difficult to garner focused attention except in moments of crisis. At this watershed moment for Connecticut policy makers when the state is poised to provide developmentally appropriate services to justice-involved emerging adults, designating one agency to focus exclusively on detention and commitment (including aftercare and community programming) may be the most appealing model to follow.

Fiscal Impact

PCJ was not requested to conduct a budget analysis for the implementation of the proposal, and the relevant budgetary information was not provided. But like all reform initiatives, the budgetary implications of this proposal deserve some discussion—especially when Connecticut has been experiencing difficult budgetary challenges, including significant cuts to the state agencies involved in the justice systems as well as cuts to the contracts with private agencies that closely partner with the state agencies in this work.[188]

The incorporation of emerging adults in the juvenile justice system will, to a large extent, involve the re-allocation of resources rather than additional funding. This is because emerging adults are already being arrested, prosecuted, defended, detained, tried, sentenced, supervised on probation and sentenced to incarceration. So for emerging adults that will be processed in the juvenile justice system in the future, there will be a corresponding reduction in the adult criminal justice caseload. For example, the overall caseload for adult probation officers will decline slightly and the overall caseloads for juvenile probation officers will increase. Although personnel will need to be transferred to cover the shift in population, the changes can all be handled internally by CSSD.

In addition, the automatic and discretionary statutory provisions now used for 15, 16 and 17-year olds will be similarly applied to emerging adults. As a result, the cases with the most serious charges that use up a greater share of justice system resources will be processed in the adult criminal justice system, and will not significantly impact the juvenile justice system's resources.

By increasing the jurisdictional age gradually over a three year period, with 18-year-olds included in year one, 19-year-olds in year two, and 20-year-olds in year three, state agencies such as CSSD will be able to adapt over time and will benefit from the naturally occurring attrition process. Specifically, as staff retire or leave for other reasons, CSSD will be able to fill the open positions with new juvenile probation officers.

This does not mean, however, that there will not be some costs associated with the implementation of this reform initiative. The costs to run the juvenile justice system is typically higher than the adult system, partly because it is a smaller system with smaller caseloads (economy of scale) and partly because it provides individualized, rehabilitative treatment with more intensive supervision and professional involvement. Certainly the biggest cost differential involves incarceration. In Connecticut, the average cost for a day of incarceration at a DOC adult prison in FY15 was $178 and it was higher, $336, at the Manson Youth Institution where the male youth are held.[189] The average cost for a day of commitment at CJTS in FY15 was $1,682.[190]

But this still does not mean that the short-term costs will be large or unmanageable. This is because the juvenile justice system offers much greater opportunities for diversion (see discussion in Section entitled "Diversion" above). By raising the age of juvenile jurisdiction to 21, PCJ estimates that approximately one-third of the emerging adult court

cases that would otherwise be formally prosecuted in the adult system will be successfully handled in a non-judicial—and, consequently, less expensive—manner in the juvenile system.

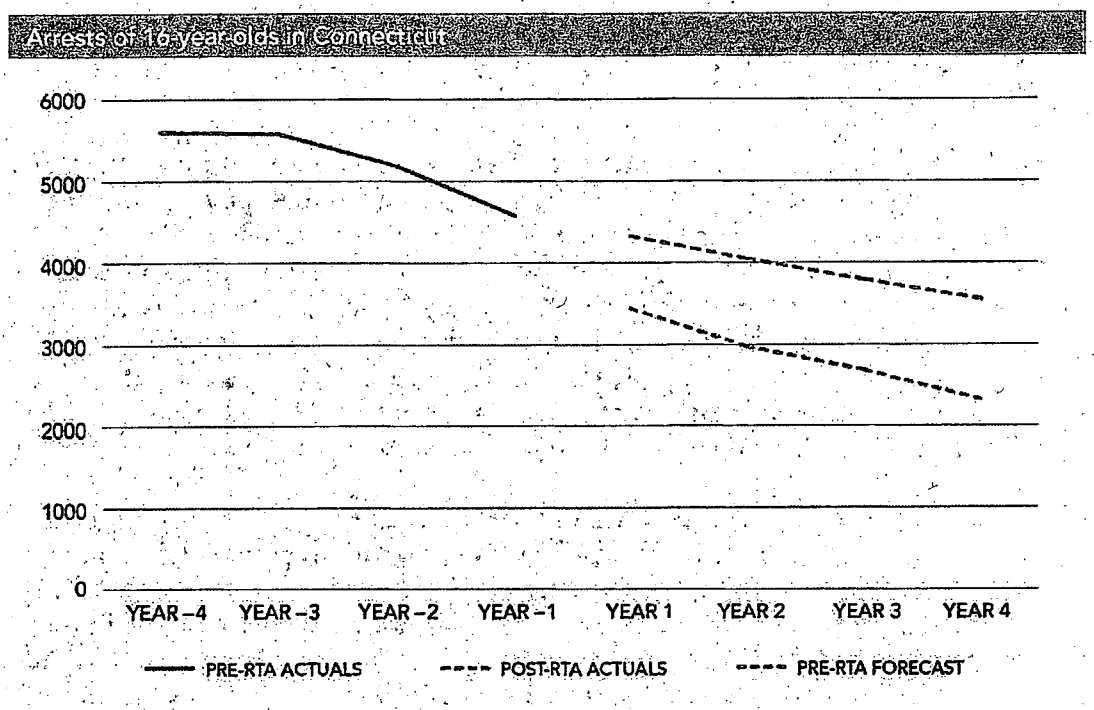
Furthermore, even in those cases when confinement is necessary, the juvenile justice system provides much greater flexibility and opportunities to reduce the burden and costs to taxpayers. For example, as of January 1, 2017, juvenile detention will be limited by law only to those who cannot be appropriately placed in a less restrictive alternative, a change that should significantly reduce the already shrinking juvenile detention caseload.[191] Once emerging adults are included in the juvenile system and are subject to the detention reform law, Connecticut will reduce the detention caseload of this age cohort to a much greater degree than would have been the case had all emerging adults been processed in the adult criminal justice system.

Similarly, it seems likely that the emerging adults sentenced to DCF custody under the juvenile justice system will serve less time in the most costly secure confinement facilities than they would have had they been sentenced to an adult DOC prison. DCF has discretion over the placement of youth in its custody and, by closing CJTS and instituting a more effective and less expensive network of small residential facilities and community programs, DCF will be able to use a full-range of appropriate and less-expensive placement options.

Finally, there is reason to cautiously believe that there may be a salutary effect on criminal and juvenile justice populations from raising the age of juvenile court jurisdiction. When Connecticut raised the age of juvenile court jurisdiction to 17 in 2010, arrests of 16-year-olds declined more than was expected by previous years' trends. As the chart below depicts, arrests of 16-year-olds had been declining by an average of 6% per year in the years leading up to 2010 (the dotted blue line depicts arrests if that trend had persisted at a rate of 6% annual decline). However, after 16-year-olds were included in the juvenile justice system, arrests of 16-year-olds were actually 28% lower than the projected trend (dotted orange line).

While further study of this phenomenon is warranted, data like these (and similar findings from Illinois) led the Vera Institute of Justice to dub this a deflationary "raise the age effect."

Research in Connecticut has also found that 16-year-olds tried in Juvenile Session were rearrested at a rate almost 39% lower than matched youths their same age who had been previously tried as adults.[192] After raising the age of juvenile jurisdiction to 18, Connecticut now has its lowest number of juveniles in pretrial detention, its lowest number of committed youth in the Connecticut Juvenile Training School, and the lowest number of emerging adult prisoners ages 18 to 21 in its adult prisons in a quarter-century.[193] These data offer a hopeful picture in two ways – they portend that the potential impact of these changes may be less significant than might be feared, and they raise the possibility that the juvenile system, writ large, has some unused capacity that can help cushion the impact of this initiative.



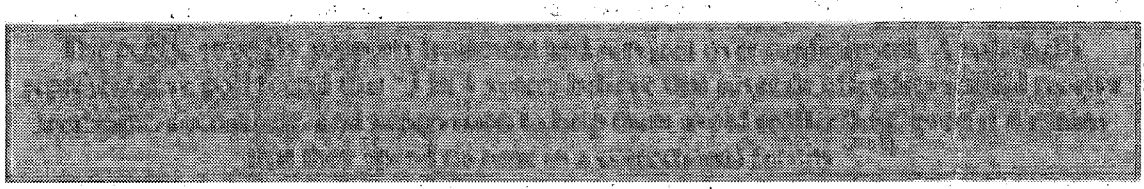
Final Report of the Governor's Commission on Youth, Public Safety and Justice[194]

There are, however, two foreseeable short-term costs that cannot be avoided and are essential for the success of the implementation:

1. *Additional services for emerging adults*: It would be inconsistent and ineffective to include emerging adults in the juvenile system and then fail to provide them with individualized and developmentally appropriate services. Although many of the services already offered in Connecticut's juvenile justice system can be applied to emerging adults, the variety and quantity will need to be enhanced. For instance, there will need to be more post-high school educational, vocational and independent living services than what is currently available.
2. *Professional training*: Working with emerging adults will be different than working with either juveniles or mature adults. Professionals and staff in the juvenile justice system must be given information to better understand this special, in-between stage of development in order to provide the most effective treatment, services and supervision.

Overall, in considering the budgetary ramifications of the Governor's proposal, a critical point is that any and all of these short-term costs incurred by its successful implementation may be offset by greater long-term savings for Connecticut. The cost to society when just one court-involved young person grows up to engage in a lifetime of serious and chronic crime is staggering: Factoring in lost wages, unpaid taxes, harm to victims and criminal justice expenditures, the estimated cost for one person is $3.8 million.[195] Research has found that evidence-based programs such as multi-systemic

therapy, already being used in Connecticut and which can be adapted for the emerging adult population (MST-EA), provides financial benefits to taxpayers as well important benefits to victims – both tangible (e.g. property damage) and intangible (emotional harm and reduced quality of life). Researchers have calculated the cumulative benefits for each MST participant to range between $75,100 to $199,374[196] or, measured another way by different researchers, each dollar spent on MST accrues a benefit of $13.36.[197]



Connecticut knows better than almost any State the perils of trying to accurately predict the costs of a Raise the Age initiative. In February 2004, a high level panel led by the state's chief juvenile judge issued a report estimating the cost of adding 16 and 17-year-olds to the juvenile system would be $84 million in operating costs and an additional $81 million in new construction costs.[199] Fortunately, these predictions never bore fruit: After including both 16 and 17-year-olds in the juvenile system, Connecticut enjoyed a lower juvenile caseload than before the reform, lower juvenile crime rate, and with no additional financial costs.[200] At the same time, it is important to note that Connecticut did not raise the age in a vacuum; the change in jurisdictional age was tied to a slew of other critically important reform initiatives including, most importantly, the expansion of diversion. This is an experience worth replicating as Connecticut plans the implementation of this proposal to further expand the juvenile justice system.

CONCLUSION

Over the last decade, the United States has experienced a wave of reforms in crime control policies, with many states reexamining "the ways in which they respond to offenders at every stage of the criminal justice process, from arrest and punishment to reentry and rehabilitation."[201] This change has been described as a "turning tide," within which an unusual synergy has formed between evidence-based scholars and fiscally conservative politicians, among others, to push for more effective laws, policies and practices in the justice system.

But until recently, the idea of "emerging adults" was not recognized as a distinct developmental stage with important implications for improving our justice system. As explained by Former Assistant Attorney General Laurie O. Robinson:

> ...we have not paid enough attention to the later teenage and early adult years as a discrete period of social and behavioral development... If we hope to gain a complete understanding of what works to prevent delinquency from evolving into persistent criminal behavior, we need to look more closely at this critical stage of life and develop our sense of effective interventions and categories of appropriate sanctions.[202]

Connecticut is on the forefront of this movement to recognize and serve the needs of emerging adults. By recognizing and identifying justice-involved emerging adults as a specific population in need of age-appropriate services—and then presenting a concrete proposal to provide developmentally appropriate responses within an expanded juvenile justice system—Connecticut is ultimately ensuring a positive impact on public safety.

In addition to the review and analysis contained in this report, PCJ offers 15 specific recommendations for how the state can implement this proposal over the coming years. These recommendations can be summarized in the following four categories:

E. *Focus and cost-effectiveness:* Ensuring that Connecticut's formal juvenile justice system (e.g. juvenile court cases) is reserved for those cases that cannot be otherwise appropriately and effectively served without formal system intervention (Recommendations 1 - 3). These recommendations are designed to increase the likelihood of successful outcomes, lower costs to taxpayers, allow the system to focus on youth and emerging adults truly in need of intervention, and "right-size" the system so that it is better able to absorb the expanded population of emerging adults.

F. *Breadth of application:* Applying the benefits of the juvenile justice system as much as possible to 18, 19 and 20-year-olds, including the expertise of the professionals within the juvenile system (Recommendations 4 - 5) in a practical manner that minimizes unnecessary law changes (Recommendations 6 - 7).

G. *Investment in reforms:* Taking the opportunity of this watershed moment to increase investments in effective programming (e.g., educational services and vocational training) in the community and, when necessary, within residential treatment facilities (Recommendations 8 - 10). Also, to consider making some other important reforms within the current juvenile justice system to better serve both youth under 18 as well as emerging adults (Recommendations 11 - 13).

H. *Institutional acceptance of "emerging adults":* Intentionally fostering a culture shift and philosophically embracing emerging adults within the juvenile justice system, which will require additional training, monitoring, evaluation and leadership (Recommendations 14 - 15).

This report does not provide answers and guidance for every issue that was raised during the course of this action research project, and there undoubtedly will be other issues that will arise during the actual implementation. Further study and planning will be necessary, especially regarding some of the more practical operational issues (e.g., transportation). But Connecticut has led the way on a number of significant justice reforms in the past decades and has a well-respected cadre of experienced and dedicated leaders in both the public and private sectors to oversee and assist in the implementation of this proposal. The country will be watching closely.

