



Forensic assessment of criminal maturity in juvenile homicide offenders in the United States

Michael Welner^{a,b,*}, Matt DeLisi^{b,c}, Heather M. Knous-Westfall^b, David Salsberg^b, Theresa Janusewski^b

^a Department of Psychiatry, Icahn School of Medicine at Mt. Sinai, United States

^b The Forensic Panel, United States

^c Iowa State University, United States

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ABSTRACT

The United States Supreme Court in *Jones vs. Mississippi (2021)* reinforced the *Miller* decision to allow sentencing judges the discretion to determine whether individuals convicted of murder under age 18 warrant a life sentence. The *Miller* decision dictates individualized sentencing, citing psychosocial disadvantages, immaturity, potential evolving risk, and how these qualities differ for each defendant. Since the *Miller* decision, mental health professionals routinely submit forensic reports as part of prisoners' petitions to courts for reconsideration of their life sentences, either at the request of defense attorneys or prosecutors. This tracks a well-established practice of pre-sentencing evaluations. The expressions of immaturity in crime are not; however, accounted for in the same way that expressions of major mental illness reference years of crime-specific research and diagnostic standardization. For this reason, forensic assessments in this emerging area remain unguided and vulnerable to bias. Here, we present a guide containing 38 questions in seven developmental domains for individualized assessment and 50 questions spanning five domains that relate to the details of the crime. Our qualitative guidelines for assessment of the relevant domains of criminal maturity and offender prognosis draw on the forensic psychiatry, forensic pathology, developmental psychopathology, and criminological literatures, our experiences in comparative research of murder, sex assault and other crimes, as well as decades of experience in forensic assessment. A complete assessment of the offender should include questions in the developmental, scholastic/vocational, social, interpersonal, traumas, antisocial history, and psychiatric/medical domains. We also present recommended questions for assessing the details of the crime to more fully and accurately inform the individualized sentencing requirement in *Miller* cases.

1. Introduction

The United States Supreme Court decision in *Miller v. Alabama*, 567 U.S. 460 (Miller & 567, 2012) abolished mandatory life without parole (LWOP) sentencing for convicted homicide offenders under 18. The *Miller* court ruled that while courts could continue to sentence juveniles convicted of murder to life imprisonment without parole, such sentencing was to be discretionary. In the words of Justice Kagan, this would allow courts to consider the possibility of "lessened culpability" and "capacity for change." Sentencing courts were to consider the potential significance of an offender's youth, development, background and attendant characteristics such as incorrigibility, before imposing a penalty.

In *Montgomery vs. Louisiana*, 577 U.S. _ (Montgomery & 577, 2016) the Supreme Court held that the *Miller* decision on mandatory life sentencing for convicted juvenile homicide offenders would apply retroactively. The *Montgomery* decision allowed many youths convicted of homicide to seek reconsideration of their earlier life sentences. Courts have since been confronted with the challenge of applying that discretion from one case to the next, now to include cases of those who committed murder years ago. In addition, other persons convicted of homicide whose offense occurred at age 18 and even older have petitioned for reconsideration of their life sentences based on claims of their own immaturity, asserting that the *Miller* Court's distinction of the developing brain applies to them as well.

More recently, the United States Supreme Court in *Jones vs.*

* Corresponding author. The Forensic Panel, United States.

E-mail address: drwelner@forensicpanel.com (M. Welner).

Mississippi, 593 U.S. __ (Jones, 2021, p. 593) reinforced the *Miller* decision to allow sentencing judges the discretion to determine whether individuals convicted of murder under 18 warrant a life sentence. The *Jones* Court held that no additional hearing or written accounting for future dangerousness was needed once the trial court, at its discretion, accounts for the mitigating significance of a specific defendant's youth.

What remains for sentencing courts is a challenge of fairness in justice: The *Miller* decision dictates individualized sentencing, because juvenile defendants may not have been as fully developed as they would be as adults. Courts now make decisions based on an assessment of those distinctions, and which may warrant more lenient punishment for murder.

How do courts go about informing such discretion in such a way that it does not decay into the arbitrariness that some defendants are treated more favorably for reasons that have more to do with socioeconomic reasons, the quality or persuasiveness of their attorneys, or some other unintended bias source (see, Welner & Delfs, 1997; Welner, 2001; Welner, 2003)? Based on our experience, training, and understanding, the solution rests in reliance upon evidence-driven decision-making. The framework for such inquiry derives from the well-established methodology of pre-sentencing inquiry conducted by forensic psychiatry and psychology professionals, from a professional's review of records, interview of the examinee and collateral sources, along with testing (when necessary). The *Miller* decision tracks the expectations of clinical and forensic mental health; that each individual possesses distinct strengths, weaknesses, potentials and disadvantages and these are determined by individual historical and diagnostic assessment. The *Miller* Court emphasizes the uniqueness of each homicide offender, the offense itself, the offender's background, and the offender's subsequent course.

Since the *Miller* decision and the *Montgomery* decision to apply *Miller* retroactively, mental health professionals scores of prisoners have petitioned courts to reconsider their life sentences because of their immaturity at the age of their offense. Their petitions, as well as those in current pre-sentencing stages, invariably present psychiatric and psychological evaluations that opine on psychosocial disadvantage, immaturity, and/or future risk, similar to pre-sentencing evaluations of capital defendants and selected others who plead guilty.

