JUVENILE JUSTICE AND MENTAL HEALTH: INNOVATION IN THE LABORATORY OF HUMAN BEHAVIOR

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ABSTRACT: Developed as a structure that seeks to rehabilitate rather than punish, the American juvenile justice system has yet to adequately address widespread mental health concerns among youth offenders. Scarred by childhood trauma and other societal challenges, youth within the juvenile justice system frequently struggle with mental health issues, which all too often go unnoticed and untreated. Meanwhile, modern developments in neuroscience have opened new windows into the juvenile mind and illuminated a path for reform within the juvenile justice system. Scientists have uncovered neural correlations beneath many diagnosable mental health disorders. Furthermore, neurological studies have demonstrated the effectiveness of treatment-based alternatives to juvenile detention in addressing the roots of mental growth and development. Such discoveries demand greater resource investment in the juvenile justice system to efficiently and effectively rehabilitate youth suffering from mental health issues.


"[T]he Juvenile Court is conceived in the spirit of the clinic; it is a kind of laboratory of human behavior."1 So declared Miriam Van Waters, one of the earliest reformers of the juvenile justice system in the 1920s. However, in the decades that have followed, the intended laboratory has shifted toward an adversarial and punitive court structure. Juvenile offenders often face strictly punitive dispositions or are transferred to adult court to face penalties that address the crime but not the defendant. This system ignores the unique circumstances and rehabilitative potential of individual juvenile offenders. Therefore, a movement to return juvenile justice to its rehabilitative roots is slowly gaining momentum, and experts in the fields of mental health and neuroscience are leading the way.

In its infancy, the juvenile justice system was touted as “perhaps the first legal tribunal where law and science . . . work side by side.”2 Nearly a century later, that vision is finally becoming a reality as modern science illuminates the need and potential for greater mental health services within the juvenile court structure. Neuroimaging and extensive collaborative research have shed new light on the complicated inner workings of the adolescent brain. Such

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studies have revealed a dynamic network of neural activity that correlates to youthful impulsiveness, emotion, and behavior. More importantly, these studies have exposed the roots of mental health disorders and confirmed the effectiveness of treatment in rehabilitating the juvenile mind.

This comment analyzes the convergence of mental health sciences and the juvenile courts, ultimately proposing a path for greater reform. It begins with a brief overview of the juvenile justice process before exploring the causes of mental health issues among youth in the juvenile justice system from social, psychological, and neurological perspectives. It then examines methods of treating common mental health disorders among youth in the juvenile justice system, with particular emphasis on cognitive-behavioral therapy. This includes a discussion of modern neuroimaging studies and their findings regarding the impact of such therapy on the human brain. Through the lens of these illuminating studies, the paper considers the current state of juvenile justice, paying particular attention to mental health screening and treatment of alleged juvenile offenders. It cites areas of both promise and deficiency across jurisdictions.

The comment closes with proposals to improve the efficiency and effectiveness of the juvenile justice system in attaining its rehabilitative mission. While acknowledging issues of cost, location, and concerns over mandatory treatment, it advocates mandatory preadjudicatory mental health screenings of youth in light of the current science. Ultimately, the comment concludes that in many cases treatment, rather than detention, better provides for the safety of the public and its youth.

I. THE PROCESS OF JUVENILE JUSTICE

Procedures vary by jurisdiction, but juvenile justice is generally carried out through a common sequence of stages. Initially, when a youth is suspected of a status or delinquency offense, her parents, school, victim, or probation officer may intervene. Most often, though, law enforcement officials decide whether to refer a case to juvenile court. In many instances, police are able to take corrective action without committing a youth deeper into the juvenile justice system.

If a youth is referred to juvenile court following her initial contact with law enforcement, an intake assessment process is triggered. Intake varies among jurisdictions. In some states, intake assessment is conducted by the juvenile court. In other states, intake is the responsibility of the juvenile probation system, a state agency, the prosecutor’s office, or another specialized organization. Wherever it occurs, however, intake begins with a review of the

4. Id. at 48.
5. Id.
6. Id.
facts of the youth’s case to determine how to proceed. Based on that review, options include dismissal of the case, referral to juvenile court, or waiver to adult court.

If the intake officer or prosecuting official decides to retain it in juvenile court, the case may be scheduled for adjudication or diverted. Diversion is an important option at this and other junctions in the juvenile justice process. Diversion may be available if a youth admits to the alleged wrongdoing and agrees to fulfill certain conditions in exchange for dismissal of her case. Such conditions may include community service, school involvement, or a treatment program, at the discretion of the juvenile court.

If an intake officer or prosecutor decides to formally refer a case to juvenile court, formal judicial processing is initiated. The prosecutor files a delinquency petition, a hearing is conducted, and the facts of the case are presented to a judge. If the youth is adjudicated delinquent, the judge conducts a dispositional hearing before issuing a final disposition of the case. Depending on the jurisdiction and nature of the offense, a disposition may include probation, treatment, restitution, residential placement, or a combination thereof. The court wields considerable discretion in deciding the fate of a juvenile delinquent.

Alternatively, a court may decide not to adjudicate a youth delinquent initially. The judge or prosecuting official may instead dismiss or divert the case. The judge may also issue adjudication in contemplation of dismissal (ACD). Such judicial remedies afford the youth an opportunity to reform without going deeper into the juvenile justice system.

In many cases, however, a youth will be ordered into juvenile detention. At the discretion of law enforcement, intake officers, probation officers, or a judge, youth may be detained following arrest, while awaiting a hearing, or following adjudication. Juveniles are detained in approximately 20% of all delinquency cases nationwide.

The final stage in the juvenile justice process is reentry. Reentry applies only to those youth who have been adjudicated delinquent and completed residential placement. Reentry encompasses the various programs, resources, and services intended to assist those youth in their transition back into the community.

7. Id.
8. Id.
9. Id.
10. Id.
11. Id.
12. Id. at 54.
13. Id.
14. Id.
15. Id. at 57.
16. Id. at 54.
17. Id. at 51.
18. Id.
19. Id. at 60.
20. Id.
Each stage in the juvenile justice process presents a decision point and an opportunity to evaluate a youth’s mental health and rehabilitative potential. Although some jurisdictions have incorporated resources to assess and address the mental health of youth within the system, more must be done. Thanks to the increasing sophistication of neuroscience and technology, the modern understanding of the youthful mind has illuminated a path for greater reform throughout the juvenile justice process.