RECOMMENDATIONS

1. **Invest in and expand the diversion system, especially diversion at the front-end of the system:**

   Perhaps the most significant of the many advantages of expanding the juvenile justice system to include emerging adults would be the increased opportunity for 18-20 year-olds to participate in diversion. In Connecticut's juvenile justice system, cases can be diverted from the formal judicial process with successful outcomes at numerous stages of the system by the police, schools, probation (even before an arraignment), Juvenile Review Boards, prosecutors, and judges. This wide range of diversion options – especially options used at the front-end of the system before a case is formally heard in court, and which research shows to be a particularly opportune time to divert – does not exist in the adult criminal justice system. The 18-20 year-olds who are arrested by the police are formally charged in court, and only after does some diversion become available. In contrast, within the juvenile court more than one-third of all cases are resolved in a non-judicial manner, and more than 50% of all court referrals conclude without any finding of adjudication. There is reason to believe that a similarly significant percentage of referrals for 18-20 year-olds would also be appropriately resolved if this cohort were given the same wide-range of diversion options, resulting in short-term fiscal benefits (e.g., reducing the court caseload) as well as long-term savings (by increasing positive outcomes).

2. **Invest in and expand alternatives to pre-trial detention.**

   Research shows that incarcerating youth and emerging adults is not only expensive, but often a traumatizing and counter-productive experience that should be used only when there are no safe and less-restrictive alternatives available. Connecticut has considerable experience and expertise in developing alternatives to pre-trial detention for those in the juvenile system. Due in part to Connecticut's efforts to provide alternatives to detention (along with decreasing crime rates), the juvenile detention population decreased to such a degree that Connecticut was able to close one of its three juvenile detention centers in 2012. Since then, juvenile detention admissions have continued to decline by 10% (2012-2015). By expanding detention alternatives to emerging adults, detaining only the few emerging adults who require secure confinement in facilities operated by CSSD when there are no appropriate alternatives, and then holding them for the shortest time period possible, Connecticut would simultaneously improve outcomes and cut costs.

3. **Raise the lower-end of juvenile jurisdiction from age 7 to age 12.**

   In 2015, there were 171 delinquency referrals to the Connecticut juvenile court for children younger than 12, consisting of about 2% of

Connecticut's overall delinquency cases. There is no clear norm regarding the appropriate age of the lower end of jurisdiction in the United States: one state sets the age at 6, five states join Connecticut at age 7, three states set the age 8, ten states at age 10, and 30 states have not established a lower age of juvenile jurisdiction. However, international norms have been firmly established at age 12. Within the United States, there appears to be growing concern that young children lack the competency to understand the complicated legal concepts needed to meaningfully exercise their rights. Research also points to the harm that can be caused by formal prosecution of young children and indicates that other systems (e.g., child welfare) may serve young children more effectively. By raising the lower-end of juvenile jurisdiction, Connecticut would more appropriately serve the very young children and enable the juvenile justice system to more effectively focus on adolescents and emerging adults.

4. **Assign Juvenile Probation Officers to the emerging adult cases.**

   Currently, probation officers supervise emerging adults in the adult criminal court session. But as emerging adults gradually migrate into the juvenile justice system, it would make sense for juvenile probation officers – who have the training for and experience of working with adolescents in the juvenile court – to supervise this population. This would be a re-allocation of resources, with negligible additional costs.

5. **Protect identities of emerging adults from the public during prosecution in the juvenile system (whether Connecticut decides to have open or closed courtrooms).**

   In the information-gathering sessions facilitated by PCJ regarding the value of prosecuting emerging adults in open or closed sessions in juvenile court, many of the key stakeholders expressed divergent views. However, there was overwhelming consensus for protecting the emerging adults' identity if the proceedings are held in Juvenile Court (and not transferred to the adult criminal session). When an emerging adult takes positive steps forward (e.g., searching for a job), the benefits of having been "adjudicated" or convicted of a delinquency offense in a juvenile session rather than "convicted" of a criminal offense in an adult session would lose much of its value if the identity of the emerging adult were widely disseminated.

6. **Maintain the current rules governing police interrogations for emerging adults.**

   Rules have already been established in Connecticut regarding the admission, confession or statement of children 15 and under (requiring the presence of a parent or guardian who has been informed of their rights) and individuals 16 to 17 (requiring that "reasonable efforts" to contact a parent or guardian of the child be made). Emerging adults 18 and over have been governed by *Miranda v. Arizona* and its progeny, and there is

no known precedent or consensus from stakeholders that would suggest a change.

7. **Continue to process motor vehicle cases in adult court.**
   When Connecticut previously raised the age of juvenile jurisdiction from 16 to 18, motor vehicle offenses were kept in adult court. The law does allow the judge to move a motor vehicle case to juvenile court if the disposition could include jail time. With the further gradual expansion of the juvenile justice system to 21, following this precedent for emerging adults should reduce the impact of an increase in cases in the juvenile court without adding any confusion to the established system.

8. **Clarify the roles of the Department of Children and Families (DCF) and the Department of Mental Health and Addictive Services (DMHAS) and develop a closer partnership between these two agencies.**
   Currently, DCF provides mental health services to children up to 18 and DMHAS provides services for those 18 and over, with the special Young Adult Services unit focusing on 18 to 25-year-olds with the highest needs and a history of involvement with DCF. With the gradual inclusion of 18, 19 and 20 year-olds into the juvenile system, clarity would need to be provided about which agency provides the mental health services for court-involved emerging adults, especially if an emerging adult is prosecuted in the juvenile system and sentenced to a DCF residential treatment facility. In addition to establishing clear delineation of the roles and responsibilities, these agencies would also need to develop an even closer partnership in order to ensure the smooth transition of services.

9. **Elevate the importance of housing stability for emerging adults by developing a common assessment measure for these services, integrating that measure into existing assessment tools, and then planning for housing stability at all stages of the justice system.**
   Stable, safe housing is an essential element for reducing recidivism. Housing stability provides emerging adults the ability to benefit from education and employment opportunities. As the majority of emerging adults live with their families (or, if fortunate, at college), it is to be expected that the vast majority of emerging adults who are involved in the justice system are still dependent on their families for housing (as well as food and finances). But a careful assessment of housing needs for emerging adults must be conducted at all stages of the legal process and a common assessment measure should be adopted and integrated into existing tools used by juvenile justice professionals. Furthermore, Connecticut (through the Juvenile Justice Policy and Oversight Committee) should commission a study to examine the housing needs of court-involved emerging adults with a particular focus on ensuring that a sufficient array of services is available to support this age cohort (whether

that means engaging in family mediation so the emerging adult can stay with family, or finding other suitable alternatives).

10. Invest in educational and vocational services targeted specifically for emerging adults.

Court-involved emerging adults are often significantly behind their peers in educational attainment and job readiness. For instance, national data shows that the majority of court-involved emerging adults between the ages of 18-24 have not graduated high school or obtained a GED, disturbing data that are undoubtedly higher for the younger cohort of 18-20 year-olds. However, research also shows that education and employment are both effective in reducing recidivism. A number of useful examples from both inside and outside the justice systems can provide guidance to Connecticut on ways to successfully engage and support the educational and job skill needs of this age cohort. JJPOC, largely through its active work groups, has done some significant work already examining the current services available to emerging adults, as well as best practices that could be adopted. It would be helpful to officially expand the scope of a JJPOC work group to formally incorporate this work going forward.

11. Provide victim services for cases prosecuted in the juvenile court session.

Some have rightly raised concerns that victim services that are offered in adult court might not be always offered in juvenile court. We recommend that victim services be available for victims of offenses committed by both youth under age 18 as well as emerging adults who are prosecuted in the juvenile session. There should be no diminution of victims' services under this reform and the types of services offered to victims should never depend on the particular age of the offender.

12. Develop a full continuum of care for all youth and emerging adults sentenced to the Department of Children and Families through a regionalized network of small, therapeutic facilities for the small number who need to be confined, and a network of community-based programs in youth's neighborhoods. Further consider the best organizational structure to oversee all juvenile corrections that can effectively serve both youth and emerging adults in a single agency.

This is an opportune moment for Connecticut to restructure its juvenile correctional system: Not only will the system need to accommodate emerging adults who are committed to the custody of DCF from the juvenile court, but Connecticut must plan on this expansion without the Connecticut Juvenile Training School (CJTS), a large hardware-secure prison that was built for 230 beds but now holds less than 50 youth. Based on the growing national consensus over research showing that such large youth prisons are ineffective and even harmful to the youth, as well as the high costs of maintaining such a facility ($34,913,439 in operating costs for CJTS in FY 2017 as of September 30, 2016), Connecticut plans to

close CJTS in 2018. A new, model approach would include a statewide network of small treatment facilities (e.g., 15-40 beds each, with the youngest youth housed in the smallest facilities) that provide a full range of placement options from high-end, hardware and staff secure, to low-end placement, such as foster care and supported independent living. Facilities could be state-run, contracted out to non-profits, or a combination of public and private, would be licensed by an independent agency, and would be spread across the state for closer proximity to families and communities. States such as neighboring Massachusetts and New York have had success in contracting with private, non-profit organizations to operate some of their treatment facilities, including the most secure ones.

In addition, Connecticut should consider creating and expanding the range of community-based options that can safely keep youth and emerging adults at home and/or more actively engaged with the services in their own communities. By creating such a statewide network of both facilities and community-based services that are run by both state and private entities, there will be much greater flexibility in accommodating emerging adults and their treatment needs.

Currently, the responsibility and oversight of juvenile corrections is split by two agencies. CSSD oversees detention and DCF oversees commitments. With the addition of 18, 19 and 20-year-olds to the mix, Connecticut should consider unifying all of juvenile corrections (residential facilities for detention and commitment and community supervision) as well as the procurement of a continuum of community-based care into one agency focused exclusively on youth and emerging adults in the juvenile justice system. A newly created youth/emerging adult services agency could focus on the unique needs of this population, the creation of the continuum of care, and small rehabilitative facilities for the few youth who require confinement. Models of such a consolidated organizational structure are discussed in the full report.

13. Reconsider the automatic transfer of 15 – 17 year olds.

In 2015, there were 180 youth (ages 15, 16 or 17 when they allegedly committed an offense) who were transferred to adult court. With the proposed expansion of the juvenile justice system to 21, this group could get "lost in the shuffle" and overlooked, with little assessment of whether they could be appropriately treated in the individualized, rehabilitative approach offered by the juvenile justice system. Connecticut should take this opportunity to consider limiting or eliminating the list of offenses that require automatic transfer to adult court for this age group, creating instead a judicial waiver process that provides the opportunity for cases to be heard in the juvenile court and where a judge can assess whether the case can be appropriately resolved in the juvenile system or needs to be judicially waived to the adult court.

14. Expand training of professionals working in the juvenile justice on the specific developmental needs of emerging adults and effective interventions.

Connecticut has made a number of significant improvements to the juvenile justice system in the last 20 years; this success is largely dependent on the professionalism of the juvenile justice community in Connecticut, which will need support as it expands its attention to emerging adults. Specific training should be provided to all the professionals who will be working with emerging adults in the juvenile system, including police, judges, probation officers, staff in residential facilities, prosecutors, defense attorneys, providers and contractors.

15. Assign to the Juvenile Justice Policy and Oversight Committee (JJPOC) the responsibility of providing the needed leadership, strategic planning and oversight of the implementation of this proposal.

The JJPOC is a unique resource and the envy of many other states around the country with its impressive membership and staff support that have managed to produce a long list of accomplishments. JJPOC successfully led the earlier "Raise the Age" campaign and played a critical role evaluating the outcomes of the reform, including making further suggested changes in both laws and policies. JJPOC has both the experience and expertise to work in close partnership with the three branches of government to implement this proposal to further expand the juvenile justice system to also include emerging adults.

Finally, JJPOC could play an important role in helping Connecticut seek funding assistance from philanthropy to conduct a rigorous, independent evaluation of this unprecedented change. Marking a watershed in the evolution of the juvenile justice system, Connecticut would be the first state in the country to include emerging adults in the juvenile justice system. Measuring and sharing the outcomes of this initiative will be critically important not only to Connecticut, as it continues its work to improve its justice system, but to the entire nation.

APPENDIX A

The Program in Criminal Justice's "Listening Tour":

The following is a list of meetings facilitated by PCJ and organized by TYJI to gather information and feedback about the implementation of the proposal to include emerging adults in Connecticut's juvenile justice system.

A. Meetings with the Juvenile Justice and Policy Oversight Committee Members
- 7/7/16: Co-chairs of all the JJPOC work groups (via phone)
- 7/8/16: Cross-Data Sharing Work Group (held in Wethersfield).
- 7/11/16: Recidivism Work Group (Hartford)
- 7/13/16: Incarceration Work Group (New Haven)
- 7/15/16: Diversion Work Group (Middletown)
- 11/28/16: Co-chairs of the JJPOC work groups (Hartford)

B. Meetings with "focus groups" consisting of staff from key stakeholders in the justice system:
- 7/28/16: Judicial Branch Court Support Services Division and Court Operations (Hartford)
- 8/10/16: Department of Children and Families (Hartford)
- 8/17/16: State Department of Education (Middletown)
- 8/17/16: Department of Correction (Wethersfield)
- 9.8.16: Department of Mental Health and Addiction Services (Middletown)
- 9/15/16: Legislators (Hartford)

C. "Ad hoc" meetings open to the community:
- 7/28/16 in Hartford
- 7/29/16 in New Haven

D. Presentations to and discussions with the *full* JJPOC:
- 4/21/16 JJPOC meeting
- 11/17/16 JJPOC meeting

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[2] The Youth Justice Institute at the University of New Haven is also legally designated to staff the JJPOC. See, http://www.newhaven.edu/lee-college/institutes/Tow-Youth-Justice-Institute/juvenile-justice-policy-oversight-committee/

[3] The Connecticut Juvenile Justice Alliance and Youth First held four listening sessions in the spring and summer of 2016 with 40 youth from Bridgeport, New Haven and Hartford, to gather input and feedback from system-involved youth about community reinvestment, alternatives to incarceration and what young people need to be successful. Although the project was not focused on emerging adults involved in the justice system, it is safe to assume that some of the participants were emerging adults at the time of the sessions and that the experiences and opinions they expressed are also relevant and informative for the purposes of this report. Findings from the listening sessions and eight policy recommendations are included in the report: "Walk in Our Shoes: Youth Share their Ideas for Changing Connecticut's Juvenile Justice System." http://www.ctjja.org/resources/pdf/YFCTpaper.pdf

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[7] MST Institute (2015). "Multisystemic Therapy." http://mstservices.com/what-is-mst/what-is-mst

[8] National Institute of Justice (2011). "Program Profile: Functional Family Therapy (FFT)." http://www.crimesolutions.gov/ProgramDetails.aspx?ID=122

[9] Note: The inclusion of 17 year olds was delayed by an amendment passed in 2009 to give Connecticut more time to prepare and plan for the change.