Forensic assessment on mental state at the time offense is dependent on behavioral, emotional, functional and developmental history (Heilbrun & Collins, 1995; McLaughlin & Kan, 2014), and guidance from the defendant and other collateral informants and data on a defendant's decision-making as it related to the instant offense. In cases in American courts where the defendant was convicted of murder as a juvenile, the expressions of immaturity are not accounted for in the same way that expressions of psychosis, brain injury, dissociation, or syndromes such as PTSD, bipolar illness, or personality disorder are. The available forensic psychiatry, developmental psychopathology, and criminological literatures demonstrate that adolescents convicted of homicide offenses exhibit multiple psychosocial deficits, drug abuse, mental illness, or behavioral disorders (Caudill & Weir, 2018; Fox et al., 2021; Hubbell et al., 2022; Meloy et al., 2004; Slemaker et al., 2021). Some juveniles convicted of homicide offenses may be at higher risk for persistent offense in the community, and even a higher risk to commit homicide once released (Ahonen et al., 2016; DeLisi et al., 2019; Loeber et al., 2005).

An individual's background, history, and personality, gathered through case review, careful interview of the defendant and query of collateral informants, inform both an appreciation for what is mitigating and what contributes to future risk. Diligent examination assists in identifying distinctive backgrounds that might be relevant to a homicide trajectory that mitigates punishment as well as that indicates future behavioral risk. The most salient diagnostic data informing a criminal defendant's maturity is developmental and behavioral history based on evidence of continuity in behavior (Caspi, 1993, 2000; Motz et al., 2020; Walters, 2020). Based on our several decades of consulting experiences,

the two essential components of history that distinguish one juvenile offender from another are 1) details of the crime itself, and 2) one's personal background. Fully accounted and corroborated history yields a reliable and valid individualized assessment that authentically informs a court's discretion. The offender's background includes data from developmental, scholastic, social, interpersonal, trauma, antisocial history, medical, psychiatric, drugs, alcohol, and vocational domains (Grisso, 2003, 2013; Heilbrun et al., 2009; Slemaker et al., 2021) to provide a holistic profile of the defendant's behavioral history.

The impact of potential evaluator bias is counterbalanced by the quality and quantity of history about the crime and the defendant's background (cf., Dannerbeck Janku & Yan, 2009; Neal & Grisso, 2014; Welner, 2003). Evidence in behavioral sciences is often history communicated by an offender, witness or collateral informant. Unlike other forensic science evidence relied upon by courts, individual offenders and litigants are invested in impression management. Memory distortion and erosion or personal conflicts may also contaminate that evidence. In criminal and civil proceedings in many courts in the United States, information is corroborated and validated by videotaping the defendant interview, external corroboration from authenticated physical evidence, and interview of collateral sources (APA, 2013; Borum et al., 1993). Moreover, the cosmetic aspects of this impression management are native to forensic mental health assessment. Given the potential legal consequences, it is also a major challenge to the reliability and validity of interview evidence. Unlike other evidence, interview evidence may be actively elusive and distort its appearance.

Accounting for developmental and behavioral history protects from validity threats that undermine the authenticity of evidence and its fidelity to the facts (APA, 2013). Because history is paramount, the understanding of the individual defendant should be informed on the case investigative level. For instance, unrestricted access to the smartphone of the defendant and other related actors provides abundant, critically relevant and valid contemporaneous data uncorrupted by adversarial positioning. This digital evidence is the most diagnostic psychological source material available to assess emotional, cognitive, and behavioral understanding (Coffey et al., 2018; also see, Appelbaum & Kopelman, 2014). Psychological testing is a staple of presentencing evaluations and provides a source of valid, standardized data to which one can be compared to peers. Some qualities that may not reflect in psychological testing but nevertheless manifest in the decision-making and actions of the crime itself.

Here, we present guidelines containing 38 questions in seven developmental domains for individualized assessment and 50 questions spanning five domains that relate to the details of the crime. Our guide for individualized assessment of the relevant domains of criminal maturity and offender prognosis in *Miller* resentencing cases drawing on the forensic psychiatry, developmental psychopathology, and criminological literatures and our consultant experiences. Although there are differing perspectives about videotaping forensic assessments (Harrison, 1987; Siegel & Kinscherff, 2018; Wettstein, 2005), we assert that every effort should be made to corroborate and validate the data gathered by videotaping the interview with the defendant and by interviewing collateral sources. In fact, some states including Colorado and Illinois now mandate videotaping forensic mental health assessments.

2. The homicide event

The Supreme Court in *Roper* (2005) and *Graham* (2010, p. 48) required sentencing authorities to consider details of the offense. The pertinent details of the crime's antecedents, the specifics of the crime, the defendant's relatedness to the victim, other factors influencing the criminal offender, and the crime's aftermath provide core data necessary for individualized assessment (APA, 2013; Heilbrun et al., 2003, 2004, 2009; Kruh & Brodsky, 1997). Individualized assessment that probes motive and the criminal behavior is an important application of forensic interview.