II. MENTAL HEALTH AND THE JUVENILE MIND

A. The Basics of Brain Development

As the command center for all human function, the brain is an unceasingly dynamic maze of circuits and traffic. During normal development, the brain grows and expands through the addition and maintenance of individual neural connectors, known as synapses. These synapses multiply into a congested infrastructure of chemical and electrical transmissions that influence every thought and behavior. The density of that infrastructure reaches its zenith during childhood, fueling heightened emotional and impulsive behavior. Over time, a pruning process removes redundant synapses while mature brain cells are sheathed in a fatty tissue known as “myelin,” which facilitates smooth transmissions across remaining synapses. The combination of pruning and myelination strengthens connectivity to areas of the brain that mediate emotion, cope with stress, and assist in making decisions. In a healthy brain, this maturation process signals the transition from adolescence into adulthood and allows for greater responsibility and self-control.

In some situations, social and environmental factors can significantly impact this mental development process. Stress, trauma, and detachment can alter the pruning process, further limiting a youth’s control over her emotions and impulses. The brain has demonstrated remarkable resilience in its ability to self-regulate and progress through the maturation process. However, some disruptions and imbalances in neural connectivity require intervention and treatment to correct. These disruptions and imbalances are indicative of mental health disorders.

22. Id. at 466.
23. Id. at 466–67.
24. Id. at 466.
26. Steinberg, supra note 21, at 466–67.
27. Id.
29. See CHILD WELFARE INFO. GATEWAY, supra note 25, at 4–11.
30. Id. at 4.
B. Mental Health Factors in Adolescents

Although estimates may vary, reliable data suggests that approximately 66% of youth in the juvenile justice system have at least one diagnosable mental health disorder.\textsuperscript{31} Typical adolescent development makes all youth vulnerable to behaviors that may bring harm upon themselves or others, but this vulnerability is amplified when mental health problems are present.\textsuperscript{32} One study found that the median age at which mental disorders manifest is age 14.\textsuperscript{33} Anxiety, disruptive behavior, mood, and substance-related disorders are common among youth in the juvenile justice system.\textsuperscript{34} Worse, nearly a quarter of all youth in the juvenile justice system suffer from mental disorders that are categorized as severe.\textsuperscript{35} Such numbers are particularly troubling when compared to the general youth population, of which only between 14% and 20% suffer from a diagnosable mental health disorder.\textsuperscript{36}

While many factors contribute to mental health, scientific studies continue to reveal the significant impact of environmental and social influences on brain development. Youth in the juvenile justice system have often experienced higher levels of trauma than have the general youth population.\textsuperscript{37} Studies have shown the rate of traumatic victimization among youth in the juvenile justice system to be as high as 75%.\textsuperscript{38} Particularly at a very early age, adversity and trauma can have a debilitating effect on cognitive function and mental health.\textsuperscript{39} For example, the first three years of a child’s life are a period of dramatic growth, particularly for key brain structures such as the amygdala and the corpus callosum, which are related to cognition, memory, and emotion.\textsuperscript{40} Neurological studies have shown that these areas of the brain are highly susceptible to early adverse experiences.\textsuperscript{41} Research has also revealed a strong correlation between traumatic victimization and increased frequency of aggressive and oppositional behavior.\textsuperscript{42}

The basic architecture of the brain is established very early in life, yet the pruning and refining of neural circuits through the processes of apoptosis, myelination, and synaptogenesis happen at varying rates throughout the

\textsuperscript{33} Id.
\textsuperscript{34} Archer et al., supra note 31, at 337.
\textsuperscript{36} Archer et al., supra note 31, at 337.
\textsuperscript{37} Geraghty, supra note 32, at 161.
\textsuperscript{38} Id.
\textsuperscript{39} Stacy S. Drury et al., \textit{From Biology to Behavior to the Law: Policy Implications of the Neurobiology of Early Adverse Experiences}, 10 WHITTIER J. CHILD & FAM. ADVOC. 25, 30–31 (2010).
\textsuperscript{40} Id. at 36.
\textsuperscript{41} Id.
\textsuperscript{42} Geraghty, supra note 32, at 161.
These processes continue in areas like the prefrontal cortex until late adolescence, and are directly impacted by experiences in a youth’s life. A large epidemiological study found a clear association between diagnosis of mental health disorders in preschool children and the number of stressful life events that they had experienced. According to the study, 50% of preschool children had experienced at least one high impact stressful life event, such as neglect, physical or sexual abuse, exposure to violence, the death of a loved one, serious illness or accident, or natural disaster. Such children demonstrated an increased risk of psychopathology, especially anxiety disorders.

The impact of isolated stressful events on a young brain is magnified among youth who experience consistently tumultuous childhoods. Psychological research has demonstrated that stability and attachment, particularly in the family setting, help children learn to cope with stress. A longitudinal study of children ages two to eighteen involved in child welfare, for instance, found a direct relation between childhood mental health and behavioral disorders and the number of placement changes. Studies of children with a history of institutional care have shown significantly elevated rates of a range of mental health conditions, including attachment disorders, attention-deficit/hyperactivity disorder (ADHD), oppositional behaviors, anxiety, and depression. The deep wounds of early childhood adversity, instability, and stress continue to manifest in adolescent and adult behavior.

C. Neuroimaging: A New Window into the Human Mind

The impact of a child’s background and experiences on subsequent behavior is not a new scientific discovery. Where modern research diverges from past understandings is in the use of neuroimaging. Imaging methods like magnetic resonance imaging (MRI), positron emission tomography (PET), and cortical electroencephalography (EEG), have opened a new window to the neurological roots of mental and behavioral health issues. Studies employing such methods have uncovered the first direct evidence that behavioral challenges in children following significant early adversity correlate to alterations in the underlying neurobiology. These studies point to a sustained disruption in the basic architecture and connectivity of the brain, particularly in areas of the

43. Drury et al., supra note 39, at 27.
44. Id.
46. Id. at slide 25.
47. Id. at slide 31.
brain involved with high cognitive function, memory, and emotion.\(^{52}\) Neuroimaging has provided a tangible medium for assessing mental health and for understanding the neurological underpinnings of certain behaviors among those with mental disorders.

Neuroimaging has revealed that different mental disorders have varying neural correlates in different areas of the brain. A neurological study of subjects with anxiety disorders, for example, showed an increase in blood flow and glucose metabolism activation in inferior frontal and orbitofrontal cortices, insula, basal ganglia and brain stem.\(^{53}\) Subjects who specifically suffered from posttraumatic stress disorder (PTSD) also experienced a decreased medial prefrontal and inferior frontal activation.\(^{54}\) Neuroimaging of schizophrenic patients has even been able to distinguish between those suffering from auditory hallucinations, characterized by activity in the lateral temporal cortex, and those suffering from tactile hallucinations, which were associated with activation in the somatosensory and posterior parietal cortex.\(^{55}\) Whereas mental health issues have been diagnosed and treated based on external symptoms in the past, neuroimaging can now provide concrete evidence of alterations in brain function that correlate to cognitive and behavioral reactions.