[10] Restorative is based on the principles that crime is injury, which creates an obligation to make things right, and the offender should accept responsibility and act to repair the harm done. Bilchik, Shay (1998). "Guide of Implementing the Balanced and Restorative Justice Model." Office of Juvenile Justice and Delinquency Prevention. https://www.ojjdp.gov/pubs/implementing/contents.html

[11] Connecticut Public Act No. 16-147. "An Act Concerning The Recommendations Of The Juvenile Justice Policy And Oversight Committee." https://www.cga.ct.gov/2016/act/pa/pdf/2016PA-00147-R00HB-05642-PA.pdf

[12] Connecticut Code Chapter 170§10-233c: Suspension of pupils. https://www.cga.ct.gov/current/pub/chap_170.htm#sec_10-233c

[13] Child Health and Development Institute of Connecticut, Inc. "SBDI (The Connecticut School-Based Diversion Initiative)." Child Health and Development Institute of Connecticut, Inc. http://www.chdi.org/our-work/mental-health/school-based-mental-health/sbdi/

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[19] Muniz, Fernando J. (October 18, 2016). "Plan for Closure of the Connecticut Training School." Department of Children and Families, p.6. http://www.ct.gov/dcf/lib/dcf/cjts/pdf/cjts_closure_plan_(final).pdf
[20] *Ibid*, p.2.
[21] Department of Emergency Services and Public Protection (2014). "Mission Statement of the Department of Emergency Services and Public Protection." http://www.ct.gov/despp/cwp/view.asp?a=4156&q=487896
[22] Butts, J.A., and Mitchell, O. (July 2000). "Brick by Brick: Dismantling the Border Between Juvenile and Adult Justice." *Criminal Justice 2000* v.2, ed. Charles M. Friel, Washington, D.C.: U.S. Department of Justice, National Institute of Justice: p.167-213, NCJ 182409. https://www.ncjrs.gov/criminal_justice2000/vol_2/02f2.pdf
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[28] Scott, E.S. and Steinberg, L. (2010). *Rethinking Juvenile Justice*, Cambridge, Mass: Harvard University Press, p.53.
[29] Five states set the upper age of juvenile jurisdiction at 17: GA, MI, MO, TX and WI. Two states set it at 16: NC and NY. In the last legislative session (2015-6), legislation was proposed to raise the age of juvenile court jurisdiction to 18 in six states, successfully passing in Louisiana and South Carolina. It should be noted that even in states that set the age of juvenile jurisdiction to 18, there are there are still provisions to allow youth under 18 to be prosecuted as adults in certain circumstances (usually depending on the severity of the alleged offense), similar to the current proposal in Connecticut that would allow some youth between the ages of 15 – 20 to be prosecuted as adults.
[30] *Roper v. Simmons*, 543 U.S. 551 (2005) held that the Eighth and Fourteenth Amendments forbid the imposition of the death penalty on anyone under 18 when the crime was committed. *Graham v. Florida*, 560 U.S. 48 (2010) found that the Constitution also prohibits life-without-parole sentences for youth (under 18) in non-homicide cases. *Miller v. Alabama*, 132 S.Ct. 2455 (2012) ruled that the Eighth Amendment forbids mandatory juvenile life-without-parole sentences. *J.D.B. v. North Carolina*, 131 S. Ct. 2394 (2011) once again grounded constitutional principles in evolving developmental and scientific research, this time in the context of the Due Process Clause, holding that the age of a child must inform a Miranda custody analysis. Referencing prior decisions (including those in the context of the Eighth Amendment), the Court observed, "'our history is replete with laws and judicial recognition' that children cannot be viewed simply as miniature adults" (citations omitted). *Id.* at 2404.
[31] Schiraldi, V., Western, B., and Bradner, K. (September 2015). "Community-Based Responses to Justice-Involved Young Adults." New Thinking in Community Corrections Bulletin. Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 248900. https://www.ncjrs.gov/pdffiles1/nij/248900.pdf
[32] *Ibid.*

[33] *Ibid.*
[34] Loeber, R., Farrington, D., and Petechuk, D. (July 2013). "From Juvenile Delinquency to Young Adult Offending." Study Group on the Transitions Between Juvenile Delinquency and Adult Crime. Washington, D.C.: U.S. Department of Justice, National Institute of Justice.
https://www.ncjrs.gov/pdffiles1/nij/grants/242931.pdf
[35] *Ibid*, Figure 2.
[36] *Ibid*, p.4.
[37] *Ibid*, p.7.
[38] Schiraldi, V., Western, B., and Bradner, K. (September 2015). "Community-Based Responses to Justice-Involved Young Adults." New Thinking in Community Corrections Bulletin. Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 248900.
https://www.ncjrs.gov/pdffiles1/nij/248900.pdf and; The Council of State Governments Justice Center (November 2015). "Reducing Recidivism and Improving Other Outcomes for Young Adults in the Juvenile and Adult Criminal Justice Systems." https://csgjusticecenter.org/wp-content/uploads/2015/11/Transitional-Age-Brief.pdf and; Hayek, Connie (June 2016). *Environmental Scan of Developmentally Appropriate Criminal Justice Responses to Justice-Involved Young Adults.* Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 249902. https://www.ncjrs.gov/pdffiles1/nij/249902.pdf and; Zeira, Y., and Baldwin, M. (February 2016). "Pioneers in Young Adult Justice: 10 Initiatives and Programs Improving Criminal Justice for Young Adults." Roca, Inc. and; Loeber, R., Farrington, D., and Petechuk, D. (July 2013). "From Juvenile Delinquency to Young Adult Offending." Study Group on the Transitions Between Juvenile Delinquency and Adult Crime. Washington, D.C.: U.S. Department of Justice, National Institute of Justice. https://www.ncjrs.gov/pdffiles1/nij/grants/242931.pdf and; Forman, B. and Yee, S. (December 2015). "Viewing Justice Reinvestment Through a Developmental Lens: New Approaches to Reducing Young Adult Recidivism in Massachusetts." MassINC. http://massinc.org/wp-content/uploads/2015/12/young.offenders.brief_.pdf
[39] Schiraldi, V., Western, B., and Bradner, K. (September 2015). "Community-Based Responses to Justice-Involved Young Adults." New Thinking in Community Corrections Bulletin. Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 248900, p.7.
https://www.ncjrs.gov/pdffiles1/nij/248900.pdf
[40] Information provided to the Program in Criminal Justice by Elizabeth Clark, President and Founder of the Juvenile Justice Initiative. Elizabeth Clark, personal communication, November 30, 2016.
[41] Jonathan Kozol focused on North Lawndale in one of his chapters in his well-known book *Savage Inequalities: Children in America's Schools*, published in 1991. He quoted one resident who poignantly described this community as "an industrial slum without the industry." Although North Lawndale has experienced some revitalization since Kozol's book, the community is still struggling economically, with high rates of poverty and unemployment, and is "notorious for the number of its youth who are in trouble with the law." "North Lawndale Today." *Steans Family Foundation.*
http://www.steansfamilyfoundation.org/lawndale_today.shtml.
[42] Circuit Court of Cook County. (April 4, 2016). *Circuit Court Wins Grant to Create Community Court*
http://www.cookcountycourt.org/MEDIA/ViewPressRelease/tabid/338/ArticleId/2458/Circuit-Court-wins-grant-to-create-Community-Court.aspx
[43] Vermont No. 153. "An Act relating to jurisdiction over delinquency proceedings by the Family Division of the Superior Court."
http://legislature.vermont.gov/assets/Documents/2016/Docs/ACTS/ACT153/ACT153%20As%20Enacted.pdf
[44] Vastine, Karen (November 1, 2016). "Youthful Offenders Report." Report to the Vermont Legislature.
http://legislature.vermont.gov/assets/Legislative-Reports/Youthful-Offenders-Report-12-10.28.16.pdf
[45] State of Maine Department of Corrections. "Mountain View Youth Development Center."
http://maine.gov/corrections/juvenile/Facilities/MVYDC/index.htm
[46] The Superior Court of California: County of San Francisco. "Young Adult Court."
http://www.sfsuperiorcourt.org/divisions/collaborative/yac
[47] Preska, L. and Friedland, E. (August 17, 2015). "SDNY Young Adult Opportunity Program." Office of the District Court Executive: United States District Court Southern District of New York.
http://www.nysd.uscourts.gov/docs/SDNY%20Young%20Adult%20Opportunity%20Program.pdf

[48] "The process of identifying programs that are focused on addressing the developmental needs of young adults in the criminal justice system has proven to be neither straightforward nor simple. Programs tend to be localized, with limited publication outside the local jurisdictions." Hayek, Connie (June 2016). *Environmental Scan of Developmentally Appropriate Criminal Justice Responses to Justice-Involved Young Adults.* Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 249902. https://www.ncjrs.gov/pdffiles1/nij/249902.pdf

[49] Mason, Karol V (July 15, 2015). "Catching Up with Science: A Forum on Transition-Aged Youth in the Criminal Justice System." Speech, New York, NY. http://ojp.gov/newsroom/speeches/2015speeches/ojp07152015.pdf

[50] de la Cuesta, J.L., and Cordero, I.B. (Eds.) (2015). "Resolutions of the Congresses of the International Association of Penal Law (1926-2014)." v.86, p. 405-7.

[51] *Ibid*, p.406-7.

[52] *Ibid*, p.406.

[53] *Ibid.*

[54] Council of Europe: Committee of Ministers. (Adopted September 24, 2003). "Recommendation Rec 20 of the Committee of Ministers to member States concerning new ways of dealing with juvenile delinquency and the role of juvenile justice." 853rd meeting of the Ministers' Deputies.

[55] *Ibid*, p.3.

[56] *Ibid.*

[57] Council of Europe: Committee of Ministers (November 5, 2008). "Recommendation CM/Rec (2008)11 of the Committee of Ministers to member states on the European Rules for juvenile offenders subject to sanctions or measures." 1040th meeting of the Ministers' Deputies.

[58] Council of Europe: Committee of Ministers (2008). "Commentary to the European Rules for juvenile offenders subject to sanctions or measures." http://www.coe.int/t/dghl/standardsetting/prisons/Commentary_Rec_2008_11E.pdf

[59] Ito, Masami (May 23, 2015). "Shifting the Scales of Juvenile Justice." *The Japan Times.* http://www.japantimes.co.jp/news/2015/05/23/national/social-issues/shifting-scales-juvenile-justice/#.V5-5fqJM29U

[60] Ishida, Kanako (February 2015). "Young Adults in Conflict with the Law: Opportunities for Diversion." Juvenile Justice Initiative, p.4. http://jjustice.org/wordpress/wp-content/uploads/Young-Adults-in-Conflict-with-the-Law-Opportunities-for-Diversion.pdf

[61] *Ibid.*

[62] *Ibid.*

[63] *Ibid.*

[64] Clarke, Elizabeth (March 17, 2015). "Op-ed: Germany's 'Normalized' Juvenile Facilities a Success." Juvenile Justice Information Exchange. http://jjie.org/op-ed-germanys-normalized-juvenile-facilities-a-success/108482/

[65] Ishida, Kanako (February 2015). "Young Adults in Conflict with the Law: Opportunities for Diversion." Juvenile Justice Initiative, p.2. http://jjustice.org/wordpress/wp-content/uploads/Young-Adults-in-Conflict-with-the-Law-Opportunities-for-Diversion.pdf

[66] Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition to Adulthood, p. 42. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[67] The reasons for prosecuting motor vehicle offenses and other less serious crimes in the adult criminal justice system include less cost to system, ability to impose and collect fines, as well as less need for rehabilitative services; Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition to Adulthood, p.43-44, 46. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[68] "During my visit to Germany earlier this year, I was surprised that German courts treat all arrestees under the age of 21 as juveniles. I believe that we can learn from their system." Gov. Malloy's Prepared Remarks Today on Criminal Justice Reform, Press Release, Friday, Nov. 6, 2015.

[69] Röder, Julian (June 19, 2015). "How Germany Treats Juveniles." *The Marshall Project.* https://www.themarshallproject.org/2015/06/19/how-germany-treats-juveniles#.mVwm3X2t5

[70] One was for young men (1937-1975) and another was for young women (1937-1953). Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition

to Adulthood, p. 58. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[71] Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition to Adulthood, p. 57. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[72] van Walsum, Sarah (2008). *The Family and the Nation: Dutch Family Migration Policies.* Cambridge, UK: Cambridge Scholars Publishing, p.43.

[73] Hoeve, M. and van der Laan. P.H. (2012). *Persisters and Desisters in Crime from Adolescence Into Adulthood.* Surrey, UK: Ashgate Publishing, p.161.

[74] Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition to Adulthood, p. 57. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[75] *Ibid.*

[76] Ishida, Kanako (February 2015). "Young Adults in Conflict with the Law: Opportunities for Diversion." Juvenile Justice Initiative, p.3. http://jjustice.org/wordpress/wp-content/uploads/Young-Adults-in-Conflict-with-the-Law-Opportunities-for-Diversion.pdf

[77] Pruin, I. and Dunkel, F. (March 2015). "Better in Europe? European Responses to Young Adult Offending." Transition to Adulthood, p. 63. https://www.barrowcadbury.org.uk/wp-content/uploads/2015/02/T2A_Better-in-Europe_Report-_online.pdf

[78] Garza, Frida (March 22, 2016). "The Netherlands Keeps Having to Close its Prisons Due to a Lack of Prisoners." *Quartz*. http://qz.com/644914/the-netherlands-keeps-having-to-close-its-prisons-due-to-lack-of-prisoners/

[79] The arrest data for 2015 comes from the State's own reporting: http://www.dpsdata.ct.gov/dps/ucr/data/2015/Crime%20in%20Connecticut%202015.pdf. This data is not included in the chart above since the data source for the earlier years comes from the FBI's Uniform Crime Report Data, which appears to be slightly different than the data reported on the Connecticut government's website.