Such an evaluation involves applying established forensic science and criminology understanding to confirmed history, behavioral evidence, testing data, the interview, and other background and collateral information, such as that yielded from witness interviews and smart phone data. A forensic scientist’s responsibilities do not allow the presumption of motive or biases about what one believes adolescents are capable of, but include deconstruction of the crime, the defendant, and a homicide’s antecedents. From a behavioral science perspective, a crime is best appreciated through biographical and psychopathological information as well as the individual’s decision-making and actions preceding the crime, the victim chosen and why, actions of the crime and why they were taken, and one’s attitude after the fact (Chopin & Beauregard, 2020; Heide, 2021; Welner et al., 2018). Probing of the antecedents of a criminal act, including of its motive, are an important data point for discretion consideration. Case facts and evidence are the basis for any scientific conclusion. Theory is accountable to case facts and evidence, or is abandoned for lack of informative value. Recommended questions for assessing the details of the crime appear in Table 1.

3. Recommendations

A complete assessment of the offender should also include questions in the following domains: developmental, scholastic/vocational, social, interpersonal, trauma, antisocial history, and psychiatric/medical.

4. Developmental

A mélange of developmental risk factors is consistently present among juvenile homicide offenders. These factors include family dysfunction, family violence, divorce and parental abandonment, sibling and parental criminal activity, and varied forms of abuse and neglect (Heide & Solomon, 2009; Marleau et al., 2006; Myers et al., 1995, 1998; Trulson et al., 2016). Many of these developmental features correlate with continued conduct problems into and across adulthood.

Studies of juveniles convicted of homicide offenses indicate that developmental problems in the family and rearing environment are endemic to this population. A forensic study of juveniles who perpetrated murder prior to or during adolescence reported that 91% had negative relationships with male caretaker, 55% had family psychiatric problems, 36% reported family drug and alcohol problems, 64% had residential instability, 82% experienced physical or emotional abuse, and 45% had a domineering mother. Among 28 youth who murdered during adolescence (ages 13–17), the prevalence of these same developmental problems was comparable or worse than among the younger juvenile homicide offenders (Shumaker & Prinz, 2000).

Cross-national research supports the troubling developmental profile of youth convicted of murder. Empirical study of the entire population of juvenile homicide offenders in the Netherlands between 1992 and 2007 reported 137 persons convicted of murder with a severe developmental profile and recidivism after their murder conviction (Vries & Liem, 2011). Most of the former juvenile homicide offenders had poor self-control, high psychopathology, problematic family backgrounds, and associated with other delinquent peers. Drug and weapons history were commonplace and the average juvenile convicted of a homicide offense had three prior arrests and initiated their delinquent career at age 15. After release from custody following their murder conviction, 59% recidivated and 20% of the new criminal acts were for violent offenses.

5. Recommended developmental questions

1. What are the most impactful events, afflictions, or enduring experiences of the offender’s life, in the years prior to the crime? How was the offender affected? How were others in his support system affected? How did the events shape the offender’s relatedness to others and to experiences to come?

Table 1
Questions for Assessment of the Details of the Crime.

Domain	Recommended Questions
Crime’s Antecedents	<ul style="list-style-type: none"> • How did the victim come to be targeted? What judgement and planning went into that decision? • Was the crime premeditated or impulsive? If premeditated, for how long? • If impulsive, what was the trigger of the impulse, and when did it happen? • Did emotional intensity contribute to the homicidal decision? How so? When was its onset? What was its duration, and how did it evolve? • What options did the offender consider as an alternative to murder? • Was the motivation affected by vengeance, or retaliation? For what? How so? • Was the emotion motivating the crime based on a reaction more characteristic of an immature adolescent? Or, does that emotion reflect emotional reactions not different from pathological adult reactions to similar circumstances, such as romantic rejection? • Did the perpetrator heed another’s warning or advice not to offend? How was that influence expressed, and how was it resisted or ignored? • Does this crime reflect motivation based on reward? If reward, immediacy of reward with disregard of risk? What risks were known to the offender and disregarded in commission of the crime, and why? • If the crime was reward driven, did it involve a reward that would be meaningful to children and teenagers or a reward that would be desirable for an adult?
Specifics of the Crime	<ul style="list-style-type: none"> • Did the offender enlist others to participate in the crime? In what role? • Does the crime reflect irresponsibility beyond breaking the law? How so? • Does the crime demonstrate calculated and thoughtful efforts to avoid detection, or an absence of same? How so? • To what degree does the crime demonstrate sensation seeking, rather than purposeful behavior? Is this sensation-seeking different from what one experiences in a sensation-seeking adult? • Does the crime reflect that the offender has learned modus operandi based on his maturation, research, study, or exposure, or that his modus operandi is clumsy and uncultivated? • What aspects of the modus operandi reflect optimization from an earlier offense of the same nature? • Does the crime reflect impetuosity? How so? Impetuous to a degree that one could consider, developmentally and in the context of group antisocial behavior, that the offender would grow out of such impetuosity? • Does the crime reflect recklessness? How so? Was a risk taken in this crime that an adult would not be expected to take? How so? If so, can this be distinguished from errors or sloppiness that are customary to impeding the perfect crime, and characterize most crimes in one way or another? • Was there a sense of immediacy to the offender’s intent such that, whether impulsive or not, the examiner believes an adult would not have acted with the same immediacy? Or was the atmosphere charged enough that adults with similar deviance or motivation would have acted with the same immediacy? • Does the crime demonstrate impulsivity that reflects a lack of mature behavioral control? Would a mature person think better of the action? How so? Or was the impulsivity borne of more character influences that would continue to

(continued on next page)

Table 1 (continued)