While neuroimaging studies continue to enhance our knowledge of the brain and its functions, it is important to recognize some limitations on their applicability. For example, scientists and mental health practitioners are not yet able to take a neuroimage from an individual patient and to diagnose her with a particular mental health disorder based on that image.\(^{56}\) Furthermore, it is not yet possible to adequately tailor a specific treatment to a particular patient’s mental issue based solely on neuroimaging.\(^{57}\) No region of the brain ever works independently, so it is nearly impossible to isolate one particular brain function as the singular area requiring treatment.\(^{58}\) Scientists are confident, however, that further neuroimaging research may allow for diagnosis and individualized treatment in the future.\(^{59}\) Neuroimaging has already provided irrefutable evidence that mental health issues have biological roots. Furthermore, mental health issues are treatable and often resolvable. Recognizing that many youthful behaviors have neural correlates, any system that seeks to rehabilitate these youth must address both their behavioral and cognitive issues.

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52. See Katie A. McLaughlin et al., *Delayed Maturation in Brain Electrical Activity Partially Explains the Association Between Early Environmental Deprivation and Symptoms of Attention-Deficit/Hyperactivity Disorder*, 68 BIOLOGICAL PSYCHIATRY 329, 332–33 (2010).
54. Id.
55. Id.
57. Id.
58. Id.
59. Id.
D. Social Neuroscience

Neurological innovation has spawned an entirely new area of interdisciplinary scientific study known as social neuroscience. This area of study focuses on the reciprocal relationship between biological systems and social processes and behaviors. It is the science of brain function and social interaction. Some of the most promising lines of research have analyzed neuroimaging scans in conjunction with four subcategories of social behavior: self-perception, self-regulation, interpersonal perception, and group processes. The findings in these areas provide keen insights into the formation of the juvenile mind and the seeds of mental health issues.

1. Self-Perception

First, self-perception is at the core of many mental disorders, most notably depression. Imaging studies in this area have pointed to the prefrontal cortex as the brain’s “chief executive,” responsible for subjective reactions to the outside world and for allowing efficient navigation in the social environment. They have also found that distinct neural circuits in the adjacent regions of the prefrontal cortex subserve cognitive and emotional aspects of self-reflection. While self-descriptive material is detected in the medial prefrontal cortex, for example, the emotional impact of such material is resolved in an adjacent region of the ventral anterior cingulate cortex (ACC). Any disconnection or underdevelopment in this neural circuitry may trigger a different emotional response to material relating to the self and how it is perceived.

2. Self-Regulation

The emotions that form through the brain’s processing of self-perception are directly related to the self-regulation of thoughts and behavior. Studies have shown that this area is primarily controlled by three prefrontal circuits: the ventromedial-orbitofrontal cortex, the dorsolateral prefrontal cortex, and the ACC. Self-regulation can be a particularly complex area of social neurological research. For example, several studies have been conducted on the brain functions associated with thought and memory suppression. Imaging has shown that “[s]uppression of all thoughts [is] associated with greater bilateral activation in the insula and the right inferior parietal cortex,” yet “suppression of a particular thought [triggered] greater activation in the ACC.”

61. Id.
62. Id. at 106.
63. Id. at 107.
64. Id.
65. Id.
66. Id.
67. Id.
68. Id.
69. Id. at 108.
standing the mechanics of thought suppression and other functions of self-regulation will have deep implications for addressing mental health issues.

3. Interpersonal Perception

Both self-perception and self-regulation are impacted by and related to interpersonal perception. Instincts tell us that our interactions with other people are important to our emotional health and well being. “Recent brain imaging studies have [confirmed] that distinct [areas of neural circuitry] are important for person[al] perception.” Such studies have isolated “common processes underlying personal perception and depression, social anxiety, PTSD, and autism.” Additionally, they have revealed a neurological “hierarchy of evaluative discriminations, ranging from reflexive responses and automatic evaluations to self-reflective evaluations, constantly [impacting the way that individuals negotiate their] social environments.” “This hierarchy forms the basis for human attitudes and preferences,” and it is dynamically based on the social interactions that are constantly taking place.

4. Group Processes

The final subcategory of social behavior is group processes. Within this subcategory, social neuroscience experts have begun to discover the neurological processes behind stigma, peer pressure, and groupthink. Neuroimaging suggests that these phenomena occur because of significant overlap in the functions that involve the judgment of self and others. Many of the medial frontal regions that control the perception of other people are also involved in accessing knowledge about one’s own traits and emotional states. An individual’s capacity for empathy and ability to negotiate particular social environments are often dependent upon a combination of cognitive development and societal factors. One illuminating neurological study of students at Princeton University, for example, involved showing participants images of homeless people and drug addicts. Neuroimaging revealed that such images did not trigger certain neural reactions that are usually indicative of social perception, suggesting that the students dehumanized the people pictured.

E. From Neuroimaging to Treatment

Just as social neuroscience and neuroimaging have assisted in the understanding of brain malfunctions, they have also increased awareness of the
brain’s unique ability to adapt and recover. By understanding which areas of the brain are activated during individual thoughts and behaviors, scientists have also learned which abnormalities the brain can self-correct and which require outside treatment. Additionally, scientists understand generally how to tailor treatment to particular categories of mental health issues and which issues respond best to those treatments.  

In 2011, scientists concluded a particularly relevant study that examined resting-state functional connectivity MRIs of incarcerated juvenile offenders and compared them to that of a control group of adolescents. The study focused on the relationship among neurological functional connectivity, impulsivity, and development. The results suggested that the heightened pre-disposition to impulsive behavior among juvenile offenders could be traced to increased functional “connectivity of motor-planning regions [of the brain] with networks subserving unconstrained, self-referential cognition, rather than those subserving executive control.” The study further demonstrated that juvenile offenders’ increased impulsivity represented a delay in typical brain development, which is a resolvable condition. Research has shown that intensive training on individual tasks, which coactivates the dorsolateral pre-motor cortex and attention-control networks in the brain, can actually alter functional connectivity in the brain. Such research suggests that therapeutic intervention might accelerate functional maturation in impulsive juveniles, normalizing brain function and thereby improving behavior.