[80] See e.g., Citizens for Juvenile Justice (November 2016). "Less Crime for Less Money, Why Massachusetts should reduce unnecessary and harmful court processing for children and teens." http://www.cfjj.org/pdf/Diversion_White_Paper.pdf and; Models for Change Juvenile Diversion Workgroup (March 2011). "Juvenile Diversion Guidebook." www.modelsforchange.net/publications/301

[81] Models for Change Juvenile Diversion Workgroup (2011). "Juvenile Diversion Guidebook." p.8. http://www.modelsforchange.net/publications/301

[82] Wilson, Holly A. and Hoge, Robert D. (2013). "The Effect of Youth Diversion Programs on Recidivism: A Meta-Analytic Review." *Criminal Justice and Behavior*, v.40(5): p.497-518.

[83] *Ibid*, p.514.

[84] PCJ received data from Barry Goff by email on November 23, 2016. The overall JRB caseload for the most recent fiscal year appears to be approximately 2,200 (when reported by age, the total was 2,234 but when reported by gender, the total number was 2,115). Since a substantial number of the caseload had data missing on race and ethnicity (over 10%), PCJ did not include this information in this Report. However, the efforts being made to increase the accurate reporting and collection of JRB is critically important to being able to provide an accurate estimate of the caseloads when emerging adults are included in to the juvenile system.

[85] Rosenberg, J., Montes, C., and Carino, F. (2010). "Recommended Best Practices Connecticut's Youth Service Bureau Service Delivery Model For Juvenile Review Boards. Connecticut Youth Services Association. http://www.ctyouthservices.org/Customer-Content/WWW/CMS/files/CYSAJuvenileReviewBoardBestPracticesFinalApproved1-10.pdf

[86] Regional Youth Adult Social Action Partnership. "Restorative Justice." www.ryasap.org/restorative-justice/

[87] Models for Change Juvenile Diversion Workgroup (2011). "Juvenile Diversion Guidebook." http://www.modelsforchange.net/publications/301

[88] See e.g. Lists of the different programs offered in the Connecticut Superior Court Criminal Division can be found at https://www.jud.ct.gov/Publications/cr137P.pdf

[89] Under the new law, no child may be placed in detention unless a judge of the Superior Court determines, based on the available facts, that (A) there is probable cause to believe that the child has committed the acts

alleged, (B) there is no less restrictive alternative available, and (C) there is (i) probable cause to believe that the child will pose a risk to public safety if released to the community prior to the court hearing or disposition, (ii) a need to hold the child in order to ensure the child's appearance before the court, as demonstrated by the child's previous failure to respond to the court process, or (iii) a need to hold the child for another jurisdiction. See e.g. http://www.ct.gov/opm/cwp/view.asp?Q=383628

[90] See e.g., Holman, B. and Ziedenberg, J. (2007). "The Dangers of Detention: The Impact of Incarcerating Youth in Detention and Other Secure Facilities." Justice Policy Institute. http://www.justicepolicy.org/images/upload/06-11_rep_dangersofdetention_jj.pdf

[91] *Ibid.*

[92] *Ibid.*

[93] *Ibid.*

[94] Orlando, James (October 21, 2016). "Automatic Transfer of Juveniles from Juvenile to Criminal Court." Connecticut Office of Legislative Research. https://www.cga.ct.gov/2016/rpt/pdf/2016-R-0214.pdf

[95] Muniz, Fernando J. (October 18, 2016). "Plan for Closure of the Connecticut Training School." Department of Children and Families, p.6. http://www.ct.gov/dcf/lib/dcf/cjts/pdf/cjts_closure_plan_(final).pdf

[96] *Ibid.*

[97] *Ibid*, p.6-7.

[98] Bonnie, R.J., Johnson, R.L., Chemers, B.M., and Schuck, J., (Eds.) (2013). *Reforming Juvenile Justice: A Developmental Approach.* Washington, D.C.: The National Academies Press.

[99] See e.g., Grisso, Thomas et al. (August 2003). "Juveniles Competence to Stand Trial: A Comparison of Adolescents' and Adults' Capacity as Trial Defendants." *Law and Human Behavior* v.27(4): p.333-63.

[100] The National Juvenile Defender Center (NJDC) provides an up-to-date graphic documenting the minimum age (or lack of limits) of juvenile jurisdiction in various states: http://njdc.info/practice-policy-resources/state-profiles/multi-jurisdiction-data/minimum-age-for-delinquency-adjudication-multi-jurisdiction-survey/

[101] See e.g., UN Committee on the Rights of the Child (2007). "Convention on the Rights of the Child General Comment No. 10: Children's Rights in Juvenile Justice." Paragraph 32. http://www2.ohchr.org/english/bodies/crc/docs/CRC.C.GC.10.pdf

[102] See e.g., Citizens for Juvenile Justice (2016). "Keeping Young Children on Track to Success Raising the Lower Age of Juvenile Jurisdiction Sections 4, 6-10, and 13 of S.905 (Sen. Spilka) and H.1436 (Rep. Khan)." http://www.cfjj.org/pdf/FACTSHEETRaisingLowerAge.pdf

[103] Brooks, Pansing et al., Legislative Bill 894. 104th Legislature of Nebraska. https://files.acrobat.com/a/preview/e29324c6-efbb-4318-920f-afa63e6eab7f

[104] Office of Juvenile Justice and Delinquency Prevention (December 2014). "Meeting the Educational Needs of System-Involved Youth," p.2. https://www.ojjdp.gov/programs/commitment120814.pdf

[105] For a description of DMC and the requirements within JJDPA, see https://www.ojjdp.gov/Programs/ProgSummary.asp?pi=18

[106] National Council on Crime and Delinquency (January 2007). "And Justice for Some: Differential Treatment of Youth of Color in the Justice System." http://www.nccdglobal.org/sites/default/files/publication_pdf/justice-for-some.pdf

[107] Ricketelli, D.M., Hartstone, E.C., and Murphy, K.L. (May 15, 2009). "A Second Reassessment of Disproportionate Minority Contact." http://www.ct.gov/opm/lib/opm/cjppd/cjjjyd/jjydpublications/final_report_dmc_study_may_2009.pdf

[108] Muniz, Fernando J. (October 18, 2016). "Plan for Closure of the Connecticut Training School." Department of Children and Families. http://www.ct.gov/dcf/lib/dcf/cjts/pdf/cjts_closure_plan_(final).pdf

[109] Schiraldi, V., Western, B., and Bradner, K. (September 2015). "Community-Based Responses to Justice-Involved Young Adults." New Thinking in Community Corrections Bulletin. Washington, D.C.: U.S. Department of Justice, National Institute of Justice. NCJ 248900, p.7.

[110] Connecticut Juvenile Justice Alliance (2016). "Walk in Our Shoes: Youth Share their Ideas for Changing Connecticut's Juvenile Justice System," p.12. http://www.ctjja.org/resources/pdf/YFCTpaper.pdf

[111] It should be noted that in addition to reviewing federal statutes, regulations, guidance documents and case law for this section of the research report, PCJ also spoke to several experts in the field to explore the intersection of these three federal mandates with Connecticut's proposed reforms. PCJ wishes to express

our appreciation to the following people for their thoughtful comments: Julie Abbate, Deputy Chief at U.S. Department of Justice; Dr. Mary Livers, Ret. Louisiana Deputy Secretary of the Office of Juvenile Justice; Marc Schindler, Executive Director of Justice Policy Institute; and Jason Szanyi, Deputy Director of the Center for Children's Law and Policy. Although conversations with these experts helped guide our research, the conclusions and recommendations expressed here are those of the report's authors only.

[112] The JJDPA was first enacted in 1974 and now includes four "core requirements." In addition to sight and sound separation, JJPDA requires: the deinstitutionalization of status offenders, the removal of juveniles from adult jail and lockup and reducing disproportionate minority contact. *See* Coalition for Juvenile Justice. "History of the JJDPA." http://www.juvjustice.org/federal-policy/juvenile-justice-and-delinquency-prevention-act

[113] 42 U.S.C. § 5633 (a)(12)(A).

[114] Office of Juvenile Justice and Delinquency Prevention (October 2010). "Guidance Manual for Monitoring Facilities Under the Juvenile Justice and Delinquency Prevention Act of 2002."

[115] 42 U.S.C. § 5603.

[116] Although it is not relevant to this discussion of emerging adults in the Connecticut juvenile system, it is worth noting that the status of the youth (as criminally charged rather than adjudicated in the juvenile system) is not the only factor that implicates the separation requirement of the JJDPA (which may have an impact on other aspects of the Connecticut justice system). The Administrator of the Office of Juvenile Justice and Delinquency Prevention, in a clarifying memo released in 2008, states that juveniles charged as adults who have not yet reached the state's maximum age of extended juvenile jurisdiction can be housed in juvenile facilities without sight and sound separation. However, once a criminally charged youth reaches the maximum age of juvenile jurisdiction, his or her presence would violate the separation requirement, even if they had not served the full length of their sentence.

[117] Office of Juvenile Justice and Delinquency Prevention (October 2010). "Guidance Manual for Monitoring Facilities Under the Juvenile Justice and Delinquency Prevention Act of 2002:" Appendix K: Age of Full Criminal Responsibility and Maximum Age of Extended Juvenile Court Jurisdiction—50-State Survey.

[118] Beck, A.J., Cantor, D., Hartge, J., Smith, T. (2013). "Sexual Victimization in Juvenile Facilities Reported by Youth, 2012: National Survey of Youth in Custody, 2012." Bureau of Justice Statistics. https://www.bjs.gov/content/pub/pdf/svjfry12.pdf

[119] *Ibid*, p.60.

[120] Information provided by Fernando J. Muñiz, Deputy Commissioner of the Department of Children and Families, in an email to PCJ on December 7, 2016.

[121] 42 U.S.C. § 15602.

[122] 42 U.S.C. § 15607 (a)(1).

[123] 28 C.F.R. pt. 115 (2012).

[124] Bureau of Justice Statistics (June 2016). "PREA Data Collection Activities 2016." Bureau of Justice Statistics.
http://www.bjs.gov/content/pub/pdf/pdca16.pdf?ed2f26df2d9c416fbddddd2330a778c6=mluuuvsivk-mxnfxvfs

[125] The PREA rules are often considered a new minimum standard of care, and a state's failure to comply raises some concern for potential liability.

[126] 28 C.F.R. § 115.14 (2012)

[127] *Ibid.* In those states in which the age of adult criminal responsibility is under 18, raising the age to a minimum of 18 makes sound financial sense, as PREA compliance is costly. *See, e.g.*, Henneke, Elizabeth A. (May 14, 2015). "Raise the Age Leads to PREA Compliance in Texas," Campaign for Youth Justice Blog. http://campaignforyouthjustice.org/news/blog/item/raise-the-age-leads-to-prea-compliance-in-texas

[128] 28 C.F.R. § 115.114 (2012)

[129] *Id. at* § 115.5 (emphasis added).

[130] National Standards to Prevent, Detect, and Respond to Prison Rape, 77 Fed. Reg. 37106, 37114 (June 20, 2012) (to be codified at 28 C.F.R. pt. 115).

[131] 28 C.F.R. § 115.114 (2012)

[132] *See id. at* §§ 115.311 - 115.393. For a discussion of the application of PREA to Connecticut juvenile facilities with regards to transgender inmates, as well as the intricacies of adult transfer in juvenile cases, see *In re Doe*, No. F04JV32912660A, 2014 WL 2600505 (Conn. Super. Ct. May 6, 2014).

[133] National Standards to Prevent, Detect, and Respond to Prison Rape, 77 Fed. Reg. 37106, 37115 (June 20, 2012) (to be codified at 28 C.F.R. pt. 115).
[134] Heaton, L. et al. (June 28, 2016). "Facility-level and Individual-level Correlates of Sexual Victimization in Juvenile Facilities, 2012." Bureau of Justice Statistics Working Paper Series WP-2016-01.
[135] *Ibid*, p.2.
[136] *Ibid*, p.57.
[137] *Ibid*, p.60.
[138] *Ibid*, p.60.
[139] *Ibid*, p.101.
[140] Federal Student Aid. "Federal Pell Grants." https://studentaid.ed.gov/sa/types/grants-scholarships/pell
[141] *Ibid.*
[142] *Ibid.*
[143] *Ibid.*
[144] U.S. Department of Education. "Federal Pell Grant Program." http://www2.ed.gov/programs/fpg/index.html
[145] *See, e.g.*, thePell.com. "Connecticut Pell Grant." http://www.thepell.com/state-pell-grants/connecticut-pell-grant.shtml (listing schools that participate in the Connecticut Pell Grant Program).
[146] 20 U.S.C. § 1070a (6).
[147] U.S. Department of Education (July 31, 2015). "U.S. Department of Education Launches Second Chance Pell Pilot Program for Incarcerated Individuals." http://www.ed.gov/news/press-releases/us-department-education-launches-second-chance-pell-pilot-program-incarcerated-individuals
[148] Mahaffie, Lynn B. (December 8, 2014). "Federal Pell Grant Eligibility for Students Confined or Incarcerated in Locations That Are Not Federal or State Penal Institutions." U.S. Department of Education. https://ifap.ed.gov/dpcletters/attachments/GEN1421.pdf. *See also* Abdul-Alim, Jamaal (December 9, 2014). "Pell Grant Eligibility Clarification Opens Doors of Opportunity for Juvenile Offenders." Diverse Education. http://diverseeducation.com/article/68327/ (explaining why the need for clarification had existed).
[149] Mahaffie, Lynn B. (December 8, 2014). "Federal Pell Grant Eligibility for Students Confined or Incarcerated in Locations That Are Not Federal or State Penal Institutions." U.S. Department of Education, p.2. https://ifap.ed.gov/dpcletters/attachments/GEN1421.pdf
[150] *Ibid*, p.2-3.
[151] U.S. Department of Education (December 8, 2014). "Questions and Answers for Dear Colleague Letter GEN-14-21." https://ifap.ed.gov/dpcletters/attachments/GEN1421FAQAttachment.pdf
[152] *Ibid*, p.3.
[153] *Ibid.*
[154] Scott, E.S., Bonnie, R.J., and Steinberg, L (2016). "Young Adulthood as a Transitional Legal Category: Science, Social Change, and Justice Policy." *Fordham Law Review*. v.85: p.648.
[155] Butts, J.A., Bazemore, G., and Meroe, A.S. (2010). "Framing Justice Interventions Using the Concepts of Positive Youth Development." Positive Youth Justice. https://positiveyouthjustice.files.wordpress.com/2013/08/pyj2010.pdf
[156] Osgood, D.W., Foster, E.M., Flanagan, C., and G.R. (Eds.) (2005). *On Your Own without a Net: The transition to adulthood for vulnerable populations*. Chicago: The University of Chicago Press: p.114-144.
[157] See e.g., Dufresne, Alexandra, et al. (2015). "Students First: Ensuring Excellence and Opportunity for Students in Connecticut's Juvenile Justice System." Center for Children's Advocacy. https://www.cga.ct.gov/app/tfs%5C20141215_Juvenile%20Justice%20Policy%20and%20Oversight%20Committee%5C20160128/Final%20Report%20by%20CCA%20on%20educational%20barriers%20.pdf
[158] Office of Juvenile Justice and Delinquency Prevention (December 2014). "Meeting the Educational Needs of System-Involved Youth." https://www.ojjdp.gov/programs/commitment120814.pdf
[159] Baldwin, Molly, and Yotam Zeira. *From Evidence-Based Practices to a Comprehensive Intervention Model for High-Risk Young Men: The Story of Roca.* New Thinking in Community Corrections Bulletin. Washington, D.C.: U.S. Department of Justice, National Institute of Justice, (forthcoming).
[160] https://www.utec-lowell.org/impact
[161] http://www.nyc.gov/html/prob/html/neon/neon.shtml