Domain	Recommended Questions
	<ul style="list-style-type: none"> compel a criminal act, such as predation, entitlement, or grudge bearing? • Is there evidence of a high degree of agitation before or during the crime? How so? • Did the perpetrator offend alone? What was the role or influence of any others on the decision to offend or the nature of the offense? Would the offender not have committed the crime if not for the influence of others? Or, did the offender influence other to collaborate in the crime or otherwise assist efforts? • What is known about the peers present at the crime, or their contact prior to the crime with the perpetrator? Were they friends? Associates? What were the ages of those peers, their personalities, and their antisocial pedigree? Did the peers have an encouraging, support, or redirecting role in the crime? • How loyal was the offender to peers involved in the crime? How dependent was the offender on peers involved in the crime? • Did the offender show off to others during the crime? How so? • Does the crime reflect callousness or an emotionless offense? • How cultivated a level of social deviance is this crime? • Does the crime demonstrate evidence for sexual deviance? Of what nature? • Does the crime reflect the perpetrator's identity, or a deviant character? How so? • Does the crime parallel a socially deviant home in which the offender lived, or not? • Does the crime and defendant reflect an absence of qualities that would be expected to develop? • To what degree does the crime reflect symptoms of conditions that rise in childhood and adolescence and do not necessarily persist well into adulthood?
Relatedness to the Victim	<ul style="list-style-type: none"> • How did the victim and perpetrator know each other?
Crime's Aftermath	<ul style="list-style-type: none"> • What did the offender envision would happen after the crime? • What did the offender do to plan to get away with the crime? • What were the offender's actions after the crime? Did the offender stage or alter the scene in order to contaminate an understanding of what happened, such as by staging a suicide or accident, for example? • Did the offender demonstrate regret before being captured? Or did the offender relish the offense? For what? • Did the offender boast of the crime afterward? To whom? In what context? • Did the offender memorialize the crime afterward? How? • What did the offender do to evidence to prevent its discovery? • What did the offender do to prevent being revealed to police? Did this involve threats to others, or other violence? How? • How did the offender come to be identified and arrested? • How did the offender communicate to the police, in questioning? • What was the nature of the offender's participation with the defense team? • What about the offender's later reaction to the crime reflects maturing as opposed to a regret for the consequences of being incarcerated? • Did the offender draw closer to deviant peers in custody, or find a more mature and/or less alienated peer group? • What rehabilitation programs did the offender participate in? Rehabilitation for what? When?

Table 1 (continued)

Domain	Recommended Questions
	<ul style="list-style-type: none"> What impact did this program have, in terms of alienation from an offender's lifestyle? • What evidence in the offender's post-arrest course reflects upon maturation, as opposed to adaptation to incarceration that would be expected of any other adult in the same circumstance? • If, after participating in a rehabilitation program, the offender was thought to be of a lower risk for re-offense, what is the best explanation for why the offense occurred?
Other Factors Influencing the Criminal Offending	<ul style="list-style-type: none"> • How are social and environmental influences, such as family, siblings, peers, schools, communities, media, and social media otherwise accounted for as influences to the crime?

2. What is the structure of the offender's nuclear family? What is the quality of the offender's relatedness to each parent?
3. Did the offender's mother have any particular difficulty in pregnancy? Was the offender's mother using or abusing drugs or alcohol during pregnancy? What medical problems arose pre and perinatally?
4. Was any parent afflicted with psychiatric illness? Presenting with what symptoms?
5. Have parents been involved in rearing, and how? What was the structure in the home? How was discipline administered, and for what? Were others involved in a meaningful way? How constructive and counterproductive are their roles and actions? How engaged or disengaged?
6. What can be understood of the offender's siblings, and their own adaptive, law-abiding, age-appropriateness?
7. Did the family living environment change to any significant degree? How often? When? What were the circumstances?
8. Who in the offender's family was arrested? How did that person influence the offender, as the offender was growing up? What and how did that person influence in the offender about criminal activity, and its advantages and disadvantages?

6. Scholastic and vocational

Scholastic aptitude and scholastic behaviors are important considerations for future behavior. Longitudinal research (Spengler et al., 2018) shows that higher interest in school and responsible student behaviors predict adult behavioral functioning 11 years and 50 years after high school. Specifically, those with more interest in school and better scholastic behaviors have higher educational attainment, higher occupational prestige, and greater income despite controlling for IQ, personality traits, and parental socioeconomic status (Spengler et al., 2018). The obverse is also true. Youth with lower reading and writing skills and less interest in attending and doing well at school fare worse across adulthood.

Juveniles who murder exhibit pronounced cognitive and academic problems and often are suspended, expelled, or have their educational career terminated due to juvenile justice system intervention (DeLisi et al., 2016; Myers et al., 1995, 1998; Trulson et al., 2016). A study of homicidal youth receiving forensic assessment reported that 86% had failed at least one school grade, 76% had diagnosed learning disabilities, and 88% had at least one disruptive behavior disorder (Myers et al., 1995), conditions that contribute to punitive school sanctions. These sanctions have prognostic value as research shows that school suspension is associated with lower educational attainment and greater criminal justice system involvement 12 years after the suspension (Rosenbaum, 2020; also see, Mowen et al., 2020).

Numerous protective factors buffer adolescents from homicide and other violent delinquency. In their systematic review of adolescent

homicide, [Price and Khubchandani \(2017\)](#) summarized these protective factors to include high IQ, attachment, commitment, and belief in education, high grade point average, abstention from drugs and alcohol, intolerance of antisocial behavior, religiosity, good self-regulation, good relationship with parents, prosocial neighborhood, and community opportunities for conventional educational, vocational, and recreational activities.