Studies like these, which incorporate modern neuroimaging technology into the examination of thought processes and behaviors, provide unique insights into the juvenile mind. Additionally, they lay the groundwork for effective detection and treatment of mental health issues among youth that are involved in the juvenile justice system. Finally, such research illuminates the need for significant reform in the treatment of alleged juvenile offenders.

III. COGNITIVE-BEHAVIORAL THERAPY: PUTTING THEORY INTO PRACTICE

Among the most effective treatments for alleged juvenile and adult offenders alike is cognitive-behavioral therapy (CBT). CBT is an evidence-based intervention, which has a proven record of reducing recidivism rates when effectively implemented and supervised. CBT is not a single method of...
psychotherapy. Rather, it is an umbrella term for similar therapy programs incorporating social learning theory, cognitive therapy, and behavioral therapy, all of which stem from experimental psychology.\textsuperscript{89} Individual programs are tailored to the particular needs and challenges of the offenders being treated.

Although the curricula vary, most CBT programs emphasize three core components: (1) recognition of high-risk situations, thoughts, and feelings that may cause antisocial or destructive behavior, (2) replacement of destructive thoughts with constructive thoughts, and (3) promotion of cognitive discipline in problem-solving, coping, and social skills.\textsuperscript{90} CBT simultaneously works to alter destructive behaviors and remedy cognitive discord. Cognitive and behavioral changes have a reinforcing effect on one another. When cognitive change leads an individual to alter her actions and behavior, it produces a positive outcome that supports the change in the individual’s thinking. Reformed thought processes reinforce the reformed behavior, causing the individual to associate constructive behavior with gratifying thoughts and emotions.\textsuperscript{91} This helps juveniles in CBT to understand the process and maintain lasting change.\textsuperscript{92}

CBT is particularly effective among offenders because it not only addresses wrongful behavior, but also the mental health issues that are so prevalent among that population. Studies have shown that offenders suffer from distorted cognition, impairing their ability to interpret social clues, accept responsibility, and morally reason.\textsuperscript{93} This distorted thought process often leads them to demand instant gratification, construe harmless situations as threatening, and confuse desires with needs.\textsuperscript{94} CBT programs employ behavioral learning techniques to change the thought processes and adaptive behavior of offenders.\textsuperscript{95} This allows them to return to their communities with a repertoire of new skills that they can employ in socially constructive ways.\textsuperscript{96}

Trained professionals and paraprofessionals typically administer CBT in small group sessions over the course of several months.\textsuperscript{97} Regardless of the particular CBT program, studies have consistently shown the therapy to be effective in combating mood disorders, substance abuse, anxiety, and a litany of other personality and behavioral disorders.\textsuperscript{98} Particularly among juvenile offenders, CBT has achieved proven results against disruptive or noncompliant behavior, aggressiveness, oppositional defiant disorder and ADHD.\textsuperscript{99} Among

\begin{itemize}
  \item \textsuperscript{89} Hansen, \textit{supra} note 87, at 43.
  \item \textsuperscript{90} Vaske et al., \textit{supra} note 88, at 91.
  \item \textsuperscript{91} Hansen, \textit{supra} note 87, at 45.
  \item \textsuperscript{92} Id.
  \item \textsuperscript{93} Mark W. Lipsey et al., \textit{Effects of Cognitive-Behavioral Programs for Criminal Offenders}, \textit{CAMPBELL SYSTEMATIC REVIEWS}, Aug. 2007, at 1, 4.
  \item \textsuperscript{94} Id.
  \item \textsuperscript{95} Hansen, \textit{supra} note 87, at 45.
  \item \textsuperscript{96} Id.
  \item \textsuperscript{97} \textit{What Is CBT?}, \textsc{Nat’l Inst. of Just.}, (Apr. 15, 2010), http://www.nij.gov/journals/265/what-is-cbt.htm.
  \item \textsuperscript{98} Id.
  \item \textsuperscript{99} Id.
\end{itemize}
those clients suffering from depression, CBT has even been shown to be at least as effective as medication in producing positive outcomes and superior in preventing relapses. 100

A. Model CBT Programs for Youth in the Juvenile Justice System

While all CBT programs have achieved positive results, some have been more extensively studied than others. Three programs stand out for their success rate among alleged juvenile offenders: moral reconation therapy (MRT), reasoning and rehabilitation (R & R), and aggression replacement training (ART). 101

1. MRT (Moral Reconation Therapy)

MRT was developed in a prison-based therapeutic program in Tennessee in the mid-1980s. It has since expanded to both custodial and community-based entities. 102 MRT incorporates cognitive components into a behavioral-based program that focuses on moral reasoning. The goals of the program are to remedy social, moral, and behavioral deficits. The structure of the program is based on the ideas of Lawrence Kohlberg’s moral development theory. Kohlberg suggests that moral development advances through six stages, the sixth stage representing the highest level of moral reasoning. Progression through the higher levels of moral reasoning demands greater abstract thinking and the ability to adopt the perspective of others. Thus, attainment of higher levels of moral reasoning correlate to a reduced likelihood of engaging in destructive behavior. 103

Research conducted on juvenile delinquents reveals that they are at the early stages of moral reasoning. 104 The architects of MRT found that juvenile offenders had deficits in their moral reasoning that paralleled deficits in other areas. They believed that offenders also had reduced self-awareness, poor self-esteem, strong narcissism, fortified defense mechanisms, and heightened resistance to change and treatment. They built MRT around these deficits. 105

MRT facilitators must complete 32 hours of training before presenting the MRT materials. 106 The program consists of workbooks tailored to the person being treated and specific program characteristics. The program is open-ended, meaning that participants can join at any time. Offenders typically provide short answers or drawings according to specific requirements from the workbooks, which do not require proficient literacy skills or high mental functioning levels. MRT is divided into 12 mandatory steps and four optional steps and usually requires the completion of 14 to 16 sessions. 107

100. Id.
102. Id. at 46.
103. Id.
104. Id.
105. Id.
106. Id.
107. Id.
2. **R & R (Reasoning and Rehabilitation)**

R & R was crafted by Canadian researchers, who found literary evidence that detailed developmental delays in offenders’ cognitive skills that were impeding social adjustment. Like MRT, R & R is rooted in the theory that offenders suffer from both social and cognitive deficits. Unlike MRT, R & R does not focus on moral reasoning. R & R aims to enhance self-discipline, cognitive style, comprehensive problem solving, social empathy, critical reasoning, and values. R & R focuses on changing the impulsive, illogical, self-centered, and inflexible thinking of offenders. The program teaches offenders to pause and think before acting, anticipate the consequences of their behavior, respond to interpersonal problems in prosocial ways, and determine how their actions impact others.