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[171] See e.g., Vera Institute of Justice. "Family Engagement In the Juvenile Justice System: Juvenile Justice Factsheet 5." http://archive.vera.org/sites/default/files/resources/downloads/family-engagement-juvenile-justice.pdf
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[176] *Ibid.*
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[184] Maine Department of Health and Human Services. "Chapter 113: Regulations Governing the Licensing and Functioning of Assisted Housing Programs." https://www1.maine.gov/sos/cec/rules/10/ch113.htm
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[189] Information provided by email to PCJ from the Office of the State Comptroller on December 14, 2016.
[190] *Ibid.*
[191] Connecticut Public Act No. 16-147. "An Act Concerning The Recommendations Of The Juvenile Justice Policy And Oversight Committee." https://www.cga.ct.gov/2016/act/pa/pdf/2016PA-00147-R00HB-05642-PA.pdf
Under this new law, no child may be placed in detention unless a judge of the Superior Court determines, based on the available facts, that (A) there is probable cause to believe that the child has committed the acts alleged, (B) there is no less restrictive alternative available, and (C) there is (i) probable cause to believe that the child will pose a risk to public safety if released to the community prior to the court hearing or disposition, (ii) a need to hold the child in order to ensure the child's appearance before the court, as demonstrated by the child's previous failure to respond to the court process, or (iii) a need to hold the child for another jurisdiction.
[192] Governor's Commission on Youth, Public Safety and Justice. "Final Report of the Governor's Commission on Youth, Public Safety and Justice: Recommendations for Juvenile Justice Reform in New York State," p.30-1.
https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/ReportofCommissiononYouthPublicSafetyandJustice_0.pdf
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http://www.justicepolicy.org/uploads/justicepolicy/documents/jpi_juvenile_justice_reform_in_ct.pdf
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[200] Mendel, Richard (2013). "Juvenile Justice Reform in Connecticut: How Collaboration and Commitment Have Improved Public Safety and Outcomes for Youth." Justice Policy Institute, p.1. http://www.justicepolicy.org/uploads/justicepolicy/documents/jpi_juvenile_justice_reform_in_ct.pdf

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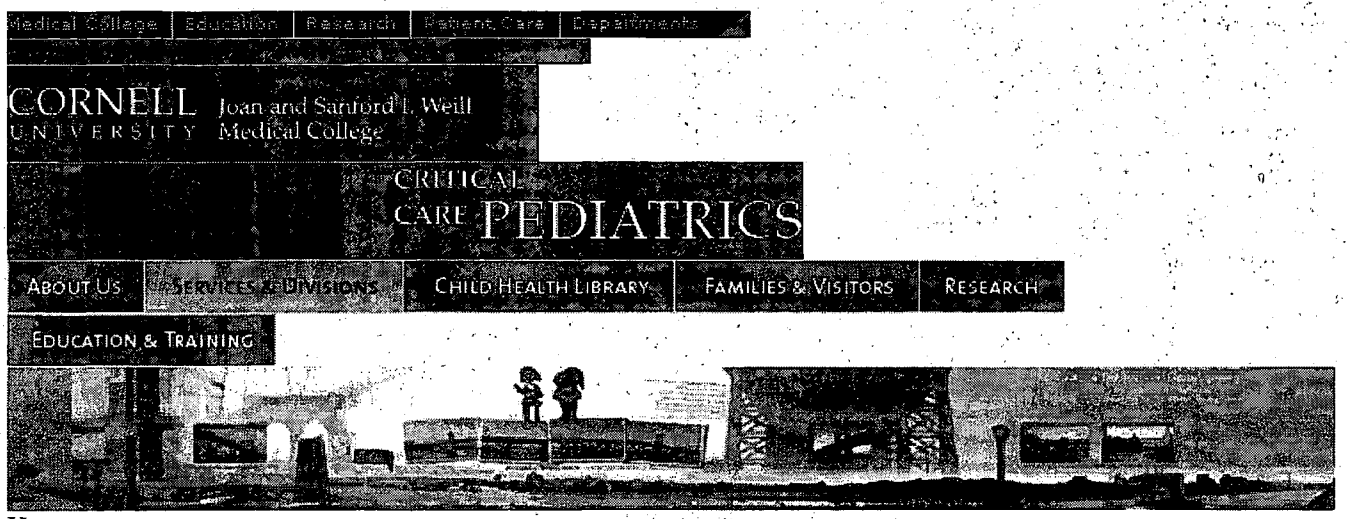
Standards message here



Age Calculator

Calculate the age based on the Date of Birth and another date (default is the current date).

Date of Birth 5/2/1979
Age at This Date 3/2/1998

Calculate Clear

Age = 18 years 10 months
= 226 months
= 982.7 weeks
= 6879 days

Dates should be entered in the US format *mm/dd/yyyy*, using four digits for the year.

Created: October 5, 2000
Revised: October 21, 2009

Emergency Med & Drip Dosing
A-a Gradient
Alveolar Gas Equation

Joshua Cramer
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472

FILED-RECEIVED
2015 SEP 23 AM 11:38
DAVID HAMILTON
C.C.C.P. & G.S.
YORK COUNTY, SC

September 17, 2015

The Honorable David Hamilton
Clerk of Court, York County
PO Box 649
York, SC 29745

Re: The State v. Joshua Cramer, #251406
Indictment No.: 1998-GS-46-1015,-1016, -2192

Dear Mr. Hamilton:

Enclosed, please find the following original documents for filing in the above referenced criminal resentencing matter:

1.) Notice and Motion for Resentencing;

2.) Motion for Appointment of Counsel; and

3.) Certificate of Service

Please present these documents to the Circuit's Chief Administrative Judge at your earliest convenience.

Also, enclosed is one (1) extra copy of each document, please clock-stamp and return them to me for my files.

Your assistance in this matter is sincerely appreciated.

Sincerely,

Josh C

Joshua Cramer
Defendant

cc: The Honorable Kevin Brackett, Solicitor

The state of South Carolina County of York	))	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-2192
V.	)	NOTICE and MOTION FOR APPOINTMENT OF COUNSEL FOR Aiken v. Byars RESENTENCING
Joshua Cramer, #251406	)	

FILED-RECEIVED
2015 SEP 23 AM 11:28
DAVID HAMILTON
CLERK OF COURT
YORK COUNTY, S.C.

NOW COMES, Joshua Cramer, the undersigned Defendant, appearing pro se solely for the filing of the instant motion, hereby moves this Honorable Court to appoint counsel to represent the Defendant at a resentencing proceeding to correct the July 28, 1998 sentence imposed by this court, in light of the South Carolina Supreme Court decision in Aiken v. Byars, Op. No. 27465, (filed November 12, 2014). In support of this motion the Defendant would show this Honorable Court the following:

1.) The Defendant has entered a motion for resentencing before this Honorable Court;

2). The Defendant was represented at the July 28, 1998 sentencing on the above indictments by Thomas A. McKinney, Esquire;

3). The Sixth Amendment of the United States Constitution guarantees to all criminal defendants the right to the "Assistance of Counsel" in his defense, see Gideon v. Wainwright, 372 U.S. 335 (1963). The right to counsel attached at the initiation of adversarial judicial proceedings and extends to sentencing proceedings, see Williams v. Taylor, 529 U.S. 362 (2000);

4). That South Carolina Constitution Article 1, Section 14 and South Carolina Code of Laws section 17-23-60 (1976) guarantee a criminal defendant the right to counsel; and

5). In South Carolina, sentencing is a critical stage of trial that requires the assistance of counsel, see State v McGuinn, 268 S.C. 112, 232 S.E. 2d. 229 (1977).

The Defendant suggests that, out of an abundance of caution, counsel independent of original counsel to be appointed to represent the Defendant at the resentencing proceedings.

CONCLUSION

WHEREFORE, based upon the foregoing facts and law, Defendant respectfully moves this Honorable Court to appoint counsel to represent Defendant at the resentencing proceeding to be held by this Court in light of Aiken v. Byars.

Date: Sept. 17, 2015
Ridgeville, SC

Respectfully submitted,
Josh C
Joshua Cramer, Defendant, Pro Se
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472

The state of South Carolina County of York	))	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-1192
V.	)	NOTICE and MOTION FOR APPOINTMENT OF COUNSEL FOR Aiken v. Byars RESENTENCING
Joshua Cramer, #251406	)	

FILED-RECEIVED 2015 SEP 23 AM 11:38 DAVID HAMILTON CLERK OF COURT YORK COUNTY, S.C.

NOW COMES, Joshua Cramer, the undersigned Defendant, appearing pro se solely for the filing of the instant motion, hereby moves this Honorable Court to appoint counsel to represent the Defendant at a resentencing proceeding to correct the July 28, 1998 sentence imposed by this court, in light of the South Carolina Supreme Court decision in Aiken v. Byars, Op. No. 27465, (filed November 12, 2014). In support of this motion the Defendant would show this Honorable Court the following:

1.) The Defendant has entered a motion for resentencing before this Honorable Court;

2). The Defendant was represented at the July 28, 1998 sentencing on the above indictments by Thomas A. McKinney, Esquire;

3). The Sixth Amendment of the United States Constitution guarantees to all criminal defendants the right to the "Assistance of Counsel" in his defense, see Gideon v. Wainwright, 372 U.S. 335 (1963). The right to counsel attached at the initiation of adversarial judicial proceedings and extends to sentencing proceedings, see Williams v. Taylor, 529 U.S. 362 (2000);

4). That South Carolina Constitution Article 1, Section 14 and South Carolina Code of Laws section 17-23-60 (1976) guarantee a criminal defendant the right to counsel; and

5). In South Carolina, sentencing is a critical stage of trial that requires the assistance of counsel, see State v McGuinn, 268 S.C. 112, 232 S.E. 2d. 229 (1977).

The Defendant suggests that, out of an abundance of caution, counsel independent of original counsel to be appointed to represent the Defendant at the resentencing proceedings.

CONCLUSION

WHEREFORE, based upon the foregoing facts and law, Defendant respectfully moves this Honorable Court to appoint counsel to represent Defendant at the resentencing proceeding to be held by this Court in light of Aiken v. Byars.

Date: Sept 17, 2015
Ridgeville, SC

Respectfully submitted,
Josh C
Joshua Cramer, Defendant, Pro Se
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472

The state of South Carolina County of York	))	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-2192
V.	)	
Joshua Cramer, #251406	)	CERTIFICATE OF SERVICE

FILED-RECEIVED
2015 SEP 23 AM 11:35
DAVID HAMILTON
C.C.C.P.&G.S.
YORK COUNTY

The undersigned Defendant, Joshua Cramer, hereby certifies that he has served a true and correct copy of 1.) NOTICE and MOTION FOR RESENTENCING PURSUANT TO Aiken v. Byars, and 2.) NOTICE and MOTION FOR APPOINTMENT OF COUNSEL on counsel for the State of South Carolina by depositing a copy of the same in the United States Mail, first-class postage affixed thereto, this 18th day of Sept., 2015, addressed as follows:

Kevin Brackett
1675-1A York Highway
York, SC 29745

Joshua Cramer
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472
Defendant, Pro Se

The state of South Carolina County of York	))	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE V. Joshua Cramer, #251406	)))))	Indictment No.: 1998-GS-46-1015,-1016,-2192 NOTICE and MOTION FOR RESENTENCING PURSUANT TO Aiken v. Byars, Op. No. 27465 (S.C. Sup. Ct., Filed November 12, 2014)

FILED-RECEIVED
2015 SEP 23 AM 11:38
DAVID HAMILTON
CLERK OF COURT
YORK CO. S.C.

To: Kevin Brackett, Solicitor, Sixteenth Judical Circuit

NOW COMES, Joshua Cramer, the undersigned defendant, appearing pro se solely for the filing of the instant motion, hereby notifies the State of South Carolina that he will move this Honorable Court to be resentenced on the above-captioned indictment numbers in light of the South Carolina Supreme Court decision in Aiken v. Byars, Op. No. 27465, filed November 12, 2014. In support of this motion the Defendant would show this Honorable Court the following:

1.) The Defendant's date of birth is May 2, 1979.