6.1. Recommended scholastic and vocational questions

1. What is the offender's educational achievement? What limited the offender? What discipline problems occurred? What resources were available and allocated, and how responsive was the offender to these initiatives?
2. What accounted for any personal underachievement, including absence, illness, truancy, drug use, suspensions, dismissals, and breakups? What resources were available for promoting the offender's resilience and opportunity?
3. What is the offender's law-abiding work history? And if not law-abiding, what is the specific nature of the offender's illegal work history, including how the offender earned from said activity and with what revenue?

7. Social

At the peer and school levels, several risk factors are prevalent among juveniles convicted of homicide offenses. These include delinquent peer associations, gang involvement, bullying perpetration and victimization, peer rejection, poor academic performance, low school commitment, and low involvement in prosocial school activities ([Price & Khubchandani, 2017](#)). In the Pittsburgh Youth Study, several social features proved to be associated with adolescent homicide offending and continued criminal conduct. In descending order of effect size indicated by odds ratio, these are suspended from school (4.9), high-risk score (4.4), positive attitude toward delinquency (3.9), disruptive behavior disorder (3.5), serious delinquency (3.3), peer delinquency (3.0), positive attitude toward substance use (2.7), covert criminal behavior (2.7), lack of guilt (2.4), cruelty to people (2.4), bad friends (2.0), and truancy (1.9). Still other social factors including frequent aggression, low school motivation, low school achievement, and bad relationships with peers also predicted homicide offending ([rington et al., 2012](#); [Farrington & Loeber, 2011](#)).

Longitudinal research tracking chronically delinquent youth including homicide offenders up to 16 years after release from custody indicated risk of homicide mortality that was between two to 20 times higher than the general population ([Teplin et al., 2014](#)). Serious delinquents, such as juvenile homicide offenders, have mortality risks exponentially higher than the general population and the manner of death is usually violent, involves a firearm, and reflects continued immersion in criminal activity ([Teplin et al., 2005](#)). Cumulatively, the social background of juvenile homicide offenders includes numerous risk factors in the neighborhood, family, and peer domains.

8. Recommended social history questions

1. What is the socioeconomic status of the offender's home and neighborhood? What level of crime, violence, and gang activity were part of the neighborhood? What was the level and proximity of exposure of the offender to these activities?
2. Was the offender's peer group more inclined to be prosocial? Or, was the peer group more inclined to be antisocial? How did that deviant peer group come together? How much time was the offender spending with deviant peers?
3. What degree of peer resistance would the defendant display? Resistance as it related to what? Did the peers with whom the offender

- broke the law relate to the offender in a mature, adult manner or as a naïve and immature participant whom they readily manipulated?
4. What moral influences have been available to the offender in home life or otherwise, be it teachers, priests, coaches, or neighbors? Did the offender become estranged from good influences? How?
 5. What functional limitations does the offender have in interpersonal relatedness, relative to other young adults? Are these limitations that one expects the offender would develop with additional growth, constructive exposures, or positive life experience? Or are they reflective of personality or baseline cognitive or emotional limitations?
 6. How has the offender's sexuality evolved? How adaptive and maladaptive is the offender's sexual expression?

9. Interpersonal

Longitudinal research on chronic and violent delinquents in juvenile custody indicates that 12 years after their detention most fail to overcome their adverse social background. In terms of completing school, gainful activity, desistance from criminal activity, interpersonal functioning, parental responsibility, residential independence, mental health, and abstention from substance abuse, only one in five males and one in two females achieved even half of these outcomes of adult competence ([Abram et al., 2017](#)). These effects are more acute among juveniles adjudicated of homicide offenses because they serve comparatively longer sentences and thus are incapacitated from normal development to a greater degree than other serious and violent delinquents.

Interpersonal functioning is informed by underlying personality dimensions. Although personality features show evidence of malleability across life, the evidence for their stability is stronger ([Roberts & DelVecchio, 2000](#); [Widiger et al., 2019](#)). Ample meta-analytic research ([Jones et al., 2011](#); [Vize et al., 2018](#)) demonstrates that antisocial individuals are characterized by low conscientiousness (e.g., feckless, poor self-discipline, poor deliberation) and low agreeableness (e.g., distrusting, devious, noncompliant, cold), and that these features contribute to conduct problems, aggression, and collateral interpersonal problems. Studies with 50-year follow-up periods indicate that 39%–73% of conscientiousness features and 44% of agreeableness features stayed the same across a half century ([Damian et al., 2019](#)). These estimates are meaningful because they include general population samples where the incidence of personality disorder and personality disturbances derived from behavioral disorders are infrequent. This is a sharp contrast to juvenile homicide offenders for whom personality disorders and behavioral disorders are common ([Meloy et al., 2004](#); [Myers & Blashfield, 1997](#)). Moreover, the persistence of personality disorders and their underlying pathology is even greater than would be qualities with more adaptive ways of interpersonal relatedness.

10. Recommended interpersonal history questions

1. What is the quality of the offender's interpersonal relationships outside the home? How adaptive are friendships? What are the dynamics within those friendships?
2. What aspects of personal responsibility has the offender been presented with, be they financial, caregiving, emotional, or material? How has the offender engaged these responsibilities, relative to realistic expectations of one's peers?
3. How much autonomy has the offender achieved? Has the offender lived alone? If so, how did the offender come to live alone? How does the offender meet and manage daily health, hygiene, financial, and material needs?
4. Has the offender displayed leadership of others? In what context? How so?