The R & R program is closed ended, meaning that participants must start at the beginning of the program and complete it chronologically. It requires 35 sessions spanning a total of 8 to 12 weeks with 6 to 10 participants. The sessions consist of group discussions, audiovisual materials, games, puzzles, reasoning exercises, role playing, and modeling, led by trained facilitators.

3. **ART (Aggression Replacement Training)**

ART was developed by scientists at the Syracuse University Center for Research on Aggression as an intervention geared toward chronically aggressive youth. The program has three main components: social skills training, anger control training, and moral reasoning.

Social skills training (the behavioral component) focuses on cultivating interpersonal skills to handle anger-provoking events. Anger control training (the affective component) equips at-risk youth with skills to reduce their affective impulses to act out of anger by increasing their self-discipline competencies. Moral reasoning (the cognitive component) concentrates on raising the youth’s level of fairness, justice, and compassion for others.

ART is a closed-ended, 30-hour program, spanning 10 weeks. Small groups of 8 to 12 offenders attend three one-hour sessions per week. Group facilitators must complete a 40-hour training program to be certified to administer the curriculum.

**B. CBT and Neuroscience**

Each of these CBT programs is effective because it addresses more than simply the behaviors or offenses of the youth it treats. Instead, these programs...
target the youth’s cognitive and emotional responses to stressful or high-risk situations. Improvements in cognition promote improvements in behavior. Such improvements may be measured and evaluated through school performance, community involvement, and reduction in recidivism rates. Only recently, though, researchers have uncovered the neural correlates of improved cognition. Understanding these correlates may provide the blueprint for making the juvenile justice system more rehabilitative.

Over the past two decades, neuroimaging studies have demonstrated that CBT goes beyond the treatment of behaviors and symptoms of mental health. When administered effectively, CBT has been shown to physically alter the brain by restructuring neural connectivity. In 2009, an extensive study of CBT’s neurological impact was published. The study analyzed neuroimaging data from mental health patients suffering from disorders that ranged from social phobia to obsessive-compulsive disorder (OCD) to PTSD. Each of the patients was tested before and after CBT treatment. The results demonstrated definitively that CBT is indeed capable of promoting neurobiological changes.

The study exposed patients with varying forms of phobia or antisocial disorder, for example, to the catalyst of their irrational fears or stress both before and after undergoing CBT treatment. Before CBT, neuroimaging showed increased activity in the dorsolateral prefrontal cortex and parahippocampal gyrus upon exposure to the stress-inducing stimulus. After CBT, neuroimaging of the same patients, exposed to the same stimulus, showed that the activity in those neural regions had ceased. Such a result strongly supports CBT’s effectiveness in reducing phobic avoidance through the gradual extinction of the contextual fear learned in the hippocampal-parahippocampal region and reduction of the dysfunctional and catastrophic thoughts in the prefrontal cortex. CBT enabled suppression of traumatic memories, allowing the phobic subjects to modify their perception of stimuli, which had provoked fear before the treatment. CBT’s effectiveness in sustained suppression of traumatic memories is particularly relevant because early childhood trauma has been shown to contribute to juvenile mental health issues. If a youth can learn to suppress the painful memory of past traumas,
she can better control her emotions and behaviors to lead a more peaceful and productive life.

The study also suggested that CBT could attain similar results in subjects suffering from PTSD. Thirteen subjects who had been diagnosed with the disorder underwent functional MRI scans before and after treatment with the paradigm of evaluation for social cognition of empathy and forgiveness. The patients manifested significant reductions in behavioral symptoms after CBT treatment. Neurologically, they displayed increased activation in the left medial temporal gyrus in response to the paradigm of empathy and increased activity in the posterior cingulated gyrus in response to the condition of forgiveness after the treatment. Such brain activity is directly related to social cognition. If CBT can effectively alter the brain areas associated with empathy and forgiveness, such changes are also likely to reduce aggressive or violent behavior.

C. Weighing the Benefits and Costs of CBT

CBT has proven to be effective, but its effectiveness requires investment. Although expenses vary, all CBT programs at least necessitate funding for facilities, group leaders, training for group leaders, and educational materials. The cumulative cost per youth participant generally ranges from less than $2,000 to just over $10,000. Duration, group size, comprehensiveness, and location of individual programs account for much of the disparity in cost. By comparison, the average cost per youth of juvenile detention across the country is $240.99 per day or more than $7,200 per month.

(2008) (comparing neuroimaging of depressed patients before and after 16 weeks of CBT treatment found that neural activity in 5 regions of the brain normalized relative to healthy controls).

128. Porto et al., supra note 119, at 118.

129. Id.

130. Id.

131. Id.

132. Id.

133. See, e.g., STEVE AOS & ELIZABTH DRAKE, WASH. STATE INST. FOR PUB. POL’Y, WSIPP’S BENEFIT-COST TOOL FOR STATES: EXAMINING POLICY OPTIONS IN SENTENCING AND CORRECTIONS 25 (2010), available at http://www.wsipp.wa.gov/rptfiles/10-08-1201.pdf (citing meta-analysis of juvenile rehabilitative services, including aggression replacement training (ART) at a cost of $1,449 per participant, and family integrated transitions at a cost of $10,795 per participant); John R. Weisz et al., Cognitive-Behavioral Therapy Versus Usual Clinical Care for Youth Depression: An Initial Test of Transportability to Community Clinics and Clinicians, 77 J. CONSULT. & CLIN. PSYCHOL. 383, 390 (2009) (citing a comprehensive study that found mean cost per youth enrolled in primary and secondary control enhancement training, a CBT program for depressed youth, to be $3,221.34); JIM MAYFIELD, WASH. STATE INST. FOR PUB. POL’Y, MULTISYSTEMIC THERAPY OUTCOMES IN AN EVIDENCE-BASED PRACTICE PILOT 2 (2011), available at http://www.wsipp.wa.gov/rptfiles/11-04-3901.pdf (finding average cost of multisystemic therapy, an aggressive and comprehensive CBT program for chronic juvenile offenders and youth with severe emotional disorders, to be $8,500 per enrollee).

ures, each youth could complete the entire ART program for the cost of one week’s detention.\textsuperscript{135}

The benefits of CBT are more difficult to quantify. Fully measuring these benefits involves a complex and imperfect calculus that must account for impact on recidivism, educational achievement, health, and employment.\textsuperscript{136} Although studies have not gone to the lengths necessary to account for such factors, CBT has demonstrated success in areas that can be readily evaluated. A 2006 meta-analysis conducted by the Washington State Institute for Public Policy, for example, found that CBT programs reduced recidivism among youth by 18 to 31 percent.\textsuperscript{137} Other studies have accounted for more attenuated benefits from CBT, including the savings to victims and the savings to taxpayers who foot the bill for juvenile litigation, disposition, and detainment. A 2010 study found that ART, for example, saved victims more than $11,000 and taxpayers over $3,500 per person.\textsuperscript{138} Subtracting the cost of the program, the authors of the study found ART’s net benefit to be $13,132 per youth.\textsuperscript{139} An earlier study of MRT found an average savings of $11.48 for every $1 spent on the program.\textsuperscript{140} Although difficult to quantify, CBT appears to be a good investment.