2. The Defendant was arrested for the offenses the subject of the above indictments on March 4, 1998 and was a teenager at the time of arrest; and

3.) The Defendant was sentenced following a plea on July 28, 1998, and received a sentence of Life without Parole, pronounced by Judge John C. Hayes, III.

CONCLUSION

WHEREFORE, based upon the foregoing facts and in light of Aiken v. Byars, Op. No. 27465, filed November 12, 2014, the undersigned Defendant, through counsel to be appointed, will move for resentencing of the July 28, 1998 sentence on the above indictment numbers.

Respectfully submitted,

Joshua Cramer

Date: Sept. 17, 2015
Ridgeville, SC

Joshua Cramer
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472
Defendant, Pro Se

CLERK OF COURT'S OFFICE
Post Office Box 649; York, South Carolina 29745

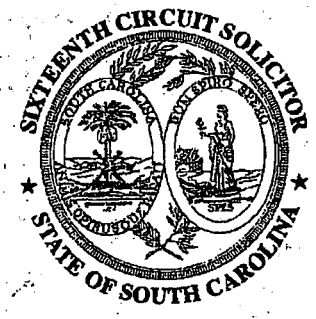
October 3, 2016

Joshua Cramer #251406
Lieber Corr Inst
PO Box 205
Ridgeville SC 29472

Our records indicate that you were 18 when you were arrested for the charges in this court, which may affect whether you qualify for juvenile resentencing. A copy of your letter and our reply letter are being forwarded to Deputy Solicitor Willy Thompson for further review.

General Sessions Division

b



KEVIN S. BRACKETT
SOLICITOR

May 15, 2017

Josh Cramer #251406
Lieber CI, SA-17
PO Box 205
Ridgeville, SC 29472

Dear Mr. Cramer:

I am in receipt of your letter dated May 4, 2017. Your request for re-sentencing will not be scheduled. Since you were not under the age of 18 at the time of your crime, you do not qualify for a re-sentencing hearing.

Sincerely,

Willy Thompson

Willy Thompson
Deputy Solicitor

WWT/mac

MOSS JUSTICE CENTER
1675-1A YORK HIGHWAY • YORK, SOUTH CAROLINA 29745-7422
(803) 628-3020 • FAX: (803) 628-3025

STATE OF SOUTH CAROLINA	)	IN THE COURT OF GENERAL SESSIONS
	)	SIXTEENTH JUDICIAL CIRCUIT
COUNTY OF YORK	)	
	)	
	)	Indictment Nos.: 1998-GS-46-1015, -1016, -2192
The State,	)	
	)	
v.	)	
	)	
Joshua Cramer, #251406,	)	
	)	
Appellant.	)	
	)	

MEMO TO FILE

Upon receipt of the attached Order from The Supreme Court, the undersigned, as directed in Footnote 1, determined Joshua Cramer, Appellant, has filed with the York County Clerk of Court, two (2) motions. One motion was for reconsideration of his sentence on the above referenced indictments pursuant to Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (S.Ct. 2014). The second motion was for appointment of counsel. It appears these motions were filed but, based on Joshua Cramer's age as reflected in the respective files of the referenced indictments, the Clerk's office took no action on the motions and simply filed them.

After determining the filing of the two above noted motions, the undersigned met with Harry Dest, Esq., the Sixteenth Circuit Chief Public Defender. The undersigned and Mr. Dest deemed it appropriate to appoint the Public Defender to appear on Joshua Cramer's behalf relative to his Motion for Sentence Reconsideration pursuant to Aiken v. Byers, supra.

John C. Hayes, III
Chief Judge for Administrative Purposes

June 27, 2017
York, South Carolina

Cc: Clerk's File (Indictment Numbers: 1998-GS-46-01015, -01016, -02192
The Honorable Chief Justice Donald W. Beatty, Chief Justice S.C. Supreme Court
Harry A. Dest, Chief Public Defender, Sixteenth Judicial Circuit
Kevin Brackett, Solicitor, Sixteenth Judicial Circuit
Joshua Cramer, Appellent

The Supreme Court of South Carolina

The State, Respondent,

v.

Joshua Cramer, Appellant.

Appellate Case No. 2017-001286
Lower Court Case Nos. 1998-GS-46-01015, -01016, -02192

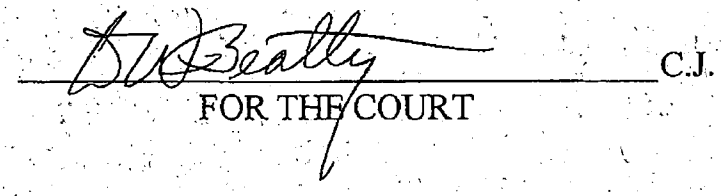
ORDER

In September 2016, Petitioner apparently tried to file a motion seeking resentencing under *Aiken v. Byars*, 410 S.C. 534, 765 S.E.2d 572 (2014), with the court of general sessions.[1] After a deputy circuit solicitor informed petitioner by letter that he was not eligible for a resentencing hearing, appellant has filed a notice of appeal from the "decision" of the deputy solicitor.

In a general sessions case, an appeal to this Court or the South Carolina Court of Appeals only lies from an order or judgment of the court of general sessions. S.C. Code Ann. §§ 14-3-330 and 14-8-200; Rule 203 of the South Carolina Appellate Court Rules (SCACR). Since no order has been issued by a circuit court judge regarding the motion for resentencing, this appeal is not proper, and the notice of appeal is hereby dismissed. The remittitur will be sent as provided by Rule 221,

[1] The Public Case Index for York County does not reflect that this motion has been entered in any of these cases. A copy of this order shall be provided to the Chief Judge for Administrative Purposes for the Sixteenth Judicial Circuit to determine if the motion for resentencing has in fact been filed in these cases, and if so, to ensure that it is processed in the manner specified by in the Administrative Order reported at 415 S.C. 460, 783 S.E.2d 534 (2016).

SCACR.



C.J.
FOR THE COURT

Columbia, South Carolina
June 7, 2017

cc: Mr. Joshua Kerr Cramer, #251406
Alan McCrory Wilson, Esquire
Solicitor Kevin S. Brackett
The Honorable John C. Hayes, III

The state of South Carolina County of York	)	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-2192
V.	)	
Joshua Cramer, #251406	)	NOTICE and MOTION FOR RESENTENCING PURSUANT TO Aiken v. Byars, Op. No. 27465 (S.C. Sup. Ct., Filed November 12, 2014)

FILED-RECEIVED
2015 SEP 23 AM 11: 30
DAVID HAMILTON
CLERK OF COURT
YORK COUNTY, SC

To: Kevin Brackett, Solicitor, Sixteenth Judical Circuit

NOW COMES, Joshua Cramer, the undersigned defendant, appearing pro se solely for the filing of the instant motion, hereby notifies the State of South Carolina that he will move this Honorable Court to be resentenced on the above-captioned Indictment numbers in light of the South Carolina Supreme Court decision in Aiken v. Byars, Op. No. 27465, filed November 12, 2014. In support of this motion the Defendant would show this Honorable Court the following:

1.) The Defendant's date of birth is May 2, 1979.

2. The Defendant was arrested for the offenses the subject of the above indictments on March 4, 1998 and was a teenager at the time of arrest; and

3.) The Defendant was sentenced following a plea on July 28, 1998, and received a sentence of Life without Parole, pronounced by Judge John C. Hayes, III.

CONCLUSION

WHEREFORE, based upon the foregoing facts and in light of Aiken v. Byars, Op. No. 27465, filed November 12, 2014, the undersigned Defendant, through counsel to be appointed, will move for resentencing of the July 28, 1998 sentence on the above indictment numbers.

Respectfully submitted,

Joshua Cramer

Date: Sept 17, 2015
Ridgeville, SC

Joshua Cramer
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472
Defendant, Pro Se

The state of South Carolina County of York	)	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-2192
V.	)	NOTICE and MOTION FOR APPOINTMENT OF COUNSEL FOR Aiken v. Byars RESENTENCING
Joshua Cramer, #251406	)	

FILED-RECEIVED
2015 SEP 23 AM 11:18
DAVID HAMILTON
CLERK OF C.C.S.
YORK COUNTY, S.C.

NOW COMES, Joshua Cramer, the undersigned Defendant, appearing pro se solely for the filing of the instant motion, hereby moves this Honorable Court to appoint counsel to represent the Defendant at a resentencing proceeding to correct the July 28, 1998 sentence imposed by this court, in light of the South Carolina Supreme Court decision in Aiken v. Byars, Op. No. 27465, (filed November 12, 2014). In support of this motion the Defendant would show this Honorable Court the following:

1.) The Defendant has entered a motion for resentencing before this Honorable Court;

2). The Defendant was represented at the July 28, 1998 sentencing on the above indictments by Thomas A. McKinney, Esquire;

3). The Sixth Amendment of the United States Constitution guarantees to all criminal defendants the right to the "Assistance of Counsel" in his defense, see Gideon v. Wainwright, 372 U.S. 335 (1963). The right to counsel attached at the initiation of adversarial judicial proceedings and extends to sentencing proceedings, see Williams v. Taylor, 529 U.S. 362 (2000);

4). That South Carolina Constitution Article 1, Section 14 and South Carolina Code of Laws section 17-23-60 (1976) guarantee a criminal defendant the right to counsel; and

5). In South Carolina, sentencing is a critical stage of trial that requires the assistance of counsel, see State v McGuinn, 268 S.C. 112, 232 S.E. 2d. 229 (1977).

The Defendant suggests that, out of an abundance of caution, counsel independent of original counsel to be appointed to represent the Defendant at the resentencing proceedings.

CONCLUSION

WHEREFORE, based upon the foregoing facts and law, Defendant respectfully moves this Honorable Court to appoint counsel to represent Defendant at the resentencing proceeding to be held by this Court in light of Aiken v. Byars.

Date: Sept. 17, 2015
Ridgeville, SC

Respectfully submitted,
Josh C
Joshua Cramer, Defendant, Pro Se
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472

The state of South Carolina County of York	)	IN THE COURT OF GENERAL SESSIONS SIXTEENTH JUDICIAL CIRCUIT
THE STATE	)	Indictment No.: 1998-GS-46-1015,-1016,-2192
V.	)	
Joshua Cramer, #251406	)	CERTIFICATE OF SERVICE

FILED-RECEIVED
2015 SEP 23 AM 11:39
DAVID HAMILTON
CLERK OF COURT
YORK COUNTY

The undersigned Defendant, Joshua Cramer, hereby certifies that he has served a true and correct copy of 1.) NOTICE and MOTION FOR RESENTENCING PURSUANT TO Aiken v. Byars, and 2.) NOTICE and MOTION FOR APPOINTMENT OF COUNSEL on counsel for the State of South Carolina by depositing a copy of the same in the United States Mail, first-class postage affixed thereto, this 18 day of Sept., 2015, addressed as follows:

Kevin Brackett
1675-1A York Highway
York, SC 29745

Joshua Cramer
251406
Lieber C/I, SA-17
PO Box 205
Ridgeville, SC 29472
Defendant, Pro Se

Joshua Cramer
#251406
Lieber C/I; SA-17
P. O. Box 205

Sept. 19, 2016

The Honorable David Hamilton
Clerk of Court, York County
P. O. Box 649
York, SC 29745

Re: Juvenile Re-sentencing
The State v. Joshua Cramer, #251406
Indictment No.: 1998-GS-46-1015, -1016, -2192

Dear Mr. Hamilton:

On Sept. 17, 2015 I submitted a NOTICE AND MOTION FOR RESENTENCING and a MOTION FOR APPOINTMENT OF COUNSEL to your office for filing. I also enclosed a SASE, requesting a clock-stamped copy of each document.

You responded with a letter dated Sept. 23, 2015 confirming that my motions were filed and a copy was forwarded to the solicitor's office.

I haven't heard anything since nor have I received anything in regards to appointment of counsel. If possible, can you please tell me the status of my motions or if anything has been filed in response.

Thank you.

Sincerely,

Josh C

Joshua Cramer

FILED-RECEIVED
2016 SEP 27 AM 10:43
DAVID HAMILTON
C.C.C.P.&G.S.
YORK COUNTY, SC

Judge Hall
I wasn't sure of
what to tell him
Thanks
Teresa

18 yoa at time
of arrest

CLERK OF COURT'S OFFICE
Post Office Box 649; York, South Carolina 29745

October 3, 2016

Joshua Cramer #251406
Lieber Corr Inst
PO Box 205
Ridgeville SC 29472

Our records indicate that you were 18 when you were arrested for the charges in this court, which may affect whether you qualify for juvenile resentencing. A copy of your letter and our reply letter are being forwarded to Deputy Solicitor Willy Thompson for further review.

General Sessions Division

The Supreme Court of South Carolina

The State, Respondent,

v.

Joshua Cramer, Appellant.

Appellate Case No. 2017-001286
Lower Court Case Nos. 1998-GS-46-01015, -01016, -02192

FILED-RECEIVED
2017 JUN -9 PM 1:06
DAVID HAMILTON
C.C.C.P. & GS
YORK COUNTY, SC

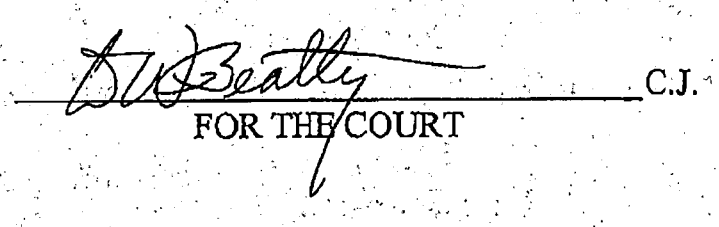
ORDER

In September 2016, Petitioner apparently tried to file a motion seeking resentencing under *Aiken v. Byars*, 410 S.C. 534, 765 S.E.2d 572 (2014), with the court of general sessions.[1] After a deputy circuit solicitor informed petitioner by letter that he was not eligible for a resentencing hearing, appellant has filed a notice of appeal from the "decision" of the deputy solicitor.