5. Independent of the events of the crime, did the offender exhibit evidence otherwise of decision-making problems? Conspicuously bad judgment reflective of immaturity?
6. What about the offender reflects maturing and evolution, as opposed to change of one's recent influences, the effects of drug use, or change associated with emotional turmoil?

11. Traumas

Trauma is deservedly appreciated as a mitigating factor. Childhood trauma or adverse life experiences are also a robust predictor of conduct problems, violence, and justice system contact. These effects are commonly enduring and lifelong (Duke et al., 2010; Graf et al., 2021; Maciel & Basto-Pereira, 2020). Trauma experiences have both general/versatile and specific/specialized effects. Namely, trauma exposure increases the likelihood of an array of criminal acts spanning delinquency, bullying, assault, domestic violence, weapon-carrying, as well as self-harm and suicidal behaviors (Bevilacqua et al., 2021; Duke et al., 2010; Miley et al., 2020; Muniz et al., 2019). Experiences ranging from physical, emotional, and sexual abuse are often described among juvenile homicide offenders especially those who commit parricide (Buyuk et al., 2011; Duncan & Duncan, 1971; Myers & Vo, 2012).

The prognostic effects of trauma are germane to adolescents who plan and attempt homicide as well. A large-scale study or more than 5000 adolescents reported that physical abuse increased the odds of attempted murder 18-fold even when adjusting for gender, grade, relationship with mother, relationship with father, and friendship network (Su et al., 2018). The increased odds of homicide attempt were also exponentially high for emotional abuse (14.6), sexual abuse (16.9), emotional neglect (21.1), and physical neglect (22.3). Among juvenile homicide offenders, trauma exposure, especially extreme, violent, and prolonged abuse, is prognostic of future violence and long-term behavioral impairment (Heide, 2019; Heide & Solomon, 2009; Solomon & Heide, 1999).

Another consequence of trauma exposure is that it can exacerbate psychopathological features that facilitates conduct problems and antisocial behavior across the life course (Craig et al., 2020; DeLisi et al., 2020; Farrington et al., 2012; Farrington & Loeber, 2011). Along with persistent delinquency and institutional misconduct, various forms of childhood neglect predict post-release recidivism among juveniles convicted of homicide and other acts of serious violence (Craig et al., 2020; Trulson & Caudill, 2017). Within the context of individualized sentencing, many of the qualities and historical events that disadvantage a defendant also predispose that same person to have a higher likelihood of lifelong criminality well-beyond the murder of which the individual is now convicted.

12. Recommended trauma questions

1. What are the most impactful events or enduring experiences of the offender's life, in the years prior to the crime? How was the offender affected? How were others in his support system affected? How did the events shape the offender's relatedness to others and to experiences to come?
2. Are there experiences of reported or yet unreported abuse by family or others outside the home? In what setting? What are the specifics of what transpired? How were these managed by other responsible parties? If not disclosed, how did the offender come to be silent?
3. Was there ever a period in which the offender experienced neglect by caregivers? Physical neglect? Emotional neglect? How did that manifest itself? At what period was that occur? What accounted for the neglect? Did it improve or resolve? How did it come to improve or resolve?
4. What types of trauma occurred during childhood? What was its frequency? Chronicity? Intensity? Were there overlapping or multiple forms of trauma? If so, who perpetrated it?

5. What are the worst things that were ever done to the perpetrator, and by whom? What is it about those experiences that the offender finds so impactful?

13. Antisocial history

Sustained delinquent activity is frequently present among adolescents convicted of murder (Ahonon et al., 2016; Lindberg et al., 2009; Myers et al., 1995; Trulson et al., 2016; Vries & Liem, 2011) with prevalence estimates of arrest activity and violence history ranging from 80% to 96% (Myers et al., 1995). The antisocial history of juveniles adjudicated for a homicide offense begins very early in life. This precocious onset is indicative of the pathological antisocial development that follows. To illustrate, a study of eleven juvenile homicide offenders who killed prior to age 12 years found that 82% exhibited cruelty to other children, 73% engaged in oppositional behavior toward adults including parents, teachers, and community members, and a versatile repertoire of externalizing behaviors spanning lying, fire-setting, stealing, and cruelty to animals was common (Shumaker & Prinz, 2000). An 8-year census of 363 juvenile homicide perpetrators revealed that nearly one in two had history of drug misuse (Rodway et al., 2011).

Severe, remarkable antisocial history among juveniles convicted of homicide offenses is not placed in abeyance once the youth kills, but continues to exert predictive validity for lifelong conduct problems (Khachatryan et al., 2016; Trulson et al., 2016; Welner et al., 2022). To illustrate, a 30-year follow-up of 59 juvenile homicide offenders who completed or attempted murder in the 1980s found a recidivate prevalence of nearly 90% and a violent recidivism prevalence of greater than 60%. Among the former juvenile homicide offenders who recidivated, the mean of subsequent arrests was 7.48 (greater than the standard arrest criterion for habitual or career criminality) and the most recidivistic offender had 30 arrests post-murder. Half of the offenders were rearrested for more than one violent crime and nearly 35% had four or more violent offenses spanning murder, sexual assault, aggravated assault, robbery, or armed burglary. More than 10% of released juvenile homicide offenders killed again (Khachatryan et al., 2016).