CBT is an effective form of treatment among juvenile offenders because it has a proven track record of cost-efficiency. Moreover, CBT’s rehabilitative purpose is in harmony with the stated mission of juvenile justice. Rather than simply punishing wrongdoing, it seeks to remedy the cognitive underpinnings that cause bad behavior. Research has now established that CBT can effectuate lasting behavioral reform and resolve mental health issues by changing the architecture of the brain. While incarceration is costly, punitive, and often ineffective; CBT is cost-effective, rehabilitative, and proven to work.

IV. DECISION POINTS ON THE ROAD TO REHABILITATION

Equipped with a more nuanced comprehension of the juvenile mind, it is time to revisit the typical juvenile justice process. From the moment a youth is

\textsuperscript{135} AOS & DRAKE, supra note 133.
\textsuperscript{138} WASHINGTON STATE INSTITUTE FOR PUBLIC POLICY, WASHINGTON STATE JUVENILE COURT FUNDING: APPLYING RESEARCH IN A PUBLIC POLICY SETTING 3 (2010), http://www.wsipp.wa.gov/rptfiles/10-12-1201.pdf.
\textsuperscript{139} Id.
initially suspected of committing an offense until her reentry into the community after completing her disposition plan, there are multiple decision points along the way. Each of these points provides a unique opportunity to identify, assess, and treat a youth’s mental health.

A. Initial Contact with Law Enforcement

Law enforcement officers are often the first to approach a youth with a focus on correcting wrongful behavior. Such officers possess considerable discretion when determining whether and how a youth proceeds within the juvenile justice system. In fact, studies have shown that approximately 20% of youth arrested are processed within the police department and then released. With the proper training and resources, law enforcement may be able to recognize and evaluate mental health issues among the youth they encounter. Ideally, officers could connect youth to appropriate mental health resources to avoid further repercussions.

B. Intake

Intake truly represents a pivotal junction in a youth’s case. When deciding whether a case should be dismissed, referred, adjudicated, diverted, or waived to adult court, the intake officer must first thoroughly review the facts and circumstances of a youth’s case. To adequately conduct such a review, the deciding official must not only be familiar with matters of law and fact, she must also understand the mental health of the youth involved. Mental health drives treatment, and treatment paves the road to rehabilitation. Every intake assessment should include a mental health screening, and every jurisdiction should have resources available to rehabilitate youth through diversion programs. While very few mental health studies of youth at intake have been conducted, one such study in Texas found that nearly 50% of the youth at this point satisfied the diagnostic criteria for one or more mental health disorder. In such cases, the best course of action is likely outside of a courtroom.

C. Adjudication and Disposition

For cases that do reach the courtroom, judges are the final arbiter over a youth’s fate. Therefore, judges require adequate knowledge and resources to make the best decisions for the youth and the community. An understanding of the youth’s mental health is a necessary factor in such decisions. As a result, many large jurisdictions allow judges to order clinical assessments of youth with recognized mental health issues. This stage in the juvenile justice process provides yet another opportunity for youth to be evaluated to determine the most effective method of rehabilitation.

141. Skowyra & Cocozza, supra note 3, at 46.
142. See G. Wasserman et al., Gender Differences in Psychiatric Disorder for Youths in Juvenile Probation, 95 AM. J. PUB. HEALTH 131, 133 (2005).
143. Skowyra & Cocozza, supra note 3, at 54.
D. Detention

Perhaps the decision point that presents the greatest danger to a youth with mental health issues is detention. The average length of detention in a secure facility is only two weeks, but youth who stay longer are more often those with complex placement requirements, not those who have committed more serious offenses. Nonetheless, the anxiety and isolation of detention can be a traumatic experience for any youth, especially those with mental health issues. Additionally, staff members at juvenile detention centers are often unequipped to recognize and handle mental health issues. If mental health is not properly assessed and addressed at this critical stage, a youth’s issues could grow more severe.

E. Reentry

For those youth who complete an adjudicated disposition of detention, reentry presents yet another opportunity to evaluate the mental health of the youth involved. By assessing mental health as a youth transitions back into the community, law enforcement and judicial officers can measure the effectiveness of treatment programs. Additionally, probation officers can anticipate and address challenges associated with particular mental health issues that may remain as a youth continues to reacclimatize to her family, peers, and neighbors.

V. MENTAL HEALTH AND THE MODERN JUVENILE JUSTICE SYSTEM

Before the mid-1990s, very little was understood about the prevalence of mental disorders among American youth. As awareness of the problem has grown, juvenile courts have improved their policies and resources to varying degrees to confront mental health issues. Among the strategies implemented by juvenile courts are uniform mental health screening, evidence-based treatment interventions, and mental health courts.

A. Mental Health Screening

As recently as two decades ago, no reliable resources existed to identify the broad spectrum of mental health issues within the juvenile justice population. While many youth mental health concerns still go unidentified in the modern juvenile justice system, significant progress has been made. Most jurisdictions, for example, now offer some form of mental health screening,

144. Id. at 51.
145. Id. at 52.
146. Id.
147. Id. at 52.
148. Id. at 61.
149. Id.
150. Geraghty, supra note 32, at 159.
151. Id. at 159.
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using scientifically validated tools designed to assess possible disorders. A majority of states use the Massachusetts Youth Screening Instrument, Version 2 (MAYSI-2), “a 52-question, yes-no screening device that has six clinical subscales, which help identify a youth’s mental or emotional distress.”\(^\text{152}\) MAYSI-2, among other screening tools, offers courts a “fast, easily administered method for determining whether further clinical assessment is required.”\(^\text{153}\)

While MAYSI-2 may be useful for fast and efficient screenings, critics argue that it is not an adequate substitute for a thorough mental health assessment.\(^\text{154}\) For instance, a recent study showed that MAYSI-2 is best suited for detecting a youth’s suicidal tendencies or substance abuse.\(^\text{155}\) The same study also found that the tool did not adequately screen for depression, anxiety, or a history of trauma among male juveniles.\(^\text{156}\) Cursory screenings are insufficient to detect mental health issues and to prescribe the most rehabilitative course of action for individual youth. Nonetheless, the routine use of screenings within the juvenile justice system does represent a certain degree of progress.