In a general sessions case, an appeal to this Court or the South Carolina Court of Appeals only lies from an order or judgment of the court of general sessions. S.C. Code Ann. §§ 14-3-330 and 14-8-200; Rule 203 of the South Carolina Appellate Court Rules (SCACR). Since no order has been issued by a circuit court judge regarding the motion for resentencing, this appeal is not proper, and the notice of appeal is hereby dismissed. The remittitur will be sent as provided by Rule 221,

[1] The Public Case Index for York County does not reflect that this motion has been entered in any of these cases. A copy of this order shall be provided to the Chief Judge for Administrative Purposes for the Sixteenth Judicial Circuit to determine if the motion for resentencing has in fact been filed in these cases, and if so, to ensure that it is processed in the manner specified by in the Administrative Order reported at 415 S.C. 460, 783 S.E.2d 534 (2016).

SCACR.



C.J.
FOR THE COURT

Columbia, South Carolina
June 7, 2017

cc: Mr. Joshua Kerr Cramer, #251406
Alan McCrory Wilson, Esquire
Solicitor Kevin S. Brackett
The Honorable John C. Hayes, III

STATE OF SOUTH CAROLINA	)	IN THE COURT OF GENERAL SESSIONS
	)	SIXTEENTH JUDICIAL CIRCUIT
COUNTY OF YORK	)	
	)	
	)	Indictment Nos.: 1998-GS-46-1015, -1016, -2192
The State,	)	
	)	
v.	)	
	)	
Joshua Cramer, #251406,	)	
	)	
Appellant.	)	

FILED-RECEIVED
2017 JUN 28 AM 10: 02
DAVID HAMILTON
C.C.C.P. & GS
YORK COUNTY, SC

MEMO TO FILE

Upon receipt of the attached Order from The Supreme Court, the undersigned, as directed in Footnote 1, determined Joshua Cramer, Appellant, has filed with the York County Clerk of Court, two (2) motions. One motion was for reconsideration of his sentence on the above referenced indictments pursuant to Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (S.Ct. 2014). The second motion was for appointment of counsel. It appears these motions were filed but, based on Joshua Cramer's age as reflected in the respective files of the referenced indictments, the Clerk's office took no action on the motions and simply filed them.

After determining the filing of the two above noted motions, the undersigned met with Harry Dest, Esq., the Sixteenth Circuit Chief Public Defender. The undersigned and Mr. Dest deemed it appropriate to appoint the Public Defender to appear on Joshua Cramer's behalf relative to his Motion for Sentence Reconsideration pursuant to Aiken v. Byers, supra.

John C. Hayes, III
Chief Judge for Administrative Purposes

June 27, 2017
York, South Carolina

Cc: Clerk's File (Indictment Numbers: 1998-GS-46-01015, -01016, -02192
The Honorable Chief Justice Donald W. Beatty, Chief Justice S.C. Supreme Court
Harry A. Dest, Chief Public Defender, Sixteenth Judicial Circuit
Kevin Brackett, Solicitor, Sixteenth Judicial Circuit
Joshua Cramer, Appellent

The Supreme Court of South Carolina

Joshua Cramer, Petitioner,

v.

State of South Carolina, Respondent.

York County

Docket No.: 1998-GS-46-01015, 01016, 02192

FILED-RECEIVED
2017 SEP -7 AM 9:53
DAVID HAMILTON
C.C.C.P. & GS
YORK COUNTY, SC

ORDER

Petitioner filed a motion on September 23, 2015 for resentencing pursuant to Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (SC 2014). Now, therefore, pursuant to SC CONST. Art. V, § 4,

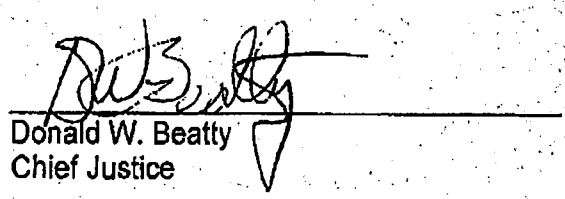
IT IS HEREBY ORDERED that the Honorable Grace Gilchrist Knie be vested with exclusive jurisdiction over the Petitioner's Motion for Resentencing in the above-captioned matter.

Judge Knie shall at all times be vested with concurrent jurisdiction in all circuits of the state to dispose of matters relating to this case, and shall decide all matters pertaining to the Petitioner's Motion, and shall retain jurisdiction over this matter regardless of where she may be assigned to hold court, and may schedule such hearings as may be necessary at any time without regard as to whether there is a term of court scheduled.

If necessary, to resolve issues related to the appointment of counsel, a hearing shall be conducted within thirty (30) days of this order.

cc: Kevin Brackett
: Melissa Inzerillo

Within sixty (60) days of the date of this order, Judge Knie shall issue a scheduling order setting forth the schedule that shall be followed in this matter, including the date of the hearing on the merits. The scheduling order may be amended as necessary.



Donald W. Beatty
Chief Justice

September 6, 2017
Columbia, South Carolina

STATE OF SOUTH CAROLINA)
) IN THE COURT OF GENERAL SESSIONS
COUNTY OF YORK)

STATE OF SOUTH CAROLINA,)
)
-vs-) ORDER TO APPOINT COUNSEL
) AND SCHEDULING ORDER
)
JOSHUA CRAMER,)
Defendant.)
)

FILED-RECEIVED
2017 OCT -2 PM 12: 08
DAVID HAMILTON
C.C.C.P. & G.S.
YORK COUNTY, SC

Case Numbers:
1998-GS-46-01015
1998-GS-46-01015
1998-GS-46-01015

The Supreme Court of South Carolina has assigned the undersigned judge to deal with resentencing the defendant pursuant to *Aiken v. Byars*, 410 S.C. 534, 765 S.E. 2d 572 (S.C. 2014). The court appoints the Public Defender's office to represent the defendant and directs that office to contact the defendant immediately and notify the court if there is any conflict of interest involved in the representation. Further, the court implements a scheduling order as set forth below.

By order dated September 6th, 2017, the Supreme Court designated the undersigned judge and provided that issues related to appointment of counsel be resolved, with any hearing needed on that issue to be held within 30 days, and directed that a scheduling order be implemented within 60 days. The following initial scheduling provisions are implemented.

cc: W. Thompson
M. Inzerillo

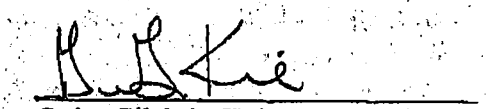
1) The Public Defender's office is to make contact with the defendant by October 12, 2017, and advise the court if there is any conflict of interest or dispute related to the appointment of counsel.

2) The Public Defender's office is to have initial funding requests for investigators and expert witnesses presented to the court within one month from today's date. Additional funding may be authorized, as needed.

3) A status conference will be held during the week of November 6, 2017. The law clerk for the undersigned judge will contact the attorneys within 10 days to establish a specific date, time, and place for the status conference. If the defense attorney needs for the defendant to be present, that must be communicated to the undersigned judge's office at least 14 days before the status conference in order to allow for the court to obtain a court reporter and to allow entry of an order to transport the inmate to the status conference.

4) At the status conference, the attorneys must be prepared to update the court and implement a timeline for the accomplishment of steps necessary to scheduling the resentencing hearing.

AND IT IS SO ORDERED.



Grace Gilchrist Knie
Circuit Judge, Seventh Judicial Circuit

September 26th, 2017
Spartanburg, SC

FILED-RECEIVED
2017 NOV 28 AM 10: 59
DAVID HAMILTON
C.C.C.P. & GS
YORK COUNTY

STATE OF SOUTH CAROLINA) IN THE SIXTEENTH JUDICIAL CIRCUIT
COUNTY OF YORK) COURT OF GENERAL SESSIONS

State of South Carolina,) RETURN TO DEFENDANT'S MOTION
v.) FOR RE-SENTENCING
Joshua Kerr Cramer,) Indi# 1998-GS46-01015 thru 1018 and 2192
Defendant.)

TO: MELISSA INZERILLO, AS ATTORNEY FOR THE DEFENDANT, JOSHUA KERR CRAMER:

The State, by way of Return to Defendant's Motion for Re-Sentencing, would submit the following in opposition to the Defendant's Motion for Re-Sentencing, as well as to fully develop the record of the proceedings in this case, should there be an appeal from this matter:

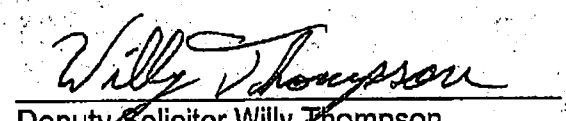
(1) The Defendant received the following sentences on each charge:

98-GS46-01015	Murder	LWOP
98-GS46-01015a	Poss Weap. Comm. Viol. Crime	no sentence
98-GS46-01016	Murder	LWOP consec
98-GS46-01016a	Poss Weap. Comm. Viol Crime	no sentence
98-GS46-01017	Distrib. Marijuana	5 years conc
98-GS46-01018	Arson 3d Degree	10 years conc
98-GS46-1019	Rec. Stolen Goods	Dism per plea
98-GS46-02192	Access. Before Fact to Felony	LWOP conc

(2) The State would move into the record all of the evidence and exhibits that were made a part of the facts in the guilty plea, as well as all statements made at the guilty plea on July 28, 1998.

(3) The State would argue the Defendant is not eligible for any re-sentencing and should not be entitled to a re-sentencing hearing under Miller v. Alabama, 132 S.Ct. 2455 (2012) or Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014) since he was not a minor at the time of the offense. The Defendant was eighteen (18) years old at the time of the offense (18 years 10 months). The Defendant's birthday is May 2, 1979, and the date of the offense is March 2, 1998. The Defendant does not meet the requirements of Miller v Alabama stated by the United States Supreme Court or Aiken v Byars stated by our South Carolina Supreme Court. Since the Defendant was an adult at the time he committed his crimes, this Court is without legal authority to conduct a re-sentencing hearing.

The State respectfully asks the Court to deny the Defendant's Motion for Re-Sentencing in this case.



Deputy Solicitor Willy Thompson
Sixteenth Judicial Circuit

York, South Carolina

November 6, 2017

FILED-RECEIVED
2017 NOV 27 PM 12: 07
DAVID HAMILTON
C.C.C.P. & GS
YORK COUNTY, SC

STATE OF SOUTH CAROLINA) IN THE COURT OF GENERAL SESSIONS
COUNTY OF YORK) FOR THE SIXTEENTH JUDICIAL CIRCUIT

The State,

v.

Joshua Kerr Cramer,

Defendant.

ORDER GRANTING STATE'S MOTION TO DISMISS DEFENDANT'S REQUEST FOR RESENTENCING

Indictment No.: 1998-GS-46-1015-1018
1998-GS-46-2192

This matter was before the Court on November 6, 2017, upon the Motion of the Defendant to be given an individualized sentencing hearing pursuant to Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014) and the State's Motion to Dismiss the Defendant's Motion. The Defendant was present and represented by Chief Circuit Public Defender for the Sixteenth Judicial Circuit, Harry A. Dest, and Assistant Public Defender, Melissa A. Inzerillo. The State was represented by the Deputy Solicitor for the Sixteenth Judicial Circuit, Willy Thompson. Pamela Green was the Court Reporter. The hearing was held before Grace Gilchrist Knie, Circuit Court Judge, Seventh Judicial Circuit, at the Spartanburg County Courthouse, 180 Magnolia Street, Spartanburg, SC.

PROCEDURAL HISTORY:

The Defendant in 2015 filed a timely Motion for Resentencing, for his case pursuant to Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014) and for the appointment of counsel. The State filed a Return to Defendant's Motion for Resentencing on November 6, 2017, requesting the Defendant's Motion for Resentencing be dismissed on several grounds. The State argued that the Defendant's date of birth is May 2, 1979. The incident date of the convicted crimes of Murder (2 counts), Possession of a Weapon During the Commission of a Violent Crime (2

CERTIFIED TRUE COPY
2017 NOV 27 PM 12: 15
DAVID HAMILTON
CLERK OF COURT
YORK COUNTY SC

counts), Distribution of Marijuana, Arson in the Third Degree, Receiving Stolen Goods, and Accessory Before the Fact to a Felony, is March 2, 1998. The Defendant was eighteen (18) years of age at the time the crimes were committed (18 years and 10 months). The State argued that the Defendant did not qualify for resentencing pursuant to the applicable law.

LAW:

The law of the United States Supreme Court and the law of the Supreme Court of South Carolina is as provided in Aiken v. Byers, 410 S.C. 534, 765 S.E.2d 572 (2014) and Miller v. Alabama, 567 U.S. 460, 132 S.Ct. 2455 (2012). In 2012, the South Carolina Supreme Court decided in its original jurisdiction whether a class of juveniles could be resentenced under the newly decided case, Miller v. Alabama. Aiken v. Byars, 410 S.C. 534, 765 S.E.2d 572 (2014). The Supreme Court of the United States mandated in Miller that sentencing courts consider youth as a mitigating factor when crimes were committed by juveniles. Miller v. Alabama, 567 U.S. 460, 132 S.Ct. 2455 (2012). A small group of plaintiffs were selected as part of a class of juveniles incarcerated at the time serving a life sentence. The questions before the South Carolina Supreme Court were whether the rule in Miller applied retroactively and whether that subclass of plaintiffs could be afforded an individualized sentencing hearing wherein the sentencing court could determine a sentence based on evidence presented on factors associated with youth and the circumstances of the crime. Aiken, 410 S.C. at 537, 538. The Court initially found that Miller was retroactive, paving the way for prior sentences to be reheard. Id. at 540. The Court further defined a juvenile in South Carolina as follows: "In South Carolina, pursuant to Section 63-19-20 of the South Carolina Code (2010), a juvenile is a person less than seventeen years of age. However, *Miller* extends to defendants under eighteen years of age and therefore

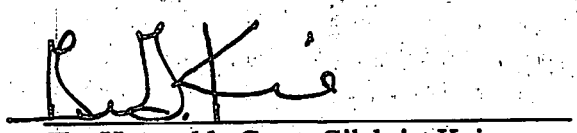
for the purposes of this opinion we consider juveniles to be individuals under eighteen." Id. at 535 n.1.