14. Recommended questions on antisocial history

1. How aggressive was the offender as a child? Did others observe problems with self-control? At what age? How did that manifest itself?
2. Has the offender been arrested before? Convicted? For what? How long had the offender been incarcerated? How did the offender come to break the law in the past?
3. What was the offender's experience with weapons? Practice with those weapons? What function has weapons served in the offender's day-to-day life, and has that evolved with time?
4. What role did extreme violence occupy in the offender's fantasy life? How else has or does the offender express violent and destructive fantasy? How intense is this fantasy life? How much time and activity does it consume? Is there erotic stimulation associated with any aspect of the fantasy?
5. Is there evidence of prosocial and risk-controlled behaviors predating antisocial behavior, or longstanding evolving antisocial behavior?

15. Psychiatric and medical

Psychiatric history, comorbidity, and substance abuse is a recurrent historical feature among youth adjudicated for homicide offenses (Labelle et al., 1991; Lindberg et al., 2000; Roe-Sepowitz, 2007). Forensic study of a sample of 25 homicidal youth found that 88% had a disruptive behavioral disorder and 71% exhibited psychotic symptoms (Myers et al., 1995). Other studies place the prevalence of clinical psychiatric impairment among juveniles convicted of murder at 90%

(Myers & Vo, 2012). Overwhelmingly, juvenile homicide offender psychopathology involves behavioral disorders (Myers & Kempf, 1988) that embody externalizing conduct and core self-regulation deficits.

An 8-year census of 363 juvenile homicide perpetrators revealed that nearly one in two had history of drug misuse and 24% had a history of alcohol abuse (Rodway et al., 2011). This adverse background coincided with a similarly severe behavioral history of repeated conduct problems and recalcitrance to treatment or correctional intervention. Seventy-three percent of juvenile homicide offenders had discipline problems and one in three were placed in an alternative educational setting due to self-regulation problems resulting from behavioral and substance disorders.

Nationally representative research clarifies that juveniles on a life-course antisocial pathway evince morbidities that are similarly enduring in their developmental course. In the National Epidemiologic Survey on Alcohol and Related Conditions, more than 80% of life-course-persistent offenders use drugs, and more than 45% have a lifetime substance use disorder (Kerridge et al., 2020). These prevalence estimates are double to nearly 20-fold higher than non-offenders in the population who never commit homicide. Compared to the general population, life-course-persistent offenders have increased odds of every form of psychopathology other than anxiety disorders, and have significantly greater externalizing psychopathology involving aggressive and violent acts compared to normative adolescence-limited offenders.

16. Recommended psychiatric and medical questions

1. What medical problems impacted the offender's life? Were there gestational problems in his early development? Birth complications? Any head injuries resulting in loss of consciousness? Hospitalizations? Major Accidents? Burns? Broken limbs? How has the offender, historically, related to caregivers?
2. What behavioral problems arose in the offender's childhood? Did others observe behavioral problems? How did that manifest itself?
3. Has the offender ever been in psychological counseling? Of what nature? For what? How responsive was the offender and the situation to professional intervention? If there were impediments, what were they?
4. What emotional limitations does the offender have, relative to other young adults? Are these limitations that one expects the offender would develop with additional growth, constructive exposures, or positive life experience? Or are they reflective of personality or baseline cognitive or emotional limitations?
5. What has been the offender's attitude toward drug and alcohol use? Which substances does the offender use, and for what purpose? How did drugs and alcohol affect the offender's behavior? If badly, what adjustments did the offender make to avoid those effects of that drug?

17. Discussion

Discretionary sentencing resonates with ethical forensic and clinical practice that engages each case individually and each defendant as a unique individual. That individualized forensic assessment contributes relevant understanding to court decision-making. The forensic behavioral sciences experience defendants from a range of meaningful vantage points, each of which inform an understanding of an examinee's maturity and criminal maturity.

For this reason, forensic reports prepared by psychiatrists and psychologists are now ubiquitous in petitions for resentencing proceedings for *Miller* class defendants, inmates, and those who assert mitigation of psychosocial disadvantage, immaturity, and evolving risk.

Based on our experience and understanding of the homicide literature (Welner et al., 2022), the diligence promoted through the proposed inquiry in this article ensures that courts have a qualitatively substantive

understanding of each defendant and can account for that personalized understanding in sentencing decisions. The questions herein respect the complexity of this responsibility and inform forensic reports so that they truly enhance a court's appreciation of the adolescent criminal defendant (Welner, 2003).

Developmental history identifies disadvantages from even before birth and the services he may have required to function at peer level, parental qualities, rearing, household atmosphere, parents' relationship discipline, shortcomings and their impact, and others' responses. Scholastic queries provide data about educational opportunities, level of achievement, learning problems, and interventions. Vocational history informs training, mentorship, opportunity, skills and potentials, failures and the reasons for falling short, and finances.

Social history draws from recollections of friendships, civic interest, hobbies, mentorships and influences, socioeconomics, culture, recreation, religion, sport and gaming to gain understanding about what has shaped him. Questions about interpersonal history highlight relatedness to others, achievements, intimacy and connection, alienation, failures, and resilience. Exploring traumas in detail allows for understanding of abuse and exploitation, response and adaptation, and how these events have impacted or shaped criminality.