B. Evidence-Based Treatment Interventions

Another area of progress has been the employment of evidence-based treatment programs. Evidence-based treatments are those that have been developed, tested, and scientifically proven to work. As opposed to intervention methods that have only succeeded anecdotally, or theoretically should succeed, evidence-based interventions like CBT have produced empirically verifiable success.\(^\text{157}\) Oregon has led the way with treatment interventions, requiring the use of evidence-based practices for all service providers receiving state funds.\(^\text{158}\)

Evidence-based treatments, however, have not been embraced by all jurisdictions. In too many states, they are limited by inadequate funding. Rural communities also raise opposition, arguing that it is “unfair to withhold state funding from a local service provider [that may lack] the training and resources to provide a range of evidence-based interventions for the relatively small number of youth entering the justice system in their communities.”\(^\text{159}\) Even in jurisdictions that already offer evidence-based treatments, the effectiveness of such treatment may be limited by the quality of the mental health screenings and assessments provided.\(^\text{160}\) To successfully rehabilitate youth

\(^{152}\) Id. at 162; JauNae M. Hanger, \textit{Screening, Assessment and Treatment: Indiana Addresses Mental Health in Juvenile Detention Centers}, \textsc{Corrections Today}, Feb. 2008, at 36, 37.

\(^{153}\) Id.

\(^{154}\) Id.

\(^{155}\) Id.

\(^{156}\) Id.

\(^{157}\) Geraghty, \textit{supra} note 32, at 164.

\(^{158}\) Id.

\(^{159}\) Id.

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with mental health and behavioral issues, screenings and assessments must be paired with the appropriate treatment to address the diagnosed problems.

C. Mental Health Courts

Some states have gone so far as to designate special courts intended to deal exclusively with justice-involved youth diagnosed with mental health issues. The first juvenile mental health court opened in Santa Clara County, California, in 2001. Each of these juvenile mental health courts takes a case management approach to justice, emphasizing treatment over punishment to best address the problems of each individual youth.

Mental health courts are still not the norm. Even where available, the majority of such courts intervene only after adjudication, but before the entry of a dispositional order. Hence, a youth with recognized mental health issues has already been adjudicated delinquent before receiving treatment. Some critics have also argued that mental health courts foster reliance on such institutions for mental health services. Conversely, “youth and [their] families [often] worry about the stigma of being sent to mental health court.” While seen by many as a step in the right direction, juvenile mental health courts must address these genuine concerns.

Perhaps no state comes closer to adequately addressing juveniles’ mental health needs than Illinois. In Cook County, the Cook County Juvenile Court Clinic has drawn national attention for its success in achieving better informed decision making on behalf of youth with mental health disorders. Established in 1999, the Cook County Juvenile Court Clinic provides a comprehensive set of services aimed at helping judges understand the competency, culpability and treatment implications when a youth suffers from some sort of mental impairment. Each juvenile courtroom has a clinical coordinator who responds to requests from any party to provide relevant behavioral health information and, where appropriate, arranges for a clinical evaluation. The clinic’s interdisciplinary staff conducts the evaluation and files a report with the judge. The report may include a treatment recommendation, but the Juvenile Court Clinic does not itself provide clinical treatment services. The Clinic instead provides the court with information about community-based services.
services appropriate to a youth’s needs.\textsuperscript{172} The Juvenile Court judge, in turn, may use this information either to divert cases from the formal system or as part of a dispositional order after adjudication.\textsuperscript{173}

As for the rest of the state, the Illinois Mental Health Juvenile Justice Program focuses on diverting youth with mental disorders from secure detention.\textsuperscript{174} Begun as a pilot program in 2000 and later expanded to include all counties with detention centers, the program uses master’s level mental health professionals to serve as liaisons linking detention centers, juvenile courts and community-based mental health and substance abuse treatment programs. Upon entry into a detention center, each youth is screened for a serious mental illness. When such an illness is identified, the liaison prepares a treatment plan as an alternative to secure confinement. Consistent with the plan, youth and their families are referred to community-based providers for services, which may include substance abuse treatment, individual and family therapy, educational advocacy and job skills training. The rearrest rate for the over 4,500 youth who have received community services is slightly over 20%, as compared to a rearrest rate of over 70% for youth detained before trial.\textsuperscript{175}

Accordingly, to date Illinois has led the way in tailoring juvenile justice to the mental health needs of individual youth. Nonetheless, the lessons of neuroscience and modern studies of the adolescent brain require greater reform to meet the rehabilitative intent of the juvenile justice system.

VI. THE WAY FORWARD

The visionaries of juvenile justice in America,\textsuperscript{176} the Supreme Court,\textsuperscript{177} and modern scientists have all agreed that juveniles are fundamentally less culpable than adults.\textsuperscript{178} Youth with diagnosable mental health disorders are even less culpable. All youth should therefore be evaluated, adjudicated, and sentenced accordingly. The following reforms would incorporate the lessons from modern science and research in an effort to promote greater justice within the juvenile system.

A. Mandatory Preadjudicatory Mental Health Screenings

To rehabilitate, the court must first evaluate. While MAYS1-2 and other current screening tools allow for quick and quantifiable evaluations of some possible mental health problems, new tools should be developed as neuroscience continues to isolate the signs and symptoms associated with particular

\textsuperscript{172} \textit{Id.}
\textsuperscript{173} \textit{Id.}
\textsuperscript{174} \textit{Id.}
\textsuperscript{175} \textit{Id.}
\textsuperscript{176} Waters, \textit{supra} note 1, at 158.
\textsuperscript{178} See, e.g., Elizabeth Cauffman & Laurence Steinberg, (Im)maturity of Judgment in Adolescence: Why Adolescents May Be Less Culpable than Adults, 18 BEHAV. SCI. L. 741, 756–759 (2000).
disorders. If a youth demonstrates suicidal tendencies, then medical treatment should be provided immediately. If a screening identifies a mental health disorder that is not an immediate danger, then a more extensive assessment and examination should be conducted before any type of adjudicatory process.