CONCLUSION:

The Defendant was not a juvenile under the age of eighteen (18) years old at the time of the offense. The Defendant did not present any evidence or testimony on the issue of his age at the time of the incident to contest this information at the hearing.

Based upon the State's argument, the Court grants the State's Motion to Dismiss the Defendant's Request for Resentencing because the Defendant was not a juvenile under the age of eighteen (18) years old at the time of the incident.

IT IS SO ORDERED!



The Honorable Grace Gilchrist Knie
Circuit Court Judge
Seventh Judicial Circuit

November 20, 2017
Spartanburg, South Carolina

STATE OF SOUTH CAROLINA)
)
COUNTY OF YORK)

INDICTMENT

At a Court of General Sessions, convened on April 23, 1998 the Grand Jurors of York County present upon their oath:

MURDER

That Joshua K. Cramer did in York County on or about the late evening hours of March 2, 1998 through the early morning hours of March 3, 1998, with malice aforethought, kill one Marcus Hinton by means of shooting the said victim with a firearm and said victim died as a result thereof, all in violation of Section 16-3-10, South Carolina Code of Laws, (1976, as amended).

POSSESSION OF A FIREARM DURING THE COMMISSION OF A VIOLENT CRIME

That Joshua K. Cramer did in York County on or about the late evening hours of March 2, 1998 through the early morning hours of March 3, 1998, possess a firearm or visibly display what appeared to be a firearm during the commission of a violent crime, to wit: the Murder of Marcus Hinton, all in violation of Section 16-23-490, Code of Laws of South Carolina (1976, as amended).

Against the peace and dignity of the State, and contrary to the statute in such case made and provided.

J E Pope
SOLICITOR

WITNESSES

YCSD/Misle

ARREST WARRANT NUMBER

Count One: F337523 ✓

Count Two: F337529 ✓

ACTION OF GRAND JURY

TRUE BILL

Ruby Freeman

Foreperson of Grand Jury

4/23/98

VERDICT

Foreperson of Petit Jury

Date:

DOCKET NO. 98-GS-46- 1015

The State of South Carolina

County of York

COURT OF GENERAL SESSIONS

April 23, Term 1998

THE STATE

vs.

JOSHUA K. CRAMER

Indictment for

MURDER

SC Code: 16-3-10
CDR Code: 0116

POSSESSION OF A FIREARM DURING THE COMMISSION OF A VIOLENT CRIME

SC Code: 16-23-490
CDR Code: 1245

After being fully advised as to my legal rights, I hereby waive presentment to the Grand Jury.

Defendant

I Joshua K. Cramer hereby appear in my own proper person and plead guilty to the within indictment or to

as charged

x Joshua K Cramer
Defendant

Witness: Teresa Scoggins Clerk II

C.C.C. PLS. AND G.S.

STATE OF SOUTH CAROLINA

Jail

COUNT NO: _____

COUNTY OF YORK

CASE NO: 98 GS-46- 1015

THE STATE
VS
Joshua K. Cramer

WARRANT NO: F-337523
CHARGE: Murder
#0116

The sentence of the Court is that Joshua K. Cramer, the defendant named in this indictment be confined to the State Board of Corrections/York County Detention Center for a term of Life Without Parole (AND) (OR) pay a fine of $_____ : provided that upon the service of _____ (and)(or) payment of $_____ plus (pay) (waive) cost and assessments as applicable * , the balance is suspended and the defendant is placed on probation for _____ (months) (years).

RESTITUTION: (YES) (NO)

PHYSICAL INJURY $_____

HEARING HELD OR WAIVED ON: _____

(and) (or)

PROPERTY DAMAGE $_____

PAYABLE TO CLERK FOR (VICTIM) _____

TOTAL $_____

SPECIAL CONDITIONS OF PROBATION AND/OR SENTENCE: _____

Negotiated Plea
Recommended Sentence

DATE: 07-28-98

YORK, SOUTH CAROLINA

Presiding Judge

*COST AND ASSESSMENTS:	FINE	$
	ACADEMY	$
	C.C.A.	$100.00
	L.C.F.	$
	C.A.T.	$
	OTHER	$
	GRAND TOTAL	$100.00

David Hamilton
Clerk of Court

Date of Birth [redacted]
Social Security [redacted]
Driver's License: N/A

COPY RECEIVED BY: X Joshua K Cramer
Defendant

ATTORNEY FOR DEF: Tom McKinney
ADDRESS: 984 Meadowlakes Rd
Rock Hill, SC 29730

M F
B W

WHITE - Clerk PINK - Detention YELLOW - Probation Dept. BLUE - Defendant's Copy

STATE OF SOUTH CAROLINA
290

Jail

COUNTY OF YORK

COUNT NO: _____

CASE NO: 98 GS-46- 1015 (A)

THE STATE
VS
Joshua K. Cramer

WARRANT NO: E-337519
CHARGE: Poss. of A Firearm During the Comm of A Violent Crime #1245

The sentence of the Court is that Joshua K. Cramer, the defendant named in this indictment be confined to the State Board of Corrections/York County Detention Center for a term of ~~Life (5) Years~~ (AND) (OR) pay a fine of $_____ : provided that upon the service of _____ (and)(or) payment of $_____ plus (pay) (waive) cost and assessments as applicable * , the balance is suspended and the defendant is placed on probation for _____ (months) (years).

RESTITUTION: (YES) (NO)

PHYSICAL INJURY $_____

HEARING HELD OR WAIVED ON: _____

(and) (or)

PROPERTY DAMAGE $_____

PAYABLE TO CLERK FOR (VICTIM) _____

TOTAL $_____

SPECIAL CONDITIONS OF PROBATION AND/OR SENTENCE:

No sentence pursuant to 16-23-490 (A) as Defendant has been sentenced to life without parole for violent crime of Murder

Negotiated Plea
Recommended Sentence

DATE: 07-28-98

John Hayes
Presiding Judge

YORK, SOUTH CAROLINA

*COST AND ASSESSMENTS:

FINE	$	
ACADEMY	$	
C.C.A.	$	100.00
L.C.F.	$	
C.A.T.	$	
OTHER	$	
GRAND TOTAL	$	100.00

David Hamilton
Clerk of Court

Date of Birth [redacted]
Social Security [redacted]
Driver's License: N/A

COPY RECEIVED BY: Joshua K Cramer
Defendant

ATTORNEY FOR DEF: Tom McKinney
ADDRESS: 984 Meadowlakes Rd
Rock Hill, SC 29730

M / F
B / W

WHITE - Clerk PINK - Detention YELLOW - Probation Dept. BLUE - Defendant's Copy

STATE OF SOUTH CAROLINA)
)
COUNTY OF YORK)

INDICTMENT

At a Court of General Sessions, convened on April 23, 1998 the Grand Jurors of York County present upon their oath:

ARSON 3RD DEGREE

That on or about late evening hours of March 2, 1998 through the early morning hours of March 3, 1998, Joshua K. Cramer did in York County wilfully and maliciously cause an explosion, set fire to, burn or cause to be burned an automobile, to wit: a 1992 Honda Accord, green in color, registered to Jennifer Lambright, all in violation of §16-11-110(C)(1), Code of Laws of South Carolina, (1976, as amended).

Against the peace and dignity of the State, and contrary to the statute in such case made and provided.

JE Pope
SOLICITOR

WITNESSES

YCSD/Hager

ARREST WARRANT NUMBER

F337531

ACTION OF GRAND JURY

TRUE BILL

Robert Freeman

Foreperson of Grand Jury

Date: 4/23/98

VERDICT

Foreperson of Petit Jury

Date:

292

DOCKET NO. 98-GS-46- 1018

The State of South Carolina

County of York

COURT OF GENERAL SESSIONS

April 23, Term 1998

THE STATE

vs.

JOSHUA K. CRAMER

Indictment for

ARSON - 3RD DEGREE

SC Code: 16-11-110(C)
CDR Code: 0008

After being fully advised as to my legal rights, I hereby waive presentment to the Grand Jury.

Defendant

I Joshua K. Cramer hereby appear in my own proper person and plead guilty to the within indictment or to as charged

X Joshua K Cramer
Defendant

Witness: Polly Boles Clerk III
C.C.C. PLS. AND G.S.

STATE OF SOUTH CAROLINA Jail

COUNTY OF YORK

COUNT NO: _____

CASE NO: 98 GS-46- 1018

WARRANT NO: F-337531

CHARGE: Arson 3rd Degree #0008

THE STATE
VS
Joshua K. Cramer

The sentence of the Court is that Joshua K. Cramer, the defendant named in this indictment be confined to the State Board of Corrections/York County Detention Center for a term of Ten (10) YEARS (AND) (OR) pay a fine of $_____ : provided that upon the service of _____ (and)(or) payment of $_____ plus (pay) (waive) cost and assessments as applicable * , the balance is suspended and the defendant is placed on probation for _____ (months) (years).

RESTITUTION: (YES) (NO)

HEARING HELD OR WAIVED ON: _____

PAYABLE TO CLERK FOR (VICTIM) _____

PHYSICAL INJURY $_____

(and) (or)

PROPERTY DAMAGE $_____

TOTAL $_____

SPECIAL CONDITIONS OF PROBATION AND/OR SENTENCE: Concurrent

DATE: 07-28-98

Negotiated Plea
Recommended Sentence

YORK, SOUTH CAROLINA

*COST AND ASSESSMENTS:

FINE	$
ACADEMY	$
C.C.A.	$ 100.00
L.C.F.	$
C.A.T.	$
OTHER	$
GRAND TOTAL	$ 100.00

John C Hayes III
Presiding Judge

David Hamilton
Clerk of Court

Date of Birth [redacted]
Social Security [redacted]
Driver's License: N/A

COPY RECEIVED BY: X Joshua K Cramer
Defendant

ATTORNEY FOR DEF: Tom McKinney
ADDRESS: 984 Meadowlakes Rd.
Rock Hill, SC 29730

(M) F
B (W)

WHITE - Clerk PINK - Detention YELLOW - Probation Dept. BLUE - Defendant's Copy

STATE OF SOUTH CAROLINA)
)
COUNTY OF YORK)

INDICTMENT

At a Court of General Sessions, convened on June 18, 1998 the Grand Jurors of York County present upon their oath:

ACCESSORY BEFORE THE FACT

That Joshua Kerr Cramer did in York County on or about March 3, 1998, wilfully and unlawfully counsel, hire or otherwise procure the commission of a felony, to wit: the Murder of Gregory J. Sims by the principal felon: Murray Roger Adkins, III. All in violation of §16-1-40 of the Code of Laws of South Carolina, (1976, as amended).

Against the peace and dignity of the State, and contrary to the statute in such case made and provided.

SOLICITOR

296

WITNESSES

ager/YCSD

ARREST WARRANT NUMBER

irect Indictment

ACTION OF GRAND JURY

oreperson of Grand Jury
ate:

VERDICT

oreperson of Petit Jury
ate:

DOCKET NO. 98-GS-46- 2192

The State of South Carolina

County of York

COURT OF GENERAL SESSIONS

June 18, Term 1998

THE STATE

vs.

JOSHUA KERR CRAMER

Indictment for

ACCESSORY BEFORE THE FACT

SC Code: **16-1-40**
CDR Code: **002**

After being fully advised as to my legal rights, I hereby waive presentment to the Grand Jury.

x Joshua K Cramer
Defendant

I Joshua K. Cramer
hereby appear in my own proper person and plead guilty to the within indictment or to

as charged

x Joshua K Cramer
Defendant

Witness: Polly Baker clerk III
C.C.C. P.L.S. AND G.S.

STATE OF SOUTH CAROLINA 298

COUNTY OF YORK

COUNT NO: _____

CASE NO: 98 GS-46- 2192

WARRANT NO: Direct Indictment

CHARGE: Accessory Before the Fact of Mur #0002

THE STATE
VS
Joshua Ken Cramer

The sentence of the Court is that Joshua Ken Cramer, the defendant named in this indictment be confined to the State Board of Corrections/York County Detention Center for a term of Life without Parole (AND) (OR) pay a fine of $_____ : provided that upon the service of _____ (and)(or) payment of $_____ plus (pay) (waive) cost and assessments as applicable * , the balance is suspended and the defendant is placed on probation for _____ (months) (years).

RESTITUTION: (YES) (NO)

HEARING HELD OR WAIVED ON: _____

PAYABLE TO CLERK FOR (VICTIM) _____

PHYSICAL INJURY $_____

(and) (or)

PROPERTY DAMAGE $_____

TOTAL $_____

SPECIAL CONDITIONS OF PROBATION AND/OR SENTENCE: consecutive

DATE: 07-28-98

Negotiated Plea
Recommended Sentence

YORK, SOUTH CAROLINA

*COST AND ASSESSMENTS:

FINE	$	
ACADEMY	$	
C.C.A.	$	100.00
L.C.F.	$	
C.A.T.	$	
OTHER	$	
GRAND TOTAL	$	100.00

Presiding Judge

Clerk of Court

Date of Birth [redacted]

Social Security [redacted]

Driver's License: N/A

COPY RECEIVED BY: Joshua K Cramer
Defendant

ATTORNEY FOR DEF: Tom McKinney
ADDRESS: 984 Meadowlakes Rd
Rock Hill SC 29730

M / F
B / W

WHITE - Clerk PINK - Detention YELLOW - Probation Dept. BLUE - Defendant's Copy

CERTIFICATE OF COUNSEL FOR APPELLANT

Counsel for appellant certifies that this Record on Appeal contains all material proposed to be included by any of the parties and not any other material and that this Record on Appeal complies to the best of my ability with the April 15, 2014 order from the South Carolina Supreme Court entitled "Revised Order Concerning Personal Identifying Information and Other Sensitive Information in Appellate Court Filings."

Respectfully Submitted,

Susan B. Hackett
Appellate Defender

South Carolina Commission on Indigent Defense
Division of Appellate Defense
PO Box 11589
Columbia, S.C. 29211-1589

ATTORNEY FOR APPELLANT

This 26th day of February, 2019.

RECEIVED
FEB 26 2019
SC Court of Appeals