Medical and psychiatric history are needed to appreciate any overt or covert handicaps, their onset, effects and duration, and the remedies needed. Accounting for the role of drugs and alcohol in the offender's life identifies the nature and onset of substance abuse, its consequences and relationship to criminal decision-making. As does antisocial history, specifically its nature, inspiration, progression, with whom an offender collaborates and his degree and nature of criminal identification.

As with background history, a thorough study of the offender's movements, communications, and motivations prior to the crime, the specifics of his actions in inflicting injuries and death, and the mechanism and effects of those wounds is likewise informed by the above inventory of questions. This questioning also yields needed understanding about the offender's relatedness to the victim and any co-defendants, witnesses, or third parties if another person factors into the motive (Chopin & Beauregard, 2020). Careful study of the offense explores other factors of why the murder may have happened, and when it did, whether substances, or conflicts, or stresses. Moreover, study of how the perpetrator relates afterward to the crime, to witnesses, to the victim and any affected by the events, completes an appreciation for a perpetrator's unique qualities, and in the context of the offense and its approaching sentencing (Heide, 2021).

All of this evidence converges to inform questions of whether the crime was a product of one's immaturity, and how; whether an offender derived from a disadvantaged, criminogenic setting from which one could not realistically extricate one's self. A sentencing court informed by such evidence can more reliably determine whether a particular offender was vulnerable to outside pressures and negative peers, or whether the offender was himself the pressure and influence to others, and whether the crime itself reflected impulsivity, recklessness, and heedless risk-taking that reflects upon the immaturity of the offender (Erby & Buker, 2021). There is not an a priori, mandated set of factors for forensic evaluation. Recent research that used the eight domains within the Youth Level of Supervision/Case Management (YLS/CMI) to predict recidivism among juvenile homicide offenders, the only study with ecological validity pertaining to juvenile homicide offenders, found no association between these domains and general arrests and violent recidivism (Hubbell et al., 2022), suggesting a different approach is warranted. Similarly, Arnold et al. (2018), reacting to the *Miller* opinion, opine that forensic evaluators should focus on five factors. These are the offender's propensity for risk taking and sensation seeking behavior, the offender's dependency and limited ability to avoid negative consequences or adversity, the offense context or the dependency factors to the offender's involvement in the crime, rehabilitation potential, and lowered capacity or competency to make decisions related to arrest. As the current inventory demonstrates, the range of relevant historical

input informing juvenile criminal maturity extends well beyond the domains of these authors' focus.

The potential for errant judgment, or even bias, is reconciled with the quality and quantity of history about the crime and the defendant's background. Moreover, a fuller data set about both offender and offense prevents bias from presumptuously imposing conclusions as necessarily "immature" or "deviant" because the examiner himself might make a different choice than the crime. Immaturity does not equate with imperfection. Less exposure to the granular aspects of case investigation introduces the trap of seizing upon every apparent misstep a defendant makes to pronounce that offender "immature" Or "deviant."

Other diagnostic testing is of limited informative value to the above questions without available objective historical and/or psychological testing data (see, [Wettstein, 2005](#)). Blood testing, or imaging data cannot profile any violent offender in the absence of history. For example, a person may, on genetic testing, show a propensity towards impulse control problems. Without an established history of said impulse control problems and a fuller appreciation of their context, this genetic testing is more misleading in inference than informative and is a potential bias source (cf., [Dror, 2018](#); [Zapf & Dror, 2017](#)).

Alternatively, a juvenile with a history of a developmental disability may show evidence for structural brain damage on neuroimaging scans. If history, behavior, and neuropsychological testing illustrate deficits associated with such imaging, then the imaging enriches the evaluation with more precise understanding. If the history, behavior, and testing does not display shortcoming, then the correct conclusion is that the examinee lacks brain damage and has neurologically adapted to the structural abnormalities of the imaging (see, [Larrabee & Rohling, 2013](#)).

In a concurring opinion in *Miller*, Justice Breyer pointed out that even under discretionary sentencing in the United States, a juvenile who did not himself kill, or did not intend to kill and was nevertheless convicted of murder, such as an accessory during an armed robbery-murder should not be eligible for a life sentence. Discretionary sentencing allows for the most severe of punishments, even for a fully mature juvenile, to be reserved for the most depraved of crimes. Given concerns about the arbitrariness of sentencing and injustice, from our perspective, a detailed deconstruction of the antecedents, actions, and attitudes surrounding a crime, and its assessment through standardized measures of depravity promote reliable fairness in sentencing ([Welner et al., 2018](#)).

Higher courts will continue to wrestle with the application of criminal sentencing to juveniles who perpetrate major violent crimes, including murder. Even as courts have recognized that some offenders exhibited immaturity and qualities that they might now reflect as adults, that is not to be presumed by the mere chronological age. The opportunity of discretion carries with it the burden of fairness. Evidence from converging sources informing the court of the unique qualities of each crime, and the pertinent background of the offender, assists the court in this continuing challenge.

Declaration of competing interest

Matt DeLisi receives consulting income and travel expenses in criminal and civil litigation relating to criminological and forensic assessment of criminal offenders, receives editorial remuneration from Elsevier, receives expert services income from the United States Department of Justice and the Administrative Office of the United States Courts, and receives royalty income from Cambridge University Press, John Wiley & Sons, Jones & Bartlett, Kendall/Hunt, McGraw-Hill, Palgrave Macmillan, Routledge, Sage, University of Texas Press, and Bridgepoint Education. No direct remuneration is associated with the current study.

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