Screenings are minimally invasive and vital to identify a youth’s mental state. Therefore, screenings should be conducted as early as possible, and certainly before any level of adjudication. Further screenings and assessments should also be available throughout the juvenile justice process to evaluate a youth’s progress. Identifying mental health issues early saves money, time, and resources. More importantly, screenings can better protect the safety of the youth and those around her.

B. Availability of Uniform Treatment Diversion

Youth who are found to have a diagnosable mental health issue, especially those who are not suspected of a violent offense, should not be adjudicated delinquent. Such youth deserve the opportunity to be treated and rehabilitated without the stress, trauma, and isolation of being incarcerated. While further research must still be conducted, neuroimaging has exposed the biological underpinnings of mental health disorders and the close relationship between neural activity and social behavior.\textsuperscript{179} It has also illuminated the lasting impact that treatment can have on an adolescent’s mind and cognition.\textsuperscript{180} Furthermore, it is now understood by many that mental health issues may be worsened through incarceration or detention.\textsuperscript{181} Failure to understand and account for the unique plight of youth with mental health issues before proceeding with delinquency adjudication is a threat to their due process rights, and it must be remedied. Therefore, all juvenile court jurisdictions should offer treatment programs and services to address the mental health of youth. When a youth is identified as having a mental health issue, diversion into such programs should be a primary option for officers of the court and law enforcement.

C. Availability of CBT in All Jurisdictions

With the backing of neuroimaging studies, the effectiveness of CBT is irrefutable. Social neuroscience indicates that CBT’s behavioral results correlate to shifts in neural activity, which can provide lasting change in youth’s

\textsuperscript{179} See, e.g., Yann Quidé et al., Differences Between Effects of Psychological Versus Pharmacological Treatments on Functional and Morphological Brain Alterations in Anxiety Disorders and Major Depressive Disorder: A Systematic Review, 36 NEUROSCIENCE & BIOBEHAVIORAL REVIEWS 626 (2012) (comparing the effects of different treatments in anxiety and mood disorders); Kimberly Goldapple et al., Modulation of Cortical-Limbic Pathways in Major Depression: Treatment-Specific Effects of Cognitive Behavior Therapy, 61 ARCHIVES OF GEN. PSYCHIATRY 34 (2004) (concluding that CBT can lead to significant clinical improvement in unmedicated depressed patients).

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ability to cope with stress, solve problems, and manage emotions. More generally, CBT has demonstrated its potential to improve the safety of youth and society. It does not simply treat the symptoms of mental health problems, it biologically alters the mind to help youth cope with stress and trauma in constructive ways. While effective CBT may be costly, it is an investment that can curb juvenile recidivism, heal families, and improve lives. The benefits of such treatment outweigh the costs, and all juvenile jurisdictions should invest in such reform.

D. Quantifiable Metrics for Rehabilitation of Nonviolent Juvenile Offenders

The juvenile court should partner with mental and behavioral health practitioners to formulate concrete, specific metrics to measure the rehabilitation of youth who enter the justice system. Such metrics should include mental health, community, and academic components. In measuring mental health, the court should oversee reevaluations and testing by licensed clinicians. Community metrics should include involvement in service or social activities that improve the well being of the individual and her environment. Finally, academic metrics should include attendance, evaluations from teachers, and grade improvement. Metrics should be attainable and enforceable and represent a reasonable improvement in a youth’s developmental and mental health. To attain success, such success must be quantifiable.

E. Civil Advocates

Civil advocates are social workers who are trained to evaluate and counsel youth and their families with juvenile justice issues. Such advocates provide the individualized attention and support to youth, their families, and their communities that courts often cannot. They also promote family and community stability and self-sufficiency. Ideally, civil advocates would work in every jurisdiction to ensure that youth have access to public health and welfare benefits, as well as special educational services. Such services are vital to meet the individual mental health needs and challenges of such youth. Additionally, civil advocates can provide legal assistance to resolve housing, consumer protection, and unemployment issues that may be impacting the youth’s family. Civil advocates can play a pivotal role in helping youth to attain necessary metrics and to remain committed to full rehabilitation.

F. Community-Based Rehabilitative Diversion and Dispositions

A critical component to any successful juvenile court is incorporation of family and community services in its dispositions. Studies have shown the significant impact family and social interaction can have on mental health, particularly among youth. Isolation and incarceration tend to worsen mental health.
health issues, potentially causing juvenile offenders to grow more recalcitrant in their behavior and resistant to rehabilitation.\textsuperscript{185} A teenager suffering from severe PTSD, for example, is unlikely to be rehabilitated through incarceration or detention. Additionally, detained juveniles inevitably return to their communities and experience the same or similar influences that originally led them to juvenile court. If those youth are not equipped to confront and cope with such influences, then high rates of recidivism are inevitable. Juvenile courts should engage and collaborate with the families and communities surrounding the youth to develop rehabilitative goals and transitional plans.

G. Expanded Social Neuroscience Research Targeted Toward Rehabilitating Juveniles

Finally, further research is needed to improve the methods of detecting and treating mental health issues among youth. Despite recent groundbreaking research and development in the field of social neuroscience, scientists are not yet able to correlate specific brain activity to particular mental health issues. Ideally, the science will soon advance to a point where an individual neuroimage can identify an area of abnormal activity associated with a specific mental disorder. Additionally, further research on CBT and other programs could identify which treatments address particular issues and deficiencies. Equipped with the results of such studies, juvenile courts throughout the country could examine, evaluate, and rehabilitate youth more efficiently and effectively.

The fundamental premise for maintaining a separate system of justice for juveniles is that we, as a society, believe that youth are less culpable for their actions than adults. If the average youth is less culpable than the average adult, then the mentally ill youth is even less culpable. Studies have repeatedly shown that a high percentage of the youth who enter the juvenile justice system each year have mental health issues, yet the system remains ill-equipped to identify, evaluate, and treat them. Thanks to the recent development of neuroimaging and social neuroscience, however, experts are slowly cracking the code of the human mind, and they have discovered many of the biological underpinnings that commonly correspond to mental health issues. Furthermore, the science has suggested that cognitive-behavioral therapy and similar programs can actually rewire the brain to help the mentally ill lead civil, successful lives. The promise of such studies and developments calls for greater vigilance within the juvenile justice system to ensure that youth with mental health issues get the appropriate treatment they need to reach their rehabilitative potential.

185. HOLMAN & ZIEDENBERG, supra note 181, at 8–